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BOTANICAL

SOCIETY & EXCHANGE CLUB

REPORT FOR 1916

BY

G. CLARIDGE DRUCE,

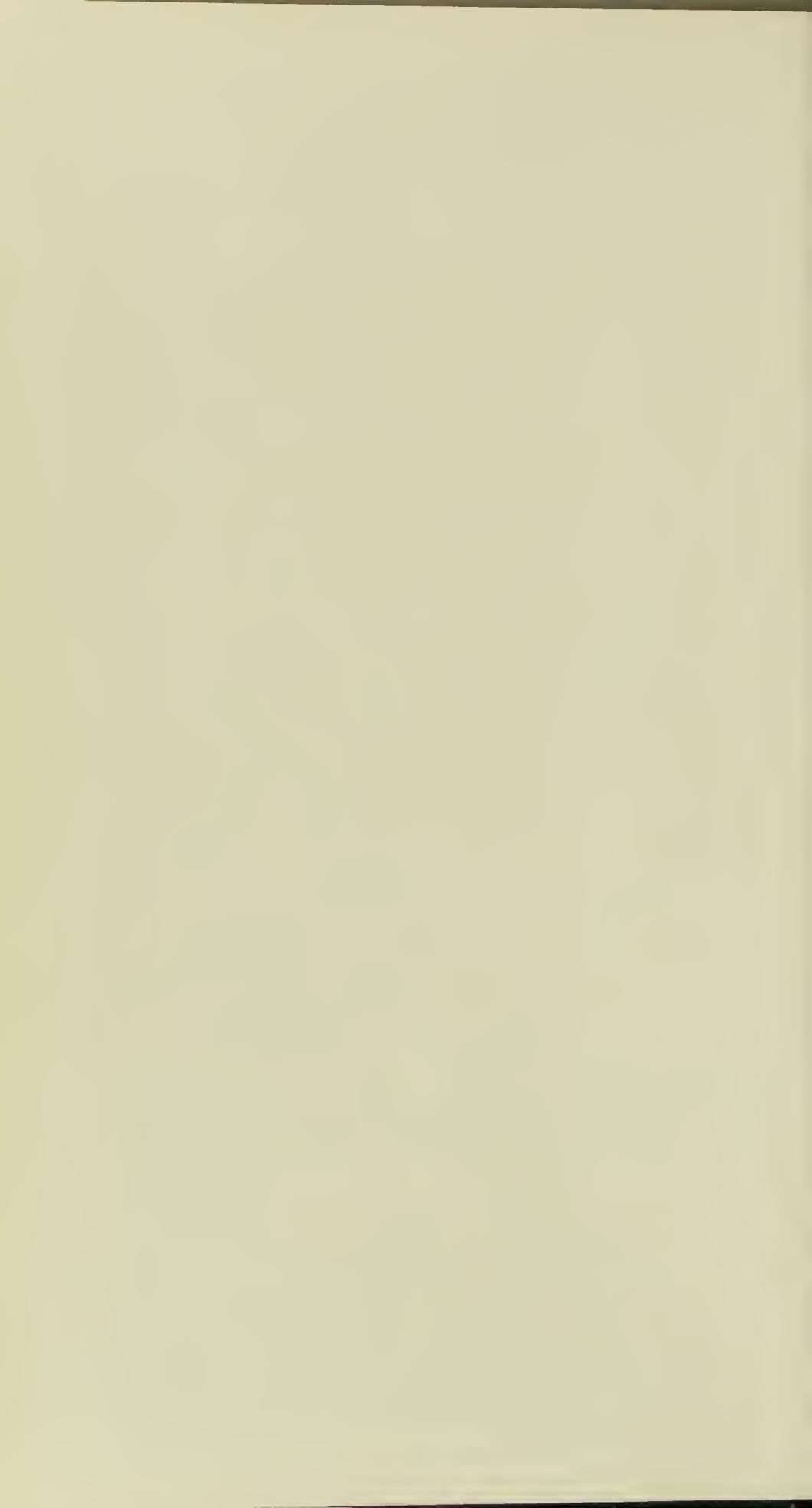
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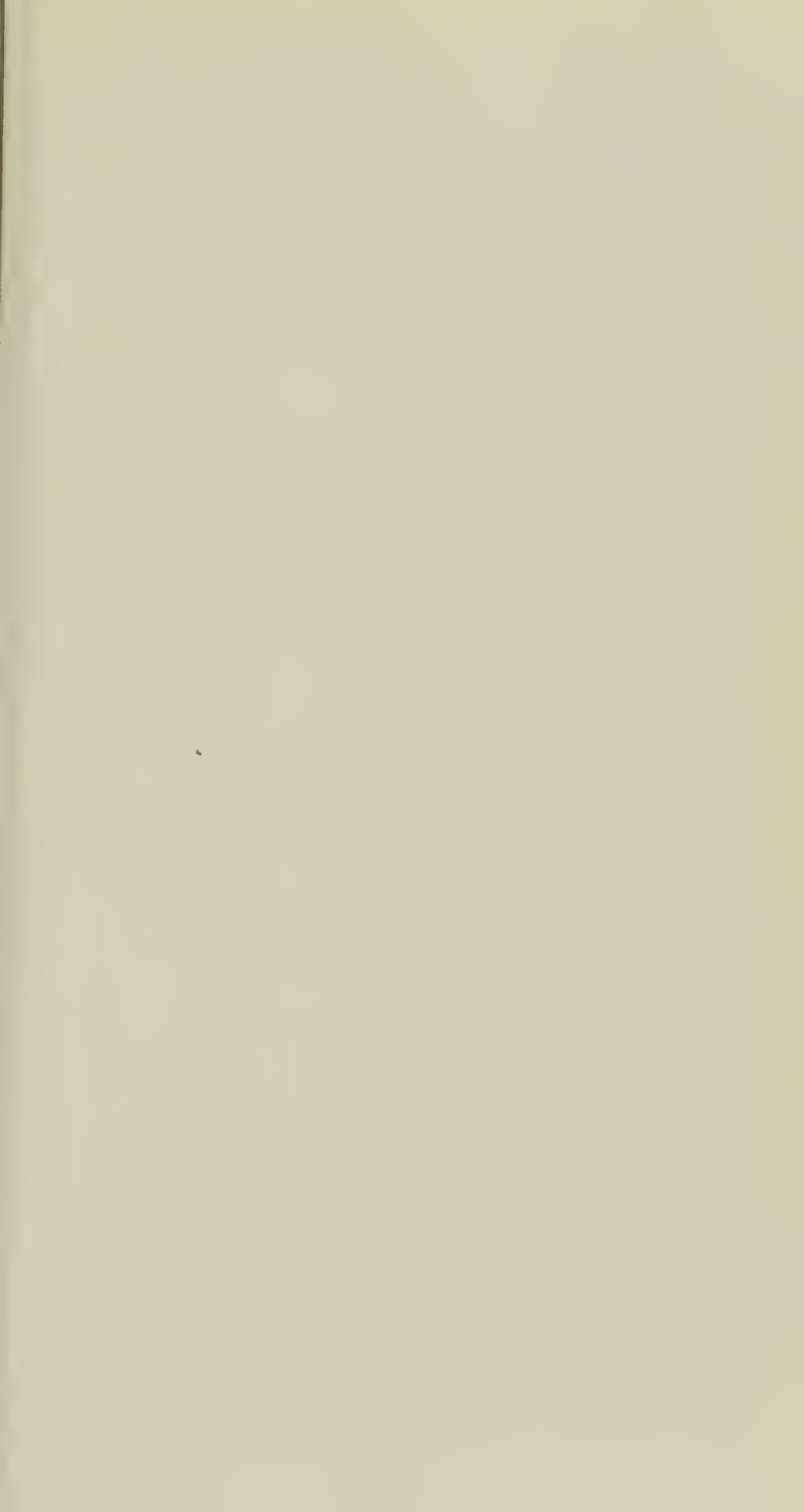
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THE BOTANICAL SOCIETY AND EXCHANGE CLUB OF THE BRITISH ISLES.

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THE BOTANICAL SOCIETY
AND EXCHANGE CLUB
OF THE BRITISH ISLES.

REPORT FOR 1914

(WITH BALANCE-SHEET FOR 1913)

BY THE

SECRETARY,

G. CLARIDGE DRUCE,

PRESIDENT OF THE ASHMOLEAN NATURAL HISTORY SOCIETY OF
OXFORDSHIRE.

VOL. IV. PART I.

PUBLISHED BY

T. BUNCLE & CO., MARKET PLACE, ARBROATH.

May 1915.

PRICE 5s.

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REPORT
OF THE
BOTANICAL SOCIETY
AND
EXCHANGE CLUB OF THE BRITISH ISLES
FOR 1914
(VOL. IV. PART 1)

BY THE
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G. CLARIDGE DRUCE,

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THE
BOTANICAL SOCIETY & EXCHANGE CLUB
OF THE BRITISH ISLES.

THE REPORT OF THE TREASURER & SECRETARY,
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Spare copies not required by members are valued. Early copies of the Thirsk Botanical Exchange Club are specially desired, as also that of this Club for 1912.

PLANT NOTES, ETC., FOR 1914.

(Mostly New Plants to the British Isles.)

1 (3). CLEMATIS VITICELLA L. Alien, Europe. Thicket by the River Mole, opposite Esher Paper Mills, Surrey. Quite naturalised, flowering freely. July 18, 1888, W. H. BEEBY. *Herb. S. Lond. Bot. Soc.*, ex W. H. GRIFFIN.

41. RANUNCULUS PELTATUS Schrank, var. SPHAEROSPERMUS comb. nov. *R. sphaerospermus* Boiss. & Blanche, in Boiss. *Diagn. ser. ii.*, 5, p. 6 (1856). *R. aquatilis* L., var. *sphaerospermus* Boiss. *Fl. Orient. i.*, 23. *R. aquatilis* form *sphaerospermus* Hieron in *Journ. Bot. Soc. Lond.*, 47, 1871. "*R. foliis uniformibus omnibus in lacinulas filiformes ovales rigidulas undique divergentes divisas, pedunculis crassis folia superantibus tandem recurvis, petalis albis basi flavis calyce reflexo callo longioribus late obovatis 9-11 nervis, staminibus numerosis sepella superantibus, spica carpellorum globosa receptaculo hirsuto sepellis subglobosis dorso vix carinatis rugosis obtusis apice dorsum versus aculeato-hirtulis, stylo brevissimo crassiusculo ad extremitatem perimetri majoris carpelli sito.*" Boiss. & Blanche (*l.c.*) This, as the authors say, is allied to the large flowered var. *pantothrix* of *aquatilis*, but it differs in the short, rigid leaf-segments, in the smaller and more numerous carpels, which are rounder and scarcely keeled, and the style springs from the apex and not from the interior margin of the carpel. From *trichophyllus* and *Drouetii* it is distinguished by its much larger petals. To the above (*Report*, 1913, 445), plants from the Cherwell, Gosford Bridge, Oxford, *Druce*, and near Cheddar, North Somerset, *Marshall*, have been referred. Some they lack the rigid leaf-segments of the Orient plant. Are they, despite the long peduncles, distinct from *pseudo-fluitans* (Hieron), which Mr J. W. White distributed through Dörfler's *Herbarium Normale*? Mr Hieron refers the Cherwell plant to *pseudo-fluitans*. Plants from the Canal, near Halton, Bucks., *Druce*, and from Lilham, N. Hants., *C. E. Palmer*, come under *sphaerospermus*.

109. *FUMARIA BASTARDI* Bor., var. *e. GUSSONEI*. St Ives, Cornwall, 1909. Herb. C. Bailey, ex. PUGSLEY in *Journ. Bot.* 1913, p. 50.

160. *DRABA RUPESTRIS* Br., forma *STELLATA* (Diekson) Ekman in *Arkiv. for Botanik*, Band 12, n. 7, p. 8 (1912). Plant with stellate hairs, Ben Lawers; forma *HIRTA* (Sm.) Ekman, *l.c.*, Ben Lawers. Plant with simple or only bifurcate hairs.

185 *b.* *SISYMBRIUM ORIENTALE* L., var. *SUBHASTATUM* (Willd.) Thellung. Alien. Wickhambrook, Suffolk, 1912, J. E. LITTLE. Det. A. THELLUNG.

227 (3). *DIPLLOTAXIS LAGASCANA* DC. = *Brassica pendula* Boiss. Alien, Spain. With Esparto grass, Musselburgh, Edinburgh, v.-c. 83, 1913, J. FRASER, in *Trans. Bot. Soc. Ed.*, 1914, p. 234.

237 *b.* *LEPIDIUM DRABA* L., var. *SUBINTEGRIFOLIUM* Micheletti in *Bull. Soc. Bot. Ital.*, 86, 1908. See *Fl. Ital. Exsicc.*, n. 1049. Hedge, Farnham Road, Odiham, Hants, 1900, Miss C. E. PALMER in *Herb. Druce*. This exactly matches authentic specimens.

247 (16). *LEPIDIUM RETICULATUM* Howell. Alien, N. America. Exley's felmongery pits, Smithy Mills, near Leeds, 1902, J. F. PICKARD, ex F. A. LEES. Det. A. THELLUNG. This species has also occurred adventitiously at Montpellier and in Australia.

247 (17). *LEPIDIUM SCHINZII* Thellung, in *Viertel-jahrsheft. Zurich Nat. Ges.* li., 182, 1906. Side of Gala, A. Brotherston, 1873. This was sent to me by Brotherston, having been named *L. lacinum* by Syme. The No. 242 of my *List* may therefore be deleted. G. C. DRUCE.

273 *b.* *ERUCARIA MYAGROIDES* (L.) Halaesy (*E. aleppica* Gaertn.), var. *LINEARIBUS* (Boiss.) Thell. Alien, Greece. Near St Leonard's, Sussex E., Rev. A. MACGREGOR.

284 (2). *RESEDA GRACILIS* Tenore. Alien, S. Europe. Wandsworth, Surrey, A. IRVINE, *Fl. Surrey*, 1863, p. 313.

304. *VIOLA MEDUANENSIS* Boreau *Fl. Centr. Fr.*, ed. 3, p. 80, 1857. South Molton, S. Devon, v.-c. 3, 1912, Miss HELEN

LAUNDERS and H. P. HIERN, in *lit.* Miss C. E. Larter in *Trans. Devon ss. Sc.*, etc.

330 (2). *GYPSOPHILA ELEGANS* Bieb. Fl. Taur. Cauc., i., 319. Alien, Asia Minor. Waste grounds, Hackney Marshes, Middlesex, 1913, J. E. COOPER, ex *Kew.*

332 (2). *SAPONARIA OCYMOIDES* L. Alien, Europe. In a gravel pipe in the chalk-cutting North of Knebworth Station, Herts, some way from houses, 1914, J. E. LITTLE, in *lit.*

335 (2). *SILENE CSEREI* Baumgart. Enum. St. Transsv., iii., 345, 346. *S. Fabaria*, sub-sp. *Cserei* Nyman Consp. 88. *S. latifolia* R and B., var. Riddelsdell in *Rep. Bot. Each. Club* for 1910, 545 (1911). In 1910 the Rev. H. J. Riddelsdell sent specimens with a careful description, labelled as above, through the Club, which he had gathered in Port Talbot Docks, Glamorganshire, having seen, he says, a similar form from Lydney, v.-c. 34, and had a specimen from Aberdare "which is nearly the same thing." The Rev. E. S. Marshall (*l.c.*) suggested I agreed "rather well with *S. vesicarius*." In 1913 Mr D. Lamb, whose critical examination of the plants he finds is so praiseworthy, sent me specimens of a *Silene* which he had gathered in and about the ironworks at Askam (v.-c. 69 b.), and gave very careful details showing how it differed from the Bladder Campion. These good fruiting plants at once convinced me that we had a new *Silene* in Britain. At the British Museum Herbarium, I was enabled to see specimens of *S. Cserei* which were practically identical with Mr Lamb's specimens. Baumgarten named it after Wolfgang de Cserei, and (*l.c.*) gives a lengthy description and localises it "in . . . Albensi Inferiore." Janka found it on Mt. Suluchiu in Dobrudscha. Nyman also gives it for Croatia. There is no doubt that Nyman, who follows Rohrbach, is wrong in placing it under *S. Fabaria*, since as Dr Williams (*Monogr. Silene*, p. 49) and Dr Lindman (*Act. Hort. Berg.* i., n. 6, p. 14, 1891) point out this has twenty, while *Fabaria* has only ten calyx nerves. It differs inter alia from *S. Cucubalus* in its tall, stiff, often purplish-tinged, erect stem, by its longer inflorescence, by the more rigid and more strongly nerved leaves with prominent midrib, often sub-secund, by the calyx being more narrowed above and below (not inflated), by its fainter and more simple veining, its smaller size, and in being closely appressed to the capsule. The petals are smaller,

less white, and less conspicuous, the lamina more deeply cut (nearly to base) the segments narrower, the limb often suffused with red, the filaments purplish-red, the capsule long and pointed, smooth and glossy, protruding beyond the calyx mouth, the seeds smaller and acutely tubercled. Mr Lumb tells me it is biennial, and he had noticed most of the above characters. Doubtless it is of purely adventitious origin in Britain, and from its occurring in Rumania, near the Black Sea, we may reasonably conclude that its origin is due to the importation of grain and other produce, its only British localities being in the Dockyard area at Port Talbot, Aberdare, Glamorgan, v.-c. 41; Lydney, W. Glos, v.-c. 34; Askam, S. Lancs., v.-c. 69 b. G. C. DRUCE.

341 (3). *SILENE NOCTURNA* L., var., *BRACHYPETALA* Benth. Cat. 122, 1826. *S. brachypetala* Rob. and Bast., Williams *Mon.*, p. 59. Alien, S. Eur. Galashiels, Selkirk, August 1913, Miss IDA M. HAYWARD. Det. A. THELLUNG.

416. *POLYCARPON TETRAPHYLLUM* L., var. *DIPHYLLUM* DC. Prod. iii., 376. St Aubin's Bay, Jersey. Differs from the type permanently by its smaller size, fewer branches, with usually opposite leaves and contracted, dense terminal cymes with much fewer but somewhat larger flowers, H. W. PUGSLEY in *Journ. Bot.*, 329, 1914.

420 (2). *CLAYTONIA PARVIFOLIA* Moç. in DC. Prod. iii., 361 (*C. filicaulis* Dougl.). Alien, Amer. N. Wood walk at Leagram Hall, W. Lancs., v.-c. 60. No explanation of its occurrence can be given, S. H. BICKHAM. See *Rep.* 461, 1913.

438 b. *HYPERICUM LINARIIFOLIUM* Vahl, var. *APPROXIMATUM* Rouy ap. Magn. *Scrinia* p. 245, 1892. Differs from the type in its ascending and dwarfer habit, shorter, broader and more revolute leaves, more contracted cymes and shorter capsules. Cliffs near Fiquet Bay, Jersey. Babington's Jersey specimens are similar, and specimens from Alderney, coll. C. R. P. Andrews, are the same. See H. W. PUGSLEY in *Journ. Bot.* 330, 1914.

452 (2). *MALVA AMBIGUA* Gussone Fl. Sic. Prod., ii., 331. Alien, S. Europe. Wandsworth, A. IRVINE, *Fl. Surrey*, 1863, p. 315.

483 (3). *GERANIUM DIVARICATUM* Ehrh. Beitr. vii., 164. Alien, Europe. Sporadic at Timperly, Cheshire, T. STEPHENSON, ex *Kew.*

490 (2). *ERODIUM BOTRYS* Bert. *Amoen. Ital.* 35. Alien, Europe. Apperly, York, 1912, J. CRYER, ex *Kew*.

519. *RHAMNUS CATHARTICUS* L. See *Report*, p. 463, 1913. Mr Lamb tells me he has found practically glabrous plants at Grange, c. 69 b, in 1914.

535. *GENISTA TINCTORIA* L., var. *LITTORALIS* Corbière *Nouv. Fl. Normand.* 144, 1893. East Pentire, Cornwall, W., 1913, C. C. GURRS. See *Report* 464, 1913. Corbière describes his variety to which Dr Thellung, to whom I sent a specimen, suggested it might belong) as "Tige et rameaux pubescents, diffus. Feuilles elliptiques-oblongues brièvement apiculées fortement ciliées, pubescents sur les faces, spécialement sur les nervures. Fleurs relativement grandes (env. 15 mm. long)." These specimens agree fairly well with *c.*, except that the flowers are not quite so large. It may be well to keep this as var. *c.* of the type, leaving var. *b.* *PROSTRATA* Bab. *Man.* 1, 1843, to represent the Cornish prostrate plant with hairy pods, since *G. humifusa* Dickson (not of Linn.) is a nomen solum and is based on a Northamptonshire plant.

542 (2). *ONONIS RAMOSISSIMA* Desf. *Fl. Atl.* ii., 142. Alien, Europe. Ballast heap, Fife. GRAHAM *Excurs.*, 1834, *Comp. Cyb.* 77, 1870.

581 (var. *c.*). *MEDICAGO MINIMA* Desf., var. *LONGISETA* DC. *Prod.* ii., 178 = var. *recta* (Willd.). Alien, S. Eur. Wandsworth, IRVINE, *Fl. Surrey*, 315, 1863.

616 (4). *TRIFOLIUM TENUIFOLIUM* Tenore *Prod. Fl. Nap.* 44. Alien, S. Europe. Arable land, Warlingham, Surrey, 1913, A. MADELL, ex W. H. GRIFFIN.

Gen. 147 (2). *COLUTEA* L.

652 (2). *COLUTEA ARBORESCENS* L. Alien, Europe. Ballast heaps, James side, Grays, Essex S., Rev. P. T. CORFE, 1913. ex W. H. GRIFFIN.

681 (2). *VICIA ATROPURPUREA* Desf., *l.c.* ii., 164. Alien, Europe. Rayford, Kent, Rev. J. ROFFEY, 1913; and Chelsfield, Kent, 1914, W. H. GRIFFIN; Elland, York, F. A. LEES. The oldest name is *V. vughalensis* L. I have not seen the specimens.

688. *VICIA SEPIUM* L., forma *LATIFOLIA* mihi. With broadly oval leaflets (fol. ovalis latissimis). Walls, Shetland. W. H. BEEBY in *Hb. S. Lond. Inst.*

731 (2). *PISUM ELATIUS* Bieb. Fl. Taur. Cauc., ii., 151. Alien. S. Europe. Vetch and oat fields near Loch of Saintear, Westray, Orkney, 1913, H. HALCRO JOHNSTON.

788 (2). *RUBUS CHLOROTHYRSOS* Focke Abh. Nat. Ver. Bremenii, 462, 1871. Placed between *silvaticus* and *Sprengelii*. A plant from Derbyshire (W. R. Linton) is put here by Focke. See *Mon. Sp. Rub.*, n. 392, p. 176, 1914.

789 (3). *RUBUS EGREGIUS* Focke. *l.c.* p. 463, 1871. *Mon. l.c.* n. 396.

RUBUS EGREGIUS, var. *PLYMENSIS* Focke. Near Plymouth, Focke.

RUBUS EGREGIUS, forma *EFFEMINATUS* Focke "molliter pilosus: inflorescentia extra axillares longae, multiflorae: sepala longe acuminata, in flore patentia, in fructu reflexa: stamina stylis multo breviora. Fruticum vici unicum haud procul ab Oxford Britanniae." If this specimen was gathered by Dr Focke it was doubtless on the occasion when I took him to Bagley Wood and Boar's Hill in Berkshire. If it were from specimens sent by me it may have been from Oxfordshire, but probably the first suggestion is the most likely. On that occasion I showed him my "pink-flowered *nitidus*" which he afterwards named *holerythros*. He also gathered on that day the bramble called *subinernis* as well as many interesting forms.

825. *RUBUS RADULA* var. *TIMENDUS* (Sudre Rub. Pyr., 71, 1900) as a species. Yorkshire. Focke *Mon.*, p. 222.

835 (2). *RUBUS FESTIVUS* Muell. & Wirtg. (*R. Babingtonii*, var. *phyllothyrsus* Rogers (non Frider.) in part. Hereford, Ley, *Rubi Brit.* n. 95, Focke, *l.c.* See *Journ. Bot.* 207, 1914.

845. *RUBUS SCABER* × *LEUCOSTACHYS* (as *vestitus*). Formam aliam molliter villosam ex iisdem parentibus progenitam observavi in Britannia (Oxfordshire), Focke, *l.c.*

906 (2). *POTENTILLA CANADENSIS* L. Alien, N. Amer. Meadow side, Leeds. Origin, originally introduced with other N. A. shrubs by Captain Oates, 30 years ago, F. A. LEES in *lit.*, 1914.

909 (2). *ALCHEMILLA ACUTIDENS* Buser and other forms of *A. vulgaris* L. C. E. Salmon, *Journ. Bot.*, 281, 1914. He considers that the type *acutidens* does not occur in Britain, but that our plant is a variation to which he gives the name var. *alpestriformis*. "*A. acutidens* caulibus petiolisque minus pilosis, foliis fere glabris nisi in subtus nervibus in dimidio superiore pilosis, differt."

He gives a clavis to the plants of the *vulgaris* group:—

- | | | | |
|---|---|--|---|
| 1 | { | "Stems and petioles with spreading hairs, - - - - - | 2 |
| | { | Stems and petioles, glabrous or with \pm appressed hairs, - - - - - | 3 |
| 2 | { | Pedicels and urceoles hairy, - - - - - | <i>A. minor</i> Huds. |
| | { | Pedicels and urceoles glabrous, * - - - - - | <i>A. pratensis</i> Schmidt. |
| 3 | { | Petioles and stems \pm glabrous; leaf-toothing irregular, and teeth broader than long. Pedicels and urceoles glabrous, - - - - - | <i>A. alpestris</i> Schmidt. |
| | { | Petioles and stems with \pm appressed hairs; leaf-toothing \pm regular, and teeth longer than broad. Pedicels and urceoles glabrous, - - - - - | <i>A. acutidens</i> , var. <i>alpestriformis</i> ." |

[* Not invariably.]

In this paper (*Journ. Bot.*, 288, 1914) Mr Salmon says "some confusion has been caused among British botanists by the plants distributed in 1911 by Mr Druce as *A. vulgaris*, var. *acutidens* from Ben Lawers through the Exch. Club . . . there is no doubt both *alpestris* and *acutidens* were dispersed through the Club, which accounts for the diverse views expressed in the *Report* for 1911, p. 84." In this statement I may say that all the specimens sent by me through the Club were so named by Dr Ostenfeld when he pointed them out to me on Ben Lawers. I collected no *alpestris* (in Dr Ostenfeld's meaning) for distribution. The plants were from two places, the larger ones of the original tuft from the burn side, the smaller ones on the rocks above. As for the "diverse views expressed in the *Report*," reference to that will show that only three critics are quoted: two of these, the Revs. E. F. Linton and E. S. Marshall, agree that it is *acutidens*. The third asks a question about the name, and it is evident from it that *acutidens* is unknown to him. I may also add that Dr Ostenfeld also named my Nant Ffrancoon specimen *acutidens* (this is referred to as *alpestris* by Dr Lindberg in his *Monograph*). Dr Ostenfeld also named the Linlithgow specimen, and his determinations of both plants were attached to the specimens when I sent them to Mr

Salmon. Other specimens named *alpestris* by Lindberg were also named *acutidens* by Ostenfeld (See *Rep.*, 322, 1910), and one of the original specimens which had been named "*alpestris*, a specim. *autumnale*" by Lindberg on Jan. 20, 1913, was also named *acutidens* Bus. without qualification by Lindberg on Dec. 30 of the same year. This is from the higher level on Lawers, i.e. 800—1000 metres. It may be recalled that Lindberg in his *Monograph* modified Buser's description, and that he may now still further widen it to include the slight modification which the British plants exhibit. Mr Salmon (*Lin. Soc.*, April 3, 1913) said "true *acutidens* has yet to be found in our Island." At its best it seems to me *acutidens* in only of varietal rank, and as such, following M. Briquet, I gave it in the Club's *Report* for 1911. This view (which is also that of Ascherson & Graebner) entails sinking Mr Salmon's variety to a sub-var. *alpestriforme* of *A. alpestris*, var. *acutidens*, unless, indeed, it is of hybrid origin. It will be found in the field, I think, that plants more or less intermediate in character occur. Such are the Nant Ffrancon and East Ross specimens. Finally I may add that all the plants recorded or distributed by me as *acutidens* have been so named for me by Dr Ostenfeld. G. C. DRUCE.

969 (2). CRATAEGUS PUNCTATA Jacquin. Alien, N. Amer. A tree at Rycote in the old park, 1906, G. C. DRUCE. Named at Kew.

1058 (2). EPILOBIUM ALSINOIDES A. Cunn. in *Ann. Nat. Hist.*, ii., 53, 1839. Alien, New Zealand. A pest on Tweedside, J. ROXBURGH, July 1913, ex *Kew*.

1099. APIUM INUNDATUM Reichb. f., var. FLUITANS Fries. Nov. Fl. Suec. Ireland. See RIDDELSDELL in *Irish Nat.*, 100, 1914.

1152 (2). PEUCEDANUM GRAVEOLENS L. *Anethum graveoleus* L. Alien, S. Europe. Wandsworth, A. IRVINE, in *Fl. Surrey*, 316, 1863.

1206 (2). GALIUM TENUISSIMUM Bieb. Fl. Taur. Cauc., i., 104. Alien, Orient. Wood lane, Timperley, Cheshire, Rev. T. STEPHENSON ex *Kew*, W. H. GRIFFIN.

[ASPERULA NITIDA Sibth. & Sm. Planted alien or error. Between 3000 and 4000 feet on Ben Nevis as a tiny patch of a very

rock-growing plant. A part of the root was brought to a rock-garden in Kent. It flowered next year and was named at the time as *A. nitida*. K. E. STYAN, in *Selborne Mag.*, 153, 1914. Obviously this species of Greece and Asia Minor must have either been intentionally planted on Ben Nevis by a disciple of Maurice Hewlett, or the specimen may have been confused with another [in the rock-garden].

1247. *CALOTIS HISPIDULA* F. v. Muell., var. *SESSILICEPS* Thell., *Bot. nov.* "Capitulis ad caulis nodos plane sessilibus." Alien, Australia. Galashiels, Selkirk, 1913, Miss I. M. HAYWARD. A. THELLUNG, in *lit.*

1257 (2). *ASTER LANCEOLATUS* Willd. Alien, N. Amer. On a rocky ground, Pryford, Surrey, 1913, Lady DAVY and G. C. DRUCE. A. THELLUNG.

1262 (2). *ERIGERON LINIFOLIUS* Willd. and *E. CRISPUS* Pour. synonymous.

1262 (3). *ERIGERON ANNUUS* Pers. Syn. ii., 431. Alien, N. Amer. Walton, S. Lancs., v.-c. 59, J. WHELDON. See *Rep.* 472, 1913.

1278 (5). *HELIPTERUM DIMORPHOLEPIS* Benth. Fl. Austral. iii., 101. Alien, Australia. Galashiels, Selkirk, 1913, Miss I. M. HAYWARD. *J. Kew.*

Gen. 289 (4). *TOXANTHES* Turcz. in *Bull. Soc. Nat. Moscou*, xxiv. (1), 177, 1851.

1278 (10). *TOXANTHES MUELLERI* Benth. Fl. Aust. iii., 592. Alien, Australia. Galashiels, Selkirk, 1913, Miss I. M. HAYWARD.

Gen. 291 (2). *BUPHTHALMUM* L.

1286 (20). *BUPHTHALMUM SPECIOSUM* Schreb. Lovat Bridge, N. S. W., v.-c. 96. Rev. J. ROFFEY.

1295 (3). *XANTHIUM ORIENTALE* L. Alien, Orient. Parry, Cornwall, 1909. C. C. VIGURS, ex *Kew.*

1329. *ACHILLEA MILLEFOLIUM* L., var. *d. MAGNA* Rouy and Guss. Fl. Fr. viii., 247 (*A. compacta* Lam.). *Exs. Fl. Austr. Hung.*, teste R. & C. With some hesitation I put this large flowered robust plant (4-8 dem. alt.) under the above name, but as I have

this large liguled form from other British localities, provisionally I place it here. The specimen, which again drew my attention to it, was gathered in 1914, near Kirkcudbright, by Miss DAUBNEY, who thought it was a hybrid of *Millefolium* and *Ptarmica*, and the Rev. A. Woodruffe-Peacock kindly sent it to me. No trace of *Ptarmica*, however, could be found in it, although the ligules are quite large and conspicuous. Linnaeus' description of his *Achillea magna* is "Foliis bipinnatis subpilis laciniis linearibus dentatis; similis *A. Millefolii*, sed duplo major." The synonym quoted from Bauhin is "*Millefolium maximum umbella alba*," and the habitat is given "Western Europe." The authors of *Flore de France* make no allusion to the size of the ligules.

1356 (7). *CHRYSANTHEMUM MAXIMUM* DC. Alien, Eur. Near Watergate, Newquay, Sept. 1913 (See *Rep.*, 473, 1913), C. C. VIGURS. *Index Kew.* gives the authority for *C. maximum* as Ramond in *Bull. Soc. Philom.* ii., 140, 1800.

1363 (2). *MATRICARIA DISCIFORMIS* DC. Prod. vi., 51 = *M. corymbifera* DC., *l.c.* vii., 297 = *Chrysanthemum disciforme* C. A. Mey Verz. Pf. Cauc. 75. Alien, S. W. Asia. Edinb. Boston Docks, Lincoln, 1912, ex Rev. E. A. WOODRUFFE-PEACOCK. This has also been found in Germany and Montpellier.

1363 (3). *MATRICARIA SUFFRUTICOSA* (L.) Druce. (*M. multiflora* Fenzl). Alien, S. Africa. Galashiels, Selkirk, 1913, plentiful, Miss I. M. HAYWARD. Det. A. THELLUNG.

1365 (3). *CENIA TUBERCULATA* Pers., var. *DISCOLOR* Harvey. Alien, S. Africa. Galashiels, Selkirk, 1913, Miss I. M. HAYWARD. Det. A. THELLUNG, who puts it under *Cotula*.

1383 (2). *ARTEMISIA LUDOVICIANA* Nuttall Gen. ii., 143, var. *GNAPHALODES* (Nuttall) as sp. Alien, N. Amer. Dalton-in-Furness, Lanc., 69 b., 1913, W. H. PEARSALL. Named for me by Dr THELLUNG.

Gen. 327 (2). *ERECHTITES* Rafin. Fl. Ludov. 65, 1817 (*Neoceis* Cass.).

1389 (4). *ERECHTITES PRENANTHOIDES* DC. and 1389 (5), *E. QUADRIDENTATA* DC. Prod. vi., 297. Alien, Austral. Galashiels, Selkirk, 1913, Miss I. M. HAYWARD.

1393. *SENECIO AQUATICUS* × *JACOBAEA*. Like *aquaticus* in the large terminal leaf lobe and few flowered corymb. Like *Jacobaea* in the much cut upper leaves. Fruits hispid. Cliffs, N.-W. of Scalloway, Shetland, W. H. BEEBY in *Hb. S. Lond. Inst.* It is possible that my *S. aquaticus*, var. *dubius* (*Fl. Berks*, p. 294), which had achenes slightly hairy, may be a hybrid, but in the facies it is nearly that of *aquaticus*.

1408 (7). *SENECIO PTEROPHORUS* DC., var. *SUBSERRATUS* (DC. sub. *polyanthemo*) Thell. comb. nov. = var. *apterus* Harvey. Alien, S. Africa. Galashiels, Selkirk, 1913, Miss I. M. HAYWARD. Det. A. THELLUNG.

1413 (3). *XERANTHEMUM INAPERTUM* Mill. Alien, Europe S. = *X. erectum* Presl. Introduced with Esparto grass. Musselburgh, v.-c. 83, 1913. J. FRASER, *Trans. Bot. Soc. Ed.* 234, 1914.

1425 (2). *CARDUUS ARGENTATUS* L. Alien, Asia. Stranraer, Wigton, J. FRASER.

1477 (2). *CARTHAMUS DENTATUS* Vahl *Symb. Bot.*, i., 69. Alien, Asia Minor. Galashiels, Selkirk, 1913, Miss I. M. HAYWARD.

1689 (2). *ARBUTUS ANDRACHNE* L. Alien, Europe S. Pine Coppice, Leith Hill, Surrey, H. H. CARTER, ex W. H. GRIFFIN.

1696. *EPICA MACKAYI* × *TETRALIX* Ostenfeld. See *Int. Phyt. Excurs.*, p. 59. To this hybrid probably belong the plants alluded to in the following note. "Seven specimens selected from others communicated by Mr Mackay . . . In order to show that *Mackayii* passes into *Tetralix* by intermediate forms, which illustrate the gradual change of habit and character." H. C. Watson in *Rep. Bot. Soc. Lond. ex. Phyt.*, 500, 1846.

1734 c. *LYSIMACHIA PUNCTATA* L., var. *VERTICILLATA* Syme, *E. B.* vii., 147. Roadside in Glen Clova, Forfar, Dr G. LAWSON.

1748 (2). *FRAXINUS ORNUS* L. Alien, S. Eur. Coppice, Warlingham, Surrey, A. BEADELL, 1914, ex W. H. GRIFFIN.

1751 (2). *VINCA HERBACEA* Waldst. & Kit. Alien, Europe. Roadside, East Grinstead, Sussex, Miss P. STOCKDALE, 1913; Bourton, Dorset, W. HERRIDGE, 1914, ex W. H. GRIFFIN.

1763 c. GENTIANA AMARELLA L., var. ISLANDICA (Murbeck). Hills above Hillswick, North Maveon, W. H. BEEBY in *Hb. S. Lond. Inst.*

1851 (2). PHYSALIS ANGULATA L. Alien, Tropics. Galashiels, Selkirk, 1913, Miss I. M. HAYWARD, ex *Kew*.

Gen. 447 (3). ALONSOA Ruiz & Pavon Syst. Veg. 150, 1798.

1872 (10). ALONSOA PEDUNCULARIS Wettstein. Alien, S. Amer. Finchley, Middlesex, 1909, J. E. COOPER.

Gen. 447 (2). NEMESIA Vent. Jard. Malm., 41, 1803.

1872 (20). NEMESIA STRUMOSA Benth. Alien, S. Africa. A plant of this was said to have been picked on Pitstone Hills, Bucks., by a schoolboy. It was sent in June 1912 by Miss BERRILL. I visited the hill later on, but could find no trace of it.

1873 (3). LINARIA MACEDONICA Griseb. Spicil. Fl. Rumel., ii., 19. Alien, E. Europe. Sandhills, Burnham, Somerset, 1913, ex *Herb. Kew*.

1879 (2). LINARIA MICRANTHA Sprengel. Alien, S. Europe. On a wild, uncultivated bank, among heath, furze, &c., by the side of the road leading from the lodge of Fellrigg Park to the Holt road, about two miles from Cromer, Norfolk. *Phyt. n. s. ii.*, 511, 1858.

1883 (2). LINARIA RUBRIFOLIA Rob. et Cast., ex DC. Alien, S. Europe. Esparto grass alien. Musselburgh, 1913; Edinburgh 83, J. FRASER, *Trans. Bot. Soc. Ed.*, 234, 1914.

1892 c. SCROPHULARIA AQUATICA L., var. APPENDICULATA Méral Fl. Paris, 242. Via Gellia, Derbyshire, A. H. WOOLEY-DOD in *Rep.* 486, 1913. This is described in *Fl. France*, xi., 92, as "Feuilles munie à leur base de 2 lobules \pm grands presque opposés."

1895 (2). SCROPHULARIA PEREGRINA L. Alien, Europe. Timperley, Cheshire, Rev. T. STEPHENSON, ex W. H. GRIFFIN.

1904 (2). VERONICA SPURIA L. Alien, Europe. Great Parndon Wood, far from houses, Essex S., Misses TROWER, 1910, vide sp.

1906 (2). VERONICA LONGIFOLIA L. Alien, Europe. Galashiels, Selkirk, 1913, Miss I. M. HAYWARD. Sand dunes, near Liverpool, towards Southport, Lancashire, 1912, Dr W. A. LEE, ex *Kew*.





× *CHENOPODIUM HAYWARDIAE* MURR. GALASHIELS, SELKIRK.
COLL., MISS I. M. HAYWARD, F.L.S. SEE REPORT, 334, 1913.



× *CHENOPODIUM HAYWARDIAE* MURR. GALASHIELS, SELKIRK.
COLL., MISS I. M. HAYWARD, F.L.S. SEE REPORT, 334, 1913.



1988. *MENTHA ROTUNDIFOLIA* Huds., var. *VELUTINA* Quid? Isle of Arran, BALFOUR in *Phyt.*, 413, 1845.

2016 *b.* *CLINOPODIUM VULGARE* L., var. *DIMINUTUM* Eng. Simon. "Plante réduite dans toutes ses parties; verticilles pauciflores." Rouy *W. Fr.* xi., 337, 1909. Ditcham Park, Hants, R. S. ADAMSON. See *Rep.* 490, 1913.

2104 *b.* *HERNIARIA CILIATA* Bab., var. *c. ANGUSTIFOLIA* Pugsley. Slender and lax in habit, with stem pubescent all round and almost glabrous at the nodes. Leaves small, narrowly elliptic or oblanceolate, subacute, ciliate. Sepals ciliate. Ruau Minor, Cornwall, 1840, W. BORRER in *Hb. Br. Mus.* as *H. glabra*. St. Aubin's Bay, Jersey, Dr PLAYFAIR, 1902, and of an earlier date in *Hb. Br. Mus.* See H. W. PUGSLEY in *Journ. Bot.*, 331, 1914.

2110 *b.* *AMARANTHUS RETROFLEXUS* L., var. *DELILEI* (Richt. & Lor.) Thell. in *Viert. Nat. Ges. Zurich* 1, ii., 442, 1907. Alien, N. Amer. Tweedside, Selkirk, 1911, Miss I. M. HAYWARD. Det. A. THELLUNG.

2131 (3). × *CHENOPODIUM HAYWARDIAE* Murr. See *Report*, 334, 1913. "Four or five examples of the beautiful new hybrid *Chenopodium hircinum* × *striatum* mihi I have designated as *C. Haywardiae*. *A. C. hircino* differt foliis largius sinuatis lobo medio magis protracto, lateralibus angustioribus erectis, foliis laete v. saturate viridibus margine purpureo, caule purpureo-striato. Glomerulis parvis ut in striato sed dense farinosis."—Dr MURR. See *Allgem. Botan. Zeitschrift* n. 1-2, Jan.-Feb. 1914, p. 25.

2124. *CHENOPODIUM PRAEACUTUM* Murr., var. *MURALIFORME* Murr. "Foliis sat parvis, ovato-lancelotis acutis, acute dentatis, supra perobscure viridibus subtus cano-farinosus nervis tenuibus nigris." *Allgem. Bot. Zeit.*, 25, 1914. This came from the Mill, Malashiels, found by Miss I. M. HAYWARD, and I put it as a sub-var. cf. *album*, under var. *praeacutum*.

2145 *b.* *ATRIPLEX TATARICUM* L., var. *INTEGRIFOLIUM* (Moq.) Türke. Alien, Whiston, S. Lanes., 1913, Rev. M. TOCHEY, ex W. G. RAVIS.

2210 (4). RUMEX BROWNII Campd. Mon. Rumex, 64. Alien, Australia. Galashiels, Selkirk, 1909, Miss I. M. HAYWARD. See *Rep.*, 350, 1908.

2210 (8). RUMEX FLEXUOSUS Soland. ex Forst. Prod. 90. Alien, New Zealand. Galashiels, Selkirk, Miss I. M. HAYWARD.

The Cambridge British Flora, Dr Moss, vol. ii., 1914, contains, among others, the following mostly new species, varieties, and hybrids, for the descriptions of which the *Flora* should be consulted:—

2289. POPULUS HYBRIDA Bieb. = P. CANESCENS × TREMULA. p. 7.
Cambridge, Suffolk, Herts.

2292. POPULUS ITALICA × NIGRA. p. 9. Planted near Cambridge.

2293. POPULUS DELTOIDEA × NIGRA. (a.) *serotina*; (b.) *canadensis*. p. 12.

P. DELTOIDEA × NIGRA var. BETULIFOLIA = P. *Lloydii* Henry. p. 11. Herts., &c.

2268. SALIX FRAGILIS var. LATIFOLIA Anders. p. 18. Hunts.
Leaves 2.5-3 cm. wide. This is the *E. B.* plant.

2270. SALIX TRIANDRA, var. AMYGDALINA Bab. This variety, which Linton and White ignored, is now added on page 23.

2281. SALIX ARBUSCULA ? × RETICULATA Camus. p. 40. Ben Lawers, R. Brown, 1793.

2275. SALIX CAPREA, var. SPILACELATA (Sm.). Once again restored. Linton and White rejected it. p. 53.

2272. SALIX DAPHNOIDES, var. ACUTIFOLIA Doell. This is the Great Ayton plant. p. 59.

2272 (2). SALIX INCANA Schrank. Alien, Europe. Near Ambleside. p. 60. A single bush.

2273. SALIX VIMINALIS, var. LINEARIFOLIA Wimm. & Grab. Suffolk, Cambridge, Hunts., Salop. p. 61.

SALIX VIMINALIS × CINEREA = S. HOLOSERICEA Wimm.

2271. SALIX PURPUREA, var. HELIX Koch. Again restored on page 66. No locality given.

2262. QUERCUS SESSILIFLORA, var. PUBESCENS Loudon. p. 74. Commoner in the west of Britain. Dr Gracbner tells me Ehrhart described as well as named this species before Salisbury, but I have not yet been able to verify the statement.

- 2259 *b.* CARPINUS BETULUS, var. PROVINCIALIS Gren. & Godr. p. 79. See *Flora Berks.*, p. 448.
2256. BETULA PUBESCENS, var. ALPIGENA Blytt. Cheviot, Scotland. p. 83.
Var. MICROPHYLLA E. S. Marshall. Carnarvon, Salop, Yorkshire, &c. p. 84.
2245. ULMUS NITENS, var. HUNNYBUNI Moss. Essex, Cambridge, Hunts. p. 90.
Var. *b.* SOWERBYI Moss. Norfolk, Cambridge, Hunts. p. 90.
2176. POLYGONUM HYDROPIPER × NODOSUM. Cambridge, Hunts. p. 118.
2179. POLYGONUM MINUS, var. SUBCONTIGUUM Wallich. The *P. minus* of Curtis *Fl. Lond.* i., t. 77, p. 122.
2198. RUMEX CRISPUS, var. PLANIFOLIUM Schur. Muddy estuaries. p. 139. The *R. elongatus* Ley, not of Gussone, which was distributed through the Club in 1882.
2202. RUMEX CONDYLODES (*R. nemorosus*) × PULCHER. Sussex. p. 147. See *Rep.*, 34, 1872-4.
2206. RUMEX LIMOSUS × OBTUSIFOLIUS. Cambridgeshire. p. 148.
2117. CHENOPODIUM RUBRUM L. has as new vars. to our list var. *blitoides* Wallr., var. *glomeratum* Wallr., and var. *spathulatum* Rouy. p. 164. *C. rubrum* is one of our most plastic species and most readily responds to conditions of soils and exposure. It is very doubtful if these varieties are more than states or forms.
2144. ATRIPLEX PATULA, var. ANGUSTISSIMA Gren. & Godr., var. LINEARIS Moss & Willmott. p. 173; var. BRACTEATA Westerl. p. 174.
2147. ATRIPLEX HASTATA, var. MICROTHECA Rafn. p. 176. Babington had this in the *Manual*, 253, 1843.
2166. SUAEDA MARITIMA, var. FLEXILIS Rouy. p. 184. Var. *procumbens* Syme is rejected.
2168. SALSOLA KALI, var. GLABRA Dethard. South England, &c. p. 185.

Gen. 549 (3). *HYDRILLA* Richardin *Mém. Inst. Par.*, xii., 1811; ii., 61, 1814. Stem elongated, loosely branched, the branches partly forming elongate oval winter buds. Leaves 2-8 in each whorl, dentate, with two lanceolate or linear fringed axillary scales. Flowers monoecious (or? dioecious). Male spathe (not yet seen by us) almost globular, pointed, furnished with prickly tubercles, splitting irregularly into two lobes at the tip. Flowers solitary, shortly stalked, deciduous at time of fruiting. Sepals linear-lanceolate. Petals narrower and rather shorter. Female spathe tubular, two-lobed at the mouth. Flowers solitary. Stigma undivided. Asch. & Graebn. *Syn. Fl. Mitt. Eur.*, i., 398.

2298 (3). *HYDRILLA VERTICILLATA* Presl *Bot. Bemerk.* 112, 1844, Caspary, in *Monats. Abad. Besl.*, 40, 1857. * Teste Durand et in Pringsh. *Bot. Jahrb.*, i., 494, 1858, var. *POMERANICA* (Reichb.) comb. nov.

Udora occidentalis Koch *Syn.*, 669, 1837. Not *Serpicula verticillata* Pursh on which Koch based it.

Udora pomeranica Reichb. *Fl. Germ. Exsicc.* n. 2142;

Ic. Fl. Germ. et Helv., vii., 31, t. 59, f. 104, 1845.

Anacharis pomeranica Peterm. *Fl. Deutsch.* 529, 1849.

Hydrilla dentata Casp., var. *pomeranica* Casp. in *Bot. Zeit.*, 805, 1853.

H. dentata Casp. (*l.c.*) 56, 1854, et 901, 1856.

H. verticillata, var. *gracilis* Casp. in Pringsh. *Jahrb.* i., 418 et 495, 1858?

Description:—Plant pale green, slender, brittle, loosely branched from the base. Stem elongated, filiform, not 1 mm. thick, with internodes 1-3 cm. long. At the base the whorls are nearer together and the leaves are shorter and broader. Leaves in whorls of 5 (or less frequently of 3 or 4), narrowly linear, 1.5 or sometimes 1.75 cm. long, by 1-1.5 mm. broad; acuminate, pellucid, patent or ascending, with distant, forward-pointing, prickly (many-celled, A. & G.) teeth. Ascherson & Graebner (*l.c.*) describe the flowers as inconspicuous, scarcely 5 mm. in diameter. Fem. fl. with pedicels 2 or 3 cm. long or more. Winter buds solitary in the axils of the leaves, or compressed in a group at the apex, mostly 1.5 cm. long, by 3-4 mm. thick, formed

* The name *H. verticillata* given it by Caspary in *Bot. Zeit.*, 899, 1856, which is quoted by Aschers. & Graebn. (*l.c.*), is not available according to the *Actes*, as it is given in synonymy under *Udora*.

f broadly lanceolate or elliptical, obtuse, cuspidate, dentate leaves : falling off in autumn.

Our British plant differs somewhat from the description of Caspary's var. *gracilis*, which has "foliis ovalibus lanceolato linearibus" and internodes "usque ad 3 longis," by having narrowly linear leaves, and shorter internodes, therefore I use the varietal name *pomeranica*, which was the first appellative given it. This also retains the earliest varietal name, and the plant itself closely approximates to the figure of *Udora pomeranica* in Reichenbach's *Icones* (*op. cit.*).

Although recorded for Russia, Lithuania, and the lake systems of Pomerania, its status as a European plant is not without suspicion of an adventitious origin. Nyman *Consp. Fl. Eur. Suppl.*, i., 285, 1890, says "Patria hujus plantae est India orient., ubi frequens dicitur."

The British plant may be distinguished from *Elodea canadensis* (which the Asian plant more closely resembles) by its narrower, more acuminate leaves, which are usually five in a whorl, and by its paler green colour.

HYDRILLA.	ELODEA.
Leaves pale green, in whorls of 4, 5, or 6, narrowly linear (1.2 mm.), acuminate.	Leaves dark green, in whorls of 3, oval-oblong, (3 mm.) blunt.
Teeth (pluricelled, A. & G.) projecting beyond the margin.	Serrulations small, short, unicelled.
Scales fringed.	Scales entire.
Plant dies in autumn.	Plant remains green till late autumn, and sometimes through the winter.

Hydrilla was first recorded for Britain in the *Lancashire and Yorkshire Naturalist* for Aug. 1914 by its discoverer, Mr W. H. Searsall, who found it in Esthwaite Water, N. Lancashire, 69 b., growing usually with *Najas flexilis* (itself a new plant to England), which it much resembles in facies, but "the *Najas* is much branched above, but the *Hydrilla* very little, its branching being almost entirely below." It grows in water from 5-10 feet, perhaps best at 5 feet. The water is slightly coloured—peaty. As in Britain it is barren, its reproduction is vegetatively by winter buds, which are plentifully produced, and probably these have been transported from Pomerania by aquatic migrants, and we may expect to hear of its

occurrence in other pieces of water in Britain. Esthwaite Water, Mr Pearsall says, has a very large number of aquatic birds—wild ducks, coots, water hens, as well as the great crested grebe and herons. Associated with it were also *Callitriche autumnalis*, *Potamogeton pusillus* and var. *Sturrockii*. Roxburgh (*Fl. Ind. l.c.*) points out that “when the male flowers are ready to expand the murexed spathe bursts, the flowers are then quickly detached and swim remotely from the parent plant on the surface of the water in search of the female flowers resting on the extremities of the perianth and petals.”

The typical *H. verticillata*, var. (a) *Roxburghii* Casp., *l.c.* p. 494 = *Serpicula verticillata* L. fil. *Suppl.*, 416, 1781, et *Herb. Linn.*, Roxb. *Pl. Corom.*, ii., 34, t. 164, 1798 = *Vallisneria verticillata* Roxb. *Fl. Indic.*, iii., 751, 1832. *Hottonia serrata* Willd. *Sp. Pl.* i. (ii.), 814, 1797. *Hydrilla verticillata* F. von Muell. *Fragm. Phyt. Austr.*, i., 94, 1858-9. *Udora australis* F. von Muell. *Second Con. Rep.*, 16. *U. verticillata* Sprengel *Syst.*, i., 170, 1825, p.p., is a native of India, ascending to 1,200 metres in Kumaon, extending into Kashmir, Assam, Ceylon, Java, China, Australia,* Mauritius, Central Africa, on the Nile 2 deg. N. lat. as var. *brevifolia*, Madagascar (Hildebr. 3523), but as yet has not been reported from Europe.

Var. CRISPA Caspary, *l.c.* 496. Reichb. *Fl. Germ. Exc.*, 139, 1830. *Udora lithuanica* Bess. MS. in Koeh *Syn.*, 669, 1837. *Hydora lithuanica* Andrz. MS. ex. Besser in *Flora Beibl.*, i., 12, 1832. See Reichb. *l.c. Fl. Germ. et Helv.*, vii., p. 31, t. 59, 106. Occurs in Europe as in Lake Selment, near Lyck, in E. Prussia, Lithuania, as well as in Scinde, and China (Kianang).

* Baron F. von Mueller first recorded it as *Udora australis* “in fluvio Murray, Australia (see *Second An. Rep.*, 16). In *Fragm. Phyt. Austr.*, i., 94, 1858-9, he records *Hydrilla* as growing among other Indian aquatics, but apparently omits it from *Fl. Austr.* In Moore’s *Handbook N. S. Wales Fl.* it is said to grow “all over the State.” Is it adventitious in Australia, having rapidly spread since its introduction, or is it a native?

2326 (2). ORCHIS PRAETERMISSA Druce × MACULATA L., vera. = × O. HALLII mihl. Differs from *praetermissa* (with which, and *maculata*, it grows), by the leaves being spotted and less hooded at the tip, by the bracts being often conspicuous, by the paler flowers with more conspicuous markings, and by the more deeply trifid lip with broader and more conspicuous lateral segments. The plant is often

very luxuriant, but less showy than the hybrid with the basic *O. aculata*, var. *tridentata* Bréb. = \times *O. grandis*. 1 Perranwell, Cornwall; 12 Odiham, N. Hants; 22 Cothill, Berks; 32 Hornstoek, Northants; 62 Scarborough, York; *Mr Roe*. 69 b. L. Lanc., *Travis*.
C. DRUCE.

2328. \times ORCHIS ALATA Fleury Orch. Rennes, 17, 1819 = ? *O. LACIFLORA* \times MORIO. St Ouen's, Jersey, 1914, with both parents. Our member, Mr F. W. ATTENBOROUGH, sent me dried specimens, and describes them as seeming to partake of the characters of both species, and that in the Jardin Botanique de Nantes he saw the same plant belled *O. alata* Fleury. In the dried specimens the chief difference from *O. laciflora* is in the deeply trilobed lip and the less connivent palls. Brébisson (*Fl. de Normandie*, ed. 4, 312, 1869) describes it "Tige de 2-4 decim. Feuilles lancéolées-linéaires, courtes. Fl. purpurines, larges, en épi allongé, a divis. chargées de striés plus foncées, non ponctuées. Sép. supér. non connivents avec les pétales. Labelle assez profondém. trilobé, crénelé, le lobe médian échancré. Eperon à peu près aussi long que l'ovaire. Braet. membranenses, trinerviées dans le bas; les supér. uninerviées et plus courtes que l'ovaire." It must be borne in mind that *O. palustris* Jacq. was recorded in *Journ. Bot.* 1809, 1873, from Guernsey, but that Dr Trimen thought that the species were intermediate in character between *laciflora* and *palustris*. Dr Trimen said they were not the *laciflora* of the Ch. Isles, and may have been this hybrid.

2338. HABENARIA GYMNADENIA (vel. CONOPSEA) \times ORCHIS PRAETERMISSA Druce. On June 22, 1914, Mr Stewart A. M'Dowall sent me a specimen of an orchid which had been gathered from a fertile bank by the edge of a wood on the Downs, near Winchester, which he suspected to be a hybrid of the Fragrant with one of the Marsh Orchids. Although the plant was not in a very good condition, there appears to be good reason to adopt this view. In appearance it suggested a small form of my *praetermissa*, such as sometimes occurs on the downs, of which it had the strict habit, the stem about 3 mm. thick, being tinged with reddish-brown, and in the broad spike of paleimson flowers, while the leaves were upright, hooded and unspotted. On examination of the flower showed that its structure is very similar to that of the Fragrant Orchid of which it had the long narrow curved spur and the general shape, but the slightly scented flower was some-

what larger, of a darker colour, and the labellum was not only larger and faintly marked with striae of a darker tint, but it was more deeply cut, and its margin more uneven. The lateral segment of the labellum is larger, and the middle one prolonged into a bluntish point with waved margins. The bracts are larger—longer and broader—and foliaceous. There can be no doubt, assuming that it is hybrid, that the dominant parent is the Fragrant Orchid, but the other parent is less easy to name. That it is a Marsh Orchid and not the Spotted Orchid is almost certain, from the flower-tint being darker and not lighter than *Gymnadenia*, and the leaves not being spotted. The colour of the flowers eliminates true *incarnata* which also has not, I believe, been found on the downs. It will be remembered that Mr Quirk reported a hybrid of the Fragrant Orchid with *Orchis latifolia* = \times *H. Wintoni* (See *Rep. Bot. Exch. Club* 33, 1911), which was said to grow near the two parents. There is, however, a possibility of its having the same parentage as the above (See also *Report of the Winchester Coll. N. H. Soc.* 102, 1911). In the same area Mr Quirk had some very interesting examples of *Habenaria Gymnadenia* and *H. viridis* = \times *H. Jacksonii* (Quirk) (*Rep. Winch. N. H. Soc.*, p. 6, 1911), which exhibit definite signs of the presence of the two parents. There was still another curious Orchid which suggested the probable presence of *H. Gymnadenia* with *Orchis pyramidalis* the *H. Anacamptis* Druce (*l.c.*, p. 102). The nomenclature of the Fragrant Orchid offers some points of difficulty. The earliest name was *Orchis conopsea* (spelled *conopea* in *Sp. Pl.*, 1753) by Linnaeus. Had the Vienna Actes been consistent in retaining the oldest trivial in all cases, the specific name of this plant should be either *Habenaria conopsea* or *Gymnadenia conopsea* according to which generic name is adopted. Bentham and Hooker (*Gen. Pl.*) merged the genus *Gymnadenia* into *Habenaria*, and in that genus it is usually called *Habenaria conopsea* Benth. This, however, dates only from 1881, and there already existed at that time a *Habenaria conopsea* of Reichenbaeh the younger, which he had described in *Bonoplandia* ii., 1854, p. 10, therefore *H. conopsea* is not available for our British plant. In the *Flora of Berkshire*, 479, 1897, I suggested that the British plant should be called *Habenaria Gymnadenia*. If the genus *Gymnadenia* be kept apart, as is the ease with those who follow Engler, then the above hybrid is *Gymnadenia conopsea* \times *Orchis praetermissa*. Dr F. A. Lees tells me the hybrid also occurs in Bowland, Yorks. G. C. DRUCE.

Gen. 571 (2). *LIBERTIA* Sprengel Syst., i., 127, 168, 1825.

2359 (2). *LIBERTIA FORMOSA* Graham in *Edin. Phil. Journ.*, 1833, 1833. Alien, Chili. Teste *Ind. Kew.* North of Ireland, growing wild, Lady EVA HEATHCOTE, ex *Kew.*

2426. *JUNCUS MARITIMUS* Lam., var. *ATLANTICUS* J. W. White. With English description only. Scilly Isles. See *Rep.* 1909, 1913. Prof. Lindman thought the specimen sent to him was either a monstrosity than a true variety, and Mr R. S. Adamson either a luxuriant form than a true variety. On the Menai Straits I found in 1875 a form with a similarly elongated panicle, but so far as I remember the height of the plant was not more than 3 feet. G. C. RUCE.

2536. *SCRIPUS TRIQUETER* L., var. *CONGLOMERATUS* Reichb. Spikes all sessile, collected into a head, Syme *E. B.*, x., 66. These conditions are probably forms rather than true varieties, *i.e.*, forma *conglomeratus* Reichb.

2542. *SCRIPUS SETACEUS* L., var. *MAJOR* Lej. Rev. Fl. Spa, 12, 1824. Cette variété beaucoup plus robuste et plus élevée que l'espèce, n'est pas comme elle disposée en gazon dense, au contraire les chaumes sont souvent isolés et la racine est bien rampante. J. BENNETT, ex A. Somerville, in *Journ. Bot.*, 143, 1913.

Gen. 639 (2). *BECKMANNIA* Host Gram. Austr., iii., 5, 1805.

2646 (2). *BECKMANNIA ERUCIFORMIS* Host. Alien, Eur. Uxbridge, 1911, J. E. COOPER, ex *Kew.*

2669 (2). *STIPA POEPPIGIANA* Trin. and Rupr. Alien, Chili. Valdivia, Selkirk, 1913, Miss I. M. HAYWARD. "The identification of this is based only on the (somewhat meagre) description in Trinius and Rupr. *Spec. Gram. Stipaceorum.* It must be a very rare plant, because I do not find any mention of its having been collected by any other botanist than the discoverer, Poeppig, who found it in Chile-australis Andine pr. Antuco, a remote mountain district. There is therefore some slight doubt left on the identification of this species, but surely there is no other described *Stipa* to which your specimen agrees better (the panicle of your specimen is reduced in size, not 6 inches)." E. HACKEL, in *lit.*

2669 (3). *STIPA CAUDATA* Trin and Rupr. Alien, Chile, S. Amer. Galashiels, Selkirk, 1913, Miss I. M. HAYWARD. "As yet this has not been rediscovered in Chili, whence Trinius got it from Lindley (without indication of locality), but a somewhat stouter form or variety of it has been found in Southern Argentina. Your specimen agrees better with Trinius' description than the Argentine specimens do." E. HACKEL, in *lit.*

2669 (10). *NASSELLA FLACCIDULA* Hackel in *Fedde Report*, v., 154, 1908, var. nova *GLOMERATA* Hackel. Differt a typo paniculae ramis in parte superiore ab spiculas densissime confertas fere glomeriformibus, arista circ. 12 mm. (in typo 22-25 mm.) longa. Spiculae e viridi et albo (in typo etiam violacco) variegatae. Hackel in *lit.* The species *flaccidula* is known only from Bolivia (mountain slopes near La Paz), but it is possible that it is only a form of the Peruvian *N. pubiflora* Hack. (*Uruchne pubiflora* Trin.). [This plant] does not represent the typical form of the species. Besides the differences in diversities of habit, culm and leaves more slender, the spikelets paler of colour, attributable to the quite different climate of the Scotch station, there are also differences in the form of the panicle, length of the awn, &c., which perhaps may have already existed in the wild state, and which justify the distinction of varieties. But as to the species to which this [and *N. caespitosa*] belong there is not the slightest doubt, and the fact of mountain species of the Andes re-appearing as aliens [in Scotland] is beyond doubt. E. HACKEL in *lit.* Feb. 26, 1914. This plant was figured in the *Report* for 1913 from specimens found at Selkirk on refuse heap by Miss I. M. HAYWARD.

2669 (11). *NASSELLA CAESPITOSA* Griseb., var. *PERUVIANA* Ball? sub *Oryzopsis*. Ball in *Journ. Linn. Soc.*, xxii., 58, 1885, mentions a var. *peruviana* of *Oryzopsis caespitosa* Ball, the characters of which seem to agree with your plant, but without having seen it [Ball's spec.] it is difficult to judge. Perhaps it is a distinct variety. [See above]. *N. caespitosa* is a very variable species. (See Spegazzini *Stipeae platenses* sub *Stipa caespitosa* Speg.). He who does not recognise *Nassella* as a genus must merge it into *Stipa*, but not into *Oryzopsis*. [This is a native of] mountain meadows in Western Argentina (prov. of Salta), and has not been found in Chili, but in a somewhat different form at Chiela, in the Peruvian Andes by Ball. [Both are

ew aliens to Europe.] E. HACKEL in *lit.* The specimen was gathered Galashiels, Selkirk, 1913, by Miss I. M. HAYWARD.

2692 (3). POLYPOGON CRINITUS Trin. Gram. Unif., 171. Alien, Ayrshire. Colchester, Essex, G. C. BROWN in *Rep.*, 508, 1913.

2715 (3). TRisetum PANICEUM Pers. Syn., i., 97. Alien, Ayrshire. Waste ground, Hackney Marshes, July 1913, J. E. COOPER.

2725. ARRHENATHERUM TUBEROSUM (Gilib.) Druce. This, after many years' observation, I believe has valid claims to scientific rank, and as such it appears in the *List*. The suggestion that the onion couch grass is confined to cultivated soils is absurd. It occurs in wild Scottish glens in untilled soil, in fact each species may occur on arable or untilled ground. There is an interesting account by M. Underwood (*Journ. Agric. Sci.*, iv., pp. 270-272, 1912), in which he says "seeds of the onion couch grass and of the common oat grass were sown side by side on a variety of different soils to ascertain whether the bulbous form was a response to external conditions. In all cases the bulbous and the fibrous rooting form were reproduced alike, thus proving that the bulbous form is hereditary, and independent of habitat." Besides the root characters, the presence of hairs on the stem joints and the inflorescence offer distinguishing features. C. DRUCE.

2725 (2). ARRHENATHERUM ERIANTHUM Boiss. and Reut. Diagn. Bot. Hisp., 121. Alien, Spain. With Esparto grass, Musselburgh, Edinburgh, 83, J. FRASER, in *Tr. Bot. Soc. Ed.* 234, 1914.

Gen. 675. AMMOCHLOA Boiss. Diagn. Ser. I., xiii., 51, 1853.

2734 (10). AMMOCHLOA PUNGENS Boiss. Alien, N. Africa. With Esparto grass, Musselburgh, Edinburgh, 83, 1913, J. FRASER,

2735 (3). DANTHONIA RACEMOSA R. Br. Alien, Aust. Galashiels, Selkirk, 1913, Miss I. M. HAYWARD.

2760 c. POA PALUSTRIS L., var. GLABRA Aschers. Alien, Eur. Galashiels, Selkirk, 1913, Miss I. M. HAYWARD.

2787 (2). FESTUCA TRACHYPHYLLA Hackel. Alien, S. Amer. Galashiels, Selkirk, 1913, Miss I. M. HAYWARD. This "is surely one of

the numerous Chilian species imperfectly described by Phillippi, and comes very near *F. dumetorum* Phil., not Linn. (which I propose to name *F. trachylepis*), but it has not the minute prickles on the fertile glume of that species." E. HACKEL, in *lit.*

2789 (3). *FESTUCA SETACEA* (Parl.) Guss. Fl. Sic. Syn. i., 83, not of Poir. (*F. Thomasiana* Gay, teste *Ind. Kew.*?) *Vulpia setacea* Parl. *Ann. Sc. Nat. Paris*, 297, 1841. Alien, S. Eur. Leith, J. FRASER, ex *Kew.*

2792 (3). *FESTUCA CYNOSUROIDES* Desf. Fl. Atlant. i., 88. Alien, N. Africa. With Esparto grass, Musselburgh, Edinburgh, 83, 1913, J. FRASER, in *Tr. Bot. Soc. Ed.* 234, 1914.

2817 (2). *BROMUS ADOENSIS* Hochst. ex Steud. Syn. Pl. Gram. 362. Alien, Abyssinia. Galashiels, Selkirk, 1912, Miss I. M. HAYWARD. Probably to this also must be referred the specimens named *B. japonicus*, var. *velutinus* in the preceding *Report*.

2826 *b.* *LOLIUM RIGIDUM* Gaud., var. *RAMOSUM*. Alien, S. Europe. With Esparto grass, Musselburgh, Edinburgh, 83, J. FRASER, *l.c.*

2826 (2). *LOLIUM SUBULATUM* Visiani Fl. Dalm., i., 91, t. 3. Alien, S. Europe. Leith, J. FRASER, 1912, ex *Kew.*

RECENT PUBLICATIONS.

THE CAMBRIDGE BRITISH FLORA, by C. E. Moss, D.Sc., F.L.S., assisted by specialists in certain genera. Illustrated from drawings by E. W. HUNNYBUN, vol. ii., Salicaceae to Chenopodiaceae, pp. xx., 206, tt. 176. Cambridge, at the University Press, 1914.

The appearance of this volume marks an event in the history of British botany. Its author must be highly congratulated at seeing the beginning of his great labours in print. The preparatory task of fixing upon a definite plan, of the choice of proper varieties of type, selection of paper, and all the hundred and one things necessary to put such an important work attractively before the public, not to speak of the necessarily greater task of bibliographical research and critical study of a large range of fresh and dried specimens, would be



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BROMUS ADOENSIS HOCHST. GALASHIELS, SELKIRK.
COLL., MISS I. M. HAYWARD, F.L.S. SEE REPORT, 30, 1914.



ufficient strain on the most energetic student. We must wish him enough to pursue his struggles, for it is only by struggles that such works are brought to fruition. Naturally in so comprehensive a work botanists may find many things with which they do not agree. This is quite conceivable. Such is the inevitable result of treating of the vegetable kingdom. The author himself may in time adopt different opinions. But he has no hesitation in stating his ideas, nor does he shrink from defending them. On certain points—that ofomenclature notably—while there is much to be said for some of his views, there is also much to be said on the other side. He adopts the Vienna Aetes—when it suits him—but the use of small letters for trivial names is against the recommendations, and gives a somewhat curious appearance to such a name as *Ulmus nitens*, var. *nybuni*. The descriptions of the plants are concise; much more concise than those of the author of the third edition of English Botany. Dr Moss says, was born “Syme, later he adopted the name Boswell, and still later the name of Boswell-Syme.” The fact I believe is that the first change was Boswell-Syme, and it was in later life when he succeeded to the estate at Balmuto that he signed his name Boswell. Although not a Scotsman, I rather dislike seeing Caithness and Midlothian written Caithnessshire and Edinburghshire. I am by no means convinced, despite its label, that the specimen of *Salix reticulata* in *Herb. Mesdale* (p. 26) was ever gathered on Cader Idris. *Salix reticulata* has been long ago recorded from Wales (See Hudson's *Flora Anglica*), where *S. herbacea* was meant. The safer plan would be to query the Caithnessshire record until verified. The hybrid of *Betula alba* × *B. pubescens* is said by Ascherson & Graebner to be = *B. hybrida* Ledeb. in *Diana* 180, 1797, but this synonym is not cited in the *Flora*, p. 82. I do not agree in treating *Ulmus sativa* Miller, being the same as *U. Plotii*, indeed, Mr Henry (*British Trees*) says that *U. sativa* Miller is the English Elm. The specimen in *Herb. Plot* shows that Plot's Elm is not *U. riminalis*. The first record of *Polygonum maculatum* was seventeen years earlier than the one cited. It may be recorded as *P. arifolium* in our *Report* for 1889, p. 267, 1890. The name *Polygonum nodosum* Pers. is adopted instead of *P. maculatum* Pers. or *P. tomentosum*. Trimen and Dyer (*Journ. Bot.*, p. 34, 1871) say that since then the description neither of *P. nodosum* nor of *P. laxum* properly characterises the *P. nodosum* of authors, we are forced, if we regard it as of specific rank, to search for another name.” Indeed Persoon does

not number it as a species, and marks it with an asterisk, signifying its dubiousness, and adds "an a *Persicaria* species diversum?" In preface, p. x., *Synopsis* Persoon says "speciebus obscuris, aut quoad se dein dubiis," are asterisked. It certainly lacks the precision of *P. maculatum* (Trim. and Dyer) Bab. *P. laxiflorum* is used to designate the plant we have been so long calling *P. mite*. Petiver's pre-Linnean name for it is not cited, nor is the synonym *P. Braunianum* F. Schultz cited for the hybrid *P. minus* × *Persicaria*. The treatment of *P. minus* does not seem thoroughly satisfactory, and we are unable to follow by it the naming of the specimens by Dr Moss in the *National Herbarium*. Our old *Rumex conglomeratus* Murray appears in a new guise as *R. glomeratus* Schreber, which involves at least six "new combinations," but if priority of name is the influencing reason, Murray's *conglomeratus*, which dates from 1770 (*Prod. Stirp. Gott.*), precedes Schreber's name by a year, and there is thus no reason for the change. *Chenopodium* and *Atriplex* are less satisfactorily treated than some of the preceding genera. The minute work at *Chenopodium* by the specialist Murr is completely ignored, notwithstanding many of his plants have been recorded in the *Reports*. *Atriplex laciniata* is now rejected for our British plant, notwithstanding Dr Trimen asserted that it had incontestable claims. It is to be regretted that a more characteristic example was not figured, than the miserable scrap which appears. There is an earlier authority for *Atriplex glabriuscula*, var. *Babingtonii* than the one given. It may be found in the *Report*, p. 117, 1911. It is said not to occur in Caithness, but that county may be added to its distribution. Occasionally there is a variance in citation—who ever kept quite accurate?—as for instance on p. 176, when the authority for *Atriplex hastata* is written Rafn *Dann. Fl.*, 239, 1800, and on page 177 var. *calotheca* Rafn *Dan. Fl.*, ii., 248, 1796. Presumably the same book *Danmarks och Holsteens Flora* is meant. On the same page there is a foot-note stating that in the *Dillenian Herbaria* "we say that *A. maritima*, &c., Plukenet *Almagestum* 61, 1696," is *Atriplex glabriuscula*, but our statement is that the plant representing it in the *Dillenian Herbaria* is that species, therefore it is correct only so far as Dillenius' interpretation, which I have no reason to doubt, is concerned. Dr Moss wisely rejects the name *Chenopodium serotinum* as representing *C. ficifolium*, the former plant not being British. He also refers to *Blitum folio subrotundo* of the Dillenian Ray, and says

The description appears to be more applicable to *C. opulifolium*. My reference in the *Dillenian Herbaria* was to Dillenius' own specimens collected near Jack Straw's Castle, which are not *opulifolium*. The two specimens which I referred to Gray's var. (of *album*) *rotundifolium* would now, I think, be put by Murr under his *pseudopolyspermum*. They are quite unlike *opulifolium*. The third is not far away from Murr's *obtusum*, and does not agree with the description on Dillenius' label, *i.e.*, "foliis oblongo integro." I am not aware of any specimen of *C. opulifolium* having been gathered in Britain so long ago as 1724. Examples of *C. album* with blunt, broad, subentire leaves occasionally occur, and some of these come under the *C. pseudopolyspermum* Murr, and there are forms of Murr's *rhombicum* and *obtusum* which might be covered by the descriptions in the *Synopsis*.

Dr Moss has done wisely in including many non-indigenous plants. I hold no brief for Aliens, but it is well to know their earliest arrival, and there is no harm in becoming acquainted with their characters. We do not find that those who are most adverse to their publication are conspicuous for their knowledge of British plants. What is important is to distinguish between those actually adventitious, and those which are indigenous. The fact is that despite certain constancy there is also a great amount of change going on in the constituents of our flora. For instance, the advent and spreading of *Urtica taraxacifolia* has driven out to some extent the once ubiquitous *C. capillaris*, just as *Veronica Tournefortii* has reduced the numbers of *V. agrestis*. Therefore we welcome the inclusion even of such a distinct alien as the Cape *Mesembryanthemum edule*, which I believe was first correctly identified in the *List of British Plants*, and I only regret Mr Humnybun had not before him a flower in good condition, as his drawing is sadly inadequate in representing its handsome inflorescence. Curiously such a well established and rampant alien, which is likely to spread very widely, as *Polygonum cuspidatum* is not included, nor is there any reference to *Rumex Brownii* which is naturalised near Galashiels. It is one of the few Australian species which occurs with some degree of permanence in Britain. Many conditions might be made to the distribution of various plants. For instance, Oxford was long ago recorded for *Rumex sanguineus*, adventitiously doubtless. The ingenuity of the printers might have given us a better plan for showing plant distribution. For instance, a whole page is devoted to *Atriplex littoralis*, when the surface of the

whole of the counties impinging on the coast are shaded as if the plant grew all over them. A small map of the British Isles with a double coast line where the plant occurs would surely be preferable, and when a plant occurs in one or two localities only, one or two stars in the country would indicate its rarity. But these are small matters. Elsewhere are given the chief additions to our British *List*.

A FLORA OF NORFOLK, with papers on climate, soils, physiography, and plant distribution (W. H. Burrell) by members of the Norfolk and Norwich Naturalists' Society. Edited by W. A. NICHOLSON, 81 Surrey Street, Norwich. Demy 8vo, pp. 214, 2 maps. West, Newman & Co., 6/-, 1914.

FLORA ORCADENSIS, containing the flowering plants arranged according to the natural orders by MAGNUS SPENCE, and the mosses by Lieut. JAMES GRANT. Pp. xcv., 148, with maps and portraits, 4/, 1914. Kirkwall, D. Spence.

SUPPLEMENT TO FLORA ORCADENSIS. MAGNUS SPENCE. pp. 11. W. Peace & Son, 1914. Includes plants recently found by Col. H. Halcro Johnston.

A SUPPLEMENT TO THE FLORA OF SOMERSET. E. S. MARSHALL, M.A., F.L.S. pp. iv., 242, 1914, 7/6. Published by the Somersetshire Arch. and Nat. Hist. Society.

HAMPSTEAD HEATH: Its Geology and Natural History. Hampstead Scientific Society. pp. 328, 3 maps, 11 plates; one of the Cornish Elm. T. Fisher Unwin, 10/6 nett.

BRITISH FLOWERING PLANTS, illustrated by 300 full-page coloured plates by Mrs HENRY PERRIN; text by Professor Boulger. 4to., pp. xlv., vol. i., ii., iii., iv., with glossary and index pp. 55. 1914, Quaritch. The artistic and truthful paintings are of a high order of merit.

GENERA OF BRITISH PLANTS arranged according to Engler's Syllabus der Pflanzenfamilien (seventh edition, 1912). with the addition of the Characters of the Genera. By HUMPHREY G. CARTER, M.B., Ch.B. Camb. Univ. Press. Crown 8vo., pp. xviii + 122. Price, 4/- nett. This work is intended to familiarise students with Engler's system of the classification of plants.

TREES AND SHRUBS HARDY IN THE BRITISH ISLES. W. J. BEAN. 2 vols., med. 8vo., pp. 1440, with over 250 line drawings and 64 half-tone illustrations, £2 2/- nett. John Murray. The arrangement is alphabetical. After the description of each species a paragraph is given to its native country, history, distinctive peculiarities, based on the author's experience with the finest collection of trees and shrubs in the world, extending over twenty-two years. The introductory part is devoted to general questions of propagation, transplanting, pruning, hybridisation, &c. The illustrations are better than those of some arboricultural specimens recently published, the example sent, that of *Tilia petiolaris*, being very gracefully drawn.

THE STORY OF PLANT LIFE IN THE BRITISH ISLES. Types of the common Natural Orders. Introductory volume. A. R. HORWOOD. 8vo., pp. 268, 73 fig., 1914, 6/6. J. & A. Churchill.

AN INTRODUCTION TO THE STUDY OF PLANTS. F. E. FRITSCH and J. SALISBURY. 8vo., pp. 397, 8 plates, 233 figs., 1914, 4/6. Bell & Sons.

WILD FLOWERS. People's Books, No. 117. MACGREGOR SKENE. 12mo. 8vo., pp. 92, with 209 woodcuts. Jack, London. 6d nett, 1914. Contains brief descriptions of 200 of the commoner wild flowers.

WILD FLOWERS AS THEY GROW. H. ESSENHIGH CORKE and G. MARKE NUTTALL. 8vo., pp. vii., 200, 5/-. Cassell, London, 1914.

WILD FLOWERS AND HOW TO NAME THEM AT A GLANCE WITHOUT BOTANY. Col. J. S. F. MACKENZIE. 8vo., pp. 224, 191. 1/-, Hardingham, London.

THE SOUTHERN ELEMENT IN THE BRITISH FLORA. O. STAPP in Engler's *Bot. Jahr.*, vol. 1., pp. 509-525, 1914. In this paper the author says Dr Scharff has refuted the idea of the introduction of the Hellenic element by migrating or gale-driven birds, and that with Engler he believes that their reimmigration took place in post-glacial times, . . . and it happened along with the repopulation of the glaciated land by a flora advancing mainly from South-Western Europe through Western France. We notice that he omits any reference to the occurrence in Britain of *Spergularia atheniensis*, and that he uses the name *Atropis rupestris* which is a combination based

upon an erroneous supposition of the publication of the *Flora Londinensis*.

SYNOPSIS DER MITTEL-EUROPAISCHEN FLORA. Ascherson & Graebner. P. P. GRAEBNER. 84 and 85 Lief. Band VII. Geraniaceae : Oxalidaceae : Tropeolaceae : Linaceae : Zygophyllaceae : Cneoraceae : Rutaceae. pp. 81-240, 1914, 4 marks. Band V. Amarantaceae (Amaranthus von A. Thellung) 225-304, 1914, 2 marks. In the above important parts the author has adopted the name *Linum anglicum* for our British plant, putting it under *L. alpinum*. The Linnæan *L. perenne* he keeps as a distinct species. He rejects the name *L. bienne*, suggested in *Journ. Bot.*, for *L. angustifolium*, but puts it as a variety of *L. usitatissimum*, and he correctly substitutes var. *humile* Pers. for var. *crepitans* Boenn.

ICONES GERMANICAE ET HELVETICAE. REICHENBACH L. & H. G. . . . Dr G. Ritter Beck von Mannagetta. Tom. 25, p. 5-40, tt. 84-117. Rosaceae. This contains beautiful plates of the species of *Sorbus*. The two varieties of *Pyrus Malus* are kept as distinct species of *Malus*.

DIE RIVIERA. VON ALBAN VOGHT. Berlin. W. Junk Natur-Fuhrer. pp. vi., 466, tt. vi., 1914. This gives an interesting ecological description of the Riviera, as well as a notice of the most interesting cultivated plants in the well-known garden of La Mortola. A set of the plants collected by my friend Herr Voght in the preparation of this work was given to the Oxford Botanic Garden. Herr Voght intended to produce a similar work on the district round Naples.

FLOWERING PLANTS OF THE RIVIERA. A descriptive account of 1800 of the more interesting species. H. STUART THOMPSON. pp. xxviii, 249, 8vo., tt. 24, cold. f., 112, 10/6. Longman, Green & Co.

THE FLORA OF SOUTH AFRICA. RUDOLPH MORLOCH. Vol. i., F 4to., 36 cold. plates, 30 plates monochrome. £2 2/- subscription price. Wm. Wesley & Son.

THE NORTH AMERICAN FLORA. Vol. 15, part 1. *Sphagnales-Bryales*. E. G. Britton, June 14, 1913, p. 175. Part 2. *Bryales*. R. S. Williams, Aug. 8, 1913, p. 78-166. Vol. 22, part 5. *Rosaceae*.

lex. Rydberg, Dec. 23, 1913, p. 389-480. Vol. 10, part 1.
garicaceae. W. A. Merrill, July 28, 1914, p. 76. Vol 29, part 1.
ricules. Aug. 31, 1914, by various authors. In this the genus
va-ursi Miller, 1754, is used for *Arctostaphylos* Adans.

PHYTOGEOGRAPHIC SURVEY OF NORTH AMERICA. J. W.
 ARSIBERGER. pp. 780, 1 map, tt. 18, fig. 32. Engelmann,
 Leipzig, 1911, £2 2/-. This volume of the *Vegetation der Erde* is
 written in English and is a wonderfully compressed mass of valuable
 formation. The bibliography itself extends to 46 pages.

ROCKY MOUNTAIN FLOWERS. F. E. & E. S. CLEMENTS. pp.
 10, t. 25 cold., 22 uncold. H. Wilson, New York. Three dollars.

THE CLIMAX FOREST OF ISLE ROYAL AND ITS DEVELOPMENT.
 T. COOPER. *Bot. Gaz.*, p. 1-44, 115-140, 182-235, 1913, 55 fig.
 and map. A valuable contribution to the ecological botany of the
 forest of North Eastern America.

FOCKE WILHELM OLBERS. SPECIES RUBORUM MONOGRAPHIAE generis
 Rubi Prodrömus, in BIBLIOTHECA BOTANICA. Stuttgart 1914, parts
 i and ii., pp. 274. We must congratulate Dr Focke, the great authority
 on European Brambles, on the completion of his many years' labours
 on this thorny genus. He has not only corresponded with British
 Botanists, but himself has visited Britain on more than one occasion,
 and has had the advantage of being in touch with our great botanologist,
 the Rev. W. Moyle Rogers, for many years. The *Monograph* has some
 defects. First the numbering of the species is misleading the numbers
 5, 6, 7, 8, and 9 have no species representing them. Later on
 numbers are duplicated, so that the total numbered species is not
 9 but 434. Again such a well-known Bramble as *corylifolius*
 is not numbered; nor so far as can be found are the endemic *castrensis*,
ustris, or *durescens* mentioned, nor the more critical (perhaps)
wellii, *durotrigum*, *Bucknalli*, *adornatus*, *horridicaulis*, *hostilis*,
co-ater, *divexiramus*, *serpens*, *Kaltenbachii*, *minutiflorus*, *saxicolus*,
reticaulis and *glareosus*. *R. myricae* and *phyllothyrsus* disappear from
 the List, and he suggests *orthocladus* Ley is a hybrid = *Sprengelii* ×
caucus. He substitutes the name *R. orbifolius* for *R. danicus*: *sub-*
canus for *mollissimus*: *furvicolor* for *melanoxydon*: and *macrostachys*
anglicanus, to which I believe our own specialist offers no

objection. Dr Gilbert, in *Journ. Bot.*, made special reference to the probably hybrid origin of some of our more definite Bramble species on p. 280, 1912, and now Dr Focke says "Species et prospecies, quarum origo hybridogena e *Rubus vestitis* suspicari potest," and enumerates 16 species. These include *macrophyllus* (which he suggests is *vestitus* × *sulcatus*). In Britain this occurs plentifully in localities which now yield no *sulcatus*): *Balfourianus* (*vestitus* × *caesius*): *pyramidalis* (*vestitus* × *Lindleianus*), and so on. The nomenclature is in several instances open to criticism, i.e., he uses *vestitus* for *leucostachys*: *vulgaris* for *Lindleianus*: *discerptus* for *echinatus*, in the latter case Lindley described *echinatus* in 1829, while *discerptus* was not established until 1859. A more glaring case is the use of *R. suberectus* in place of *R. nessensis*, unless, of course, sentiment comes in to retain a name more generally used. *R. chlorothyrsus*, *R. festivus*, and *R. egregius*, var. *plymensis* are additional species to Britain, although in the latter case the type has not as yet been found. Our British Brambles enumerated by him come under 60 numbered species.

THE JOURNAL OF ECOLOGY. Vegetation and Mobile Ground, as illustrated by *Suaeda fruticosa* on Shingle, F. W. Oliver and E. J. Salisbury, vol. i., p. 249. The Vegetation of the Eastern Moorlands of Yorkshire, Frank Elgee, vol. ii., p. 1. Forests of Western Caucasus, E. A. Rübel, vol. ii., p. 39. Notes on Danish Vegetation, W. G. Smith, p. 65-70. This gives a charming account of the visit of the International Association of Botanists to Denmark in 1913, when Professor Warming acted as leader. On the Island of Fanö they were led by Prof. Raunkiaer. West Jutland was visited, and Borris Heath, which is an extensive State reserve. Then the Lake District, which stretches from Silkeborg to the Kattegat, was explored. It is a great tourist centre, and boasts the highest mountain in Denmark, the Himmelbjerg, which attains the altitude of 500 feet. This reminds one of the Wigton guide book, which starts a paragraph by an invitation to "ascend the hill before us," which almost rivals the Danish mountain in height. The visitors saw tourists purchase alpenstocks to help in their arduous ascent. After enjoying the hospitality of the capital, the woods, oak and beech, of Elsinore were visited. Then the coast of the Baltic, where the Island of Moen with its chalk cliffs, 470 feet high, were seen, and the open downs afforded *Helichrysum arenarium*. pp. 71-82—Some

emarks on the Ecology of Lichens, by O. V. Darbishire, illustrated with beautiful photographic reproductions. p. 98—Vegetation of the Wye Gorge at Symonds Yat, by Eleonora Armitage. An excellent, detailed, and suggestive paper. pp. 109-122—On National and International Protection of Nature, by Prof. H. Conwentz, describes the admirable work done in Germany to preserve and maintain interesting faunal and floral areas. The writer gives to France the credit of convoking the first International Congress for the care of nature, and he alludes to the meeting at Berne in 1914, which Britain was represented by the Hon. N. Charles Rothschild. A photograph shows the sea holly, which is, or was, protected on the whole German coast.

THE JOURNAL OF THE LINNEAN SOCIETY. BOTANY N. 284, Dec. 29, 1913. A revision of the Genus *Symphytum* Tourn., by EDWARD BUCKNALL. Two text figures. In this excellent Monograph species and several hybrids of *Symphytum* are carefully described, and their history painstakingly traced. The omission of the valid citation of Linnaeus' *Gen. Plant.* as the authority for the genus which is cited as "Tourn." without brackets may shock the whole-hearted supporters of the Vienna Actes. It is not unusual to find that their strongest supporters are the earliest to break them. One misprint occurs: "Otto Kunze" should be Kuntze. De Candolle's rapier thrust in reply to Kuntze's allusion to the "senile De Candolle" was that "Botanists are not devoid of wisdom. They can distinguish Kunze from Kuntze." We heartily hope that Dr Bucknall will not rest upon his laurels, but add to our indebtedness by giving us another Monograph as thorough and useful as this.

TRANSACTIONS OF THE BOTANICAL SOCIETY OF EDINBURGH. Notes on some rare or interesting Orkney plants. Col. H. H. HUNSTON. pp. 207-226, 1914. Notes on some Scottish plants (Lichens from Midlothian, Wigton, &c.), J. FRASER, p. 234, 1914.

THE JOURNAL OF THE ROYAL HORTICULTURAL SOCIETY, edited by F. J. Chittenden, F.L.S., vol. xxxix., 1913. Observations on Italian Primulas, Sir George Watt, p. 196, reprinted from vol. xxxix., 1904. Note on Pax's Arrangement of the Genus *Primula*, F. J. Chittenden, and Synonymy of the European species, pp. 219-227. The primrose appears under the name *P. acaulis* (L.) Hill, the oxlip

as *P. elatior* (L.) Hill, and the cowslip as *P. officinalis* (L.) Hill. *P. scotica* is made synonymous with *P. farinosa*. A new hybrid *P. Bowlesii* Farrer (*P. pedemontana* × *P. viscosa*) from Mont Cenis is here described. European Primulas, Dr John MacWatt; Primula Hybrids in Nature, R. Farrer; Chinese and other Primulas, J. Bayley Balfour; Himalayan Primulas, W. G. Craib; Primulas in the Garden, Miss G. Jekyll, *l.c.*, pp. 98-195. Many beautiful illustrations are given.

Botanizing in Bulgaria, C. F. Ball, *l.c.*, p. 1. An extremely pleasant account of the botany of that little visited country. Vitosh, a mountain 9000 feet high, was ascended. On its top some acres were covered with *Myosotis alpestris*. Among other plants gathered were *Dianthus microlepis*, *Gentiana aestiva*, *Aquilegia lutea* and *Lilium Jankae*, as well as *Ajuga Reemanni*, which grows to a height of two feet. *Cytisus leucanthus* was gathered on the Shipka Pass. *Haberlqa rhodopensis* covered a cliff, and the tufts two or three feet across were a glorious sight. The wild lilae was also found there. Kasanlik was visited. This is the district where the world's supply of otto of roses comes from. This rose garden stretches 80 miles, with about 170 villages devoted to the culture of *Rosa damascena trigintipetala*. A plantation well tended lasts from 15 to 20 years. Two and a half acres (a hectare) produce about three million flowers, which yield about 30 ounces of otto. *Iris mellita* was collected near Zagora. Bellmeken mountains afforded the large-leaved *Geum bulgaricum*, *Pinus Penke*, and *Rhododendron myrtifolium*. The meadows along the Belliskr stream rival those of Switzerland in the richness of their flora, conspicuous in which are *Polygala major* and *Orchis Simia*. Moussala, the highest mountain (10,000 feet), was climbed. *Pinus montana* is the tree which reaches the highest altitude on the mountain, covering acres of ground. *Primula deorum* was in great beauty. Near the snow *P. minima* formed wonderful masses of flowers, and *Dianthus microlepis* was very showy and plentiful.

Some Flowers of Eastern and Central Africa, Miss M. H. Mason, *l.c.*, p. 8, t. 11. The Literature of the Rose, A. W. Paul, *l.c.*, p. 29. The earliest Monograph quoted is that of Nicholas Monardes about 1550, which was reprinted in Clusius' *Exoticorum* of 1605. The Conifers of the Lindley Herbarium, Cambridge, R. A. Dümmer, *l.c.*, pp. 63-91. The collection is stated to contain 378

ects included in 52 genera covers. Vol. xl., part 1, August 1914, contains a paper on the Rogue Wallflower by the Secretary, F. J. Pittenden, and two papers by Prof. Henslow on Evolution by regeneration, and the Probable Origin of Existing Flowers.

THE GARDEN. p. 528, 1912. Ling and its varieties. White-flowered plants include *alba*, *alba rigida*, *alba Serei* and *Hammondii*. Dwarf, *alba minor*, and *alba pumila*. Red strong-growing plants, *portii*, *rubra*, *flore pleno*. Leaf-colour variations include *aurea*, *prea*. Dwarf but not free-flowering forms include *Foxii*, *hypnoides*, *nima* and *pygmaea*.

THE JOURNAL OF BOTANY for 1914 contains, among others, the following papers:—Distribution of *Utricularia* in Britain, p. 9, Arthur Bennett. This contains several new county records. Gibraltar Plants, Major A. H. Wolley-Dod, p. 10, includes, *umbilicus citrinus*, sp. nov.; *U. pendulinus* DC., var. nov. *truncatus*; *elium Winkleri*, comb. nov.; *Euphorbia gibraltaria*, N.E. Br. sp. nov.; *phodelus serotinus*, sp. nov.; *Rynchospora glauca* var. *pauciseta* Merrill; and *Atropis iberica*, sp. nov. Cumberland and Durham plants collected by A. Wallis, p. 18. Notes on Teesdale Plants, E. Salmon, p. 137. Note on *Symphytum*, E. G. Gilbert, p. 19, suggests that *peregrinum* may be distinguished from *asperum* by a cross-section of the petiole. In *peregrinum* the proportions are by 4, in the latter they are $3\frac{1}{2}$ by $7\frac{1}{2}$. Plants of Scilly, J. W. White, p. 19, includes a description—in English—of *Juncus eritimus* var. *atlanticus*. This was distributed to our members. (See Report p. 499, 1913). The rare *Euphorbia Peplis* was also found. Dorset plants, H. W. Pugsley, p. 40. The Adventitious flora of a Library Court, G. Goode, p. 46. Refers to the back court of the University Library, Cambridge. Notes on British Plants—(1) *Lychnis saginoides*, C. E. Moss, p. 57. The author considers that *scotica* is synonymous, and that *saginoides* of British authors is *macrocarpa*. (See Report p. 63). (2) *Ranunculus obtusiflorus*, p. 115, suggests this name should supplant *R. Baudotii*, and *niophyllus* Tenore should replace *R. Lenormandi*. (3) The genus *Alsine*, p. 196 suggests that *Alsine* should be separated from the genus *Arenaria*. Index Species in a Flora, Rev. E. A. Woodruffe-Cook, p. 124. Casual Plants in Middlesex, J. E. Cooper, p. 127, includes *Alonsoa peduncularis*. Notes on some plants of Mid-Perth,

Rev. E. S. Marshall, p. 164, gives a new locality for 'one of Don's reputed discoveries,' *Carex atrofusca*, and a new record for Scotland of *Equisetum litorale*. He believes the var. *sphacelata* to be a good average variety of *Salix caprea*, a statement with which the writer concurs. The Manx Sand-Dune Flora, p. 170. Notes on the Manx Flora, p. 213, J. W. Hartley and J. A. Wheldon. Notes on Dr Focke's Rubi Europaei (sic!), Rev. W. Moyle Rogers. An interesting and valuable contribution from our *Rubus* expert. pp. 179 and 202. *Poa remotiflora* Murbeck in Jersey, C. E. Salmon, t. 532, p. 193. This is the plant I referred to in *Journ. Bot.* 1907, p. 427, and which shortly afterwards Professor Hackel named *P. annua* forma. *Armeria arctica* Wallr., fossil in Britain, Clement Reid, p. 214. This belongs to the pleurotrichous section of the genus, and as yet I have seen no holotrichous Thrift on the Scottish hills. As Dr Reid suggests, critical search should be made to see if *arctica* does not still occur. Miller's Abridgement, Edit. 4, Dr F. N. Williams, p. 217. Correctly claims that he was the first to call attention to this rare work as being available for citation of genera. Alpine Vegetation on Ben-y-Gloe, Perthshire, Albert Wilson and J. A. Wheldon, p. 227. *Hydrilla verticillata* Casp. in England, t. 534, p. 257, Arthur Bennett. *Azolla caroliniana* Willd., W. H. Burrell, p. 269. Alludes to its obscure status in Britain. My own experience bears out his remarks. All the so-called *caroliniana* from Britain which I have seen are young barren plants. Localities said to yield it have only produced *fliculoides* when fruiting specimens have been obtained. *Linaria arenaria* DC. in N. Devon, F. J. Hanbury, p. 276, and Thomas Wainwright, p. 310. *Alchemilla acutidens* Buser, and other forms of *A. vulgaris* L., C. E. Salmon, p. 281. Names a new variety of *acutidens* as *alpestriformis*. Jonathan Stokes and his Commentaries, J. Britten and G. S. Boulger. A very valuable account of the author of the second edition of *Withering*, which throws much additional light on that excellent botanist, p. 299. *Carum verticillatum* Koch in Dorset, J. W. White, p. 310. Notes on Channel Island Plants, H. W. Pugsley, p. 327. A Flora of Gibraltar, by Major Wolley-Dod, which adds much to our knowledge of the plants of that historic rock, is printed as a supplement.

LANCASHIRE AND CHESHIRE NATURALIST, Sept. 1914. Florulae Furnessiae, its Limitations and its Lessons, W. H. Pearsall, Sept.

1914. I may say that Dr Murr named the tiny form of *Chenopodium rubrum* as "var. *humile* Garcke." I should have been content to leave it under *pseudobotryoides* Syme. I have the same form from Berks. and Bucks., but it speedily increases in size when supplied with more nourishment. Few plants are more responsive to conditions than *C. rubrum*. *Hydrilla verticillata* (L.) Asp., W. H. Pearsall, *l.c.*, p. 213.

LINCOLNSHIRE NATURALISTS' UNION TRANSACTIONS, 1913. Notice by Rev. E. A. Woodruffe-Peacock and a paper by him on Dry Soil Imperials, p. 110-114.

HERTFORDSHIRE GENTIANAS, E. J. Salisbury. Trans. Hertfordshire Natural Hist. Soc., xv., part 3, p. 169, 1914.

THE GENOTHERA OF THE SOUTH LANCASHIRE COAST, J. A. Holdon. Lancashire Naturalist, Sep. 1913, p. 205.

THE HISTORY OF THE OCCURRENCE OF AZOLLA IN THE BRITISH ISLANDS, A. S. Marsh. Proc. Camb. Phil. Soc., xvii., part 5, pp. 383-6. In print. A point arises as to whether undoubted *caroliniana* did come to England in 1883. (*See Gossip*). Was that plant not immature *barren filiculoides*? All the instances when *caroliniana* has been reported to me have been found to be *filiculoides*.

EPIACTIS ATROVIRIDIS IN GLOUCESTERSHIRE, Rev. H. J. Riddell. Proc. Cotteswold Nat. F.C., xviii., part 2, pp. 159-162, 1914.

WEITERES ZUR ADVENTIFLORA VON GROSS BRITANNIEN, Dr J. Murr. Allgem. Bot. Zeitsch., p. 25, 1914. Records *Chenopodium striatum*, *C. pseudostriatum*, *C. interjectum*, *C. pseudoborbasi*, *C. hibernurgense*, *C. trigonophyllum*, *C. paniculatum*, and var. *laciniatum*, n. sp. nov. *muraliforme* (foliis sat parvis, ovato-lanceolatis acutis, acute serratis, supra perobscure viridibus subtus cano-farinoso nervis quibus nigris), *C. striatum-lanceolatum*, *C. hircinum* and var. *trilobum* Issler, *C. hircinum* × *album*, *C. hircinum* × *striatum* = *C. pygmaea*, *C. anthelminticum* and *C. graveolens*.

REPORT OF THE WELLS NATURAL HISTORY AND ARCHAEOLOGICAL SOCIETY, 1913. Contains photograph of the Glastonbury Thorn in flower taken on December 30, 1912.

IRISH NATURALIST. Botanists of the north of Ireland; includes many valuable biographical notes by Canon H. W. Lett, p. 18, 1913. *Helosciadium Moorei*, Rev. H. J. Riddelsdell. A valuable paper on this plant, which he considers to be a hybrid, p. 1, 1914. *Falcaria vulgaris* in Co. Down, Canon H. W. Lett, p. 20. *Erythraea littoralis* in Co. Derry, Rev. C. H. Waddell, p. 21. British forms of *Helosciadium*, Rev. H. J. Riddelsdell, p. 100.

THE NATURALIST, 1914. H. F. Parsons' obituary notice, F. A. Lees, p. 8. *Hypericum Desetangsii* at Richmond, York, p. 10. *Utricularia ochroleuca*, Strensall Common, in Hb. G. Stabler, p. 33. *Poa irrigata* Lindm., in Britain, G. C. Druce, p. 126. *Taraxacum balticum* Dahlst., in Britain, G. C. Druce, p. 126. J. A. Martindale, obituary notice, p. 157. *Orchis praetermissa* Druce, G. C. Druce, p. 189. W. West, obituary notice, p. 227. This contains a detailed list of West's papers and publications.

TRANS. DUMFRIES AND GALLOWAY NAT. HIST. AND ANTIQ. SOC., Nov. 1913. Some Galloway plants, James Fraser.

ETUDE SUR LES SPERGULARIA, M. l' ABBE F. HY in Rev. Gen. Bot. xxv., 145-152, 1913.

LES EROPHILA DC., MARANNE IS. Bull. Soc. Bot. Fr., lx., 1913, pp. 276-281, 345-353, 379-389, 422-425.

VRIES, HUGO M., L'*Oenothera grandiflora* de L'Herbier de Lamarck. Rev. Gen. Bot., xxvi., bis p. 151, 1914, Paris.

GATES, R. R., Breeding experiments which show that hybridisation and mutation are independent phenomena. Zeitschrift für induktive Abstammungs—und Vererbungslehre, Band xi., Heft. 4, 1914, pp. 209-279, fig. 25. Berlin. The author holds that mutation in *Oenothera* is a process sui generis, and that no amount of hybrid combination and splitting, Mendelian or otherwise, is sufficient to account for it.

CARDAMINE PRATENSIS AND C. DENTATA Schultes (Emend.). Botaniska Notiser, 267-288, 1914. CARL LINDMAN. The author cites *E.B.* t. 776 for *C. pratensis* (planta crassa), and the plants sent out by Kerner (*Fl. Exs. Austr-Hung.*) as *C. palustris* Peterm.

dentata is kept as a distinct species. It is the *C. pratensis* var. *ciosa* Hartm. Handb., ed. 1832. He gives as formae — *f. isophylla* Germ., *f. heterophylla* Peterm., and *f. lapponica*.

RUMEX PALUSTRIS Sm. Zur Kenntniss der gattung Rumex, l. Sv. MURBECK in *Bot. Notis.* 201, 1913. Dr Murbeck uses the above name in preference to *R. limosus* Thuillier, and believes it to be a true species. He puts under the hybrid *R. conglomeratus* × *R. crispus* the plant called by Trimen *Warrenii* (*Journ. Bot.*, 161, 1912).

INDEX FILICUM SUPPLEMENTUM, 1906-12, CARL CHRISTENSEN. 133, 1913, Hafniae. An earlier reference than that quoted for *Asplenium remotum* will be found in the *List of British Plants* of January 1908. The publication of this valuable supplement is due to the generosity of Prince Roland Bonaparte.

LES CHARACEES DE FRANCE, M. P ABBE F. HY. Bull. Soc. Bot. de France. Tome soixantième (quat. ser. Tome, xiii.) 1913, Mémoires 26. Eleven species of *Nitella* are described, one only of which, *N. ornithopoda*, is not in Britain. The three species of *Nitella* are all British. Our *Lychnothamnus stelliger* is put in the genus *Nitellopsis* Hy. *N. barbatus*, which has been found in Isere, has been reported in Britain. *Lamprothamnus alopecuroides* is retained for our *Chara papulosa*. There is a *Charopsis Braunii* Kutz. In our species of *Chara* are described, the name *C. ceratophylla* Ehrh. being used for *C. tomentosa* L. Species not yet recorded as British are:—*C. asperula* Thur., *C. galioides* DC., *C. sabauda* from Lac de Bourget, *C. strigosa* Braun, and *C. imperfecta*. Under *Chara major* Vaillant are grouped *C. hispida* L., *C. rudis*, Braun and *C. horrida* Wahlstedt.

MILDEWS, RUSTS, AND SMUTS: a Synopsis of the Families Uromycesaceae, Erysiphaceae, Uredinaceae, and Ustilaginaceae, by George Masee, assisted by Ivy Masee, pp. 229, 5 plates, 1913, 7/6. Cambridge University Press.

THE BRITISH RUST FUNGI (Uredinales): their Biology and Classification, W. B. Grove, M.A. 8vo, pp. xii, 412, 1913, 14/- net. Cambridge University Press.

A HISTORY OF BOTANY IN THE UNITED KINGDOM FROM THE EARLIEST TIMES TO THE END OF THE NINETEENTH CENTURY, J. REYNOLDS GREEN, Sc.D., F.R.S. 8vo, pp. xii, 648, 1914. J. M. Dent, London and Toronto. Unfortunately Dr Green did not live to see the volume published. It was prepared for press by his friend Prof. Harvey-Gibson. The *History* is a capital résumé of the progress of botany in Britain until the time of Ray. A fair and wide purview is given, as was to be expected from its compiler. The treatment of the subject during the last century is more closely connected with official or academic botany, and systematic British botany has scarcely received adequate consideration. For instance, there is no reference to Boswell Syme and his important edition of *English Botany*, where are to be found the most complete descriptions of British plants yet given. No allusion is made to our local Floras, nor to their writers. One or two points of criticism may be offered. The date of the foundation of the Oxford Garden is correctly given, but there appears to be an error as to the date of the ceremony on St James Day, which should be (teste Vines) not 1632 but 1621. The appointment of Bobart the elder was made by Lord Danby, and we have been unable to find if Tradescant was ever employed at the Gardens. The statement that Sibthorp's Herbarium is at Oxford should be limited to his *Herbarium of Greek Plants*. Merrett is spelled "Merret." There is no reference to William Cole, the author of *Adam in Eden*. Smith's *Flora Britannica*, p. 225, is confused with *The English Flora*. Possibly, had Dr Reynolds Green been spared, he would have given a bibliography in addition to the "Chronological Table" which is included. The index is good, and the whole work is eminently readable.

AN ACCOUNT OF THE MORISONIAN HERBARIUM in the possession of the University of Oxford, together with biographical sketches of Morison and the two Bobarts and their work, and the early history of the Physic Garden, 1619-1720, by S. H. VINES, M.A., F.R.S., and G. CLARIDGE DRUCE, Hon. M.A., Oxford. At the Clarendon Press, 1914, pp. lxxviii., 350. This work includes the identification of the numerous specimens described in the *Historia Universalis Oxoniensis*. I may take this opportunity of stating that the major and more important part of this volume is due to Professor Vines. The date of publication was, I believe, February 2, 1914. The new combinations

clude *Sesbania Lesban* (L.), p. 6, *Centaurium spicatum* (Pers.),
Antirrhinum angustifolium (DC.).

GELDART Miss ALICE M. Sir James E. Smith and some of his
 friends. Presidential address. Trans. Norfolk and Norwich
 Naturalist Soc., vol. ix., pp. 643-692, 1914. A valuable account of
 geographical details connected with the East Anglian botanists,
 including not only the author of *English Botany*, but of Pitchford,
 Geynt, Rose, James Crowe, T. J. Woodward Forby, and William J.
 Hooker.

PITARD, M. C. Exploration Scientifique DU MAROC, organisée
 par la Société de Géographie de Paris. Premier fascicule botanique,
 n. 12. Masson et Cie, 1913, pp. 180, tt. ix.

A NATURALIST IN WESTERN CHINA WITH VASCULUM, CAMERA,
 AND GUN, Ernest H. Wilson. In 2 vols., with 101 full-page
 illustrations, 1913, 30s net. Methuen & Co. On this journey the
 author collected over 5000 species.

CAMPING IN CRETE, with notes upon the animal and plant life of
 the island, Aubyn Trevor-Battye. Svo., pp. xxi., 30s, 10/6 net.
 Methuen, London.

SELBORNE MAGAZINE, April 1914. The Protection of the Cape
 flora, by A. Handel Hamer, gives a vivid picture of the beauties of
 the Cape flora, and the efforts which are being made by legislation to
 prevent the destruction of the beautiful species which grow there, and
 which at one time threatened the destruction of the rarities of Table
 Mountain. On the recent visit to the Cape of some members of the
 British Association, I was delighted to find that large areas had been
 protected, and it was now penal to gather the Silver Leaf and other
 species in the vicinity of Cape Town. As a member of the executive
 of the Society for the Preservation of Nature Areas, I found that
 the nation was already converted, and under the administration
 of my kind hosts, Lord and Lady Buxton, who are both keenly
 interested in the matter, there is no likelihood of the subject
 being neglected. It was delightful, too, to see that Australia
 was equally alive to the importance of the subject. One of many
 enjoyable experiences was the visit to the very extensive natural

parks at Adelaide and at Melbourne, in the latter of which one of our members, Mr Cheesman, found several species of Myxomycetes new to the Australian Flora. These areas are beautiful in themselves, are very diversified, and are rich in both fauna and flora.

OBITUARIES.

ALFRED RUSSEL WALLACE, LL.D., D.C.L., F.R.S., was born at Usk, Monmouth, Jan. 8, 1823, died at Broadstone, Dorset, Nov. 7, 1913. He was educated at Hertford Grammar School, and became a land surveyor and architect. In his early days he was much interested in British plants, of which he made a collection, and in 1842 went to the Amazon with Bates, exploring the district of the Rio Grande in 1851. In 1853 he published his *Travels on the Amazon* and *The Palms of the Amazon*. In 1854 he went to Singapore, and spent nearly nine years in the Malay Archipelago, an account of which he published in 1869. Here he independently formulated a theory of Natural Selection (published in 1870), and in 1876 his valuable work on the *Geographical Distribution of Animals*, followed in 1878 by *Tropical Nature* and in 1879 by his *Australasia*. In 1880 he produced the fascinating work, *Island Life*, of which a second edition appeared in 1895. His work on *Darwinism* appeared in 1889, and *The Wonderful Century: Its Successes and its Failures*, in 1898. He received the medal of the Royal Society in 1868 and the Darwin-Wallace medal of the Linnean Society in 1898. He also received the distinguished Order of Merit. He was President of the Land Naturalisation Society. In 1866 he married Annie, daughter of the distinguished bryologist, William Mitten, of Hurstpierpoint. One of the features of the Darwin celebration at Cambridge was the sending of a telegram of good wishes from that great and distinguished gathering to Wallace, Darwin's friendly rival and co-discoverer of the part that natural selection played in evolution.

CHARLOTTE ELLEN PALMER, born at Ladbroke, Warwickshire, died February 27, 1914, aged 84 years, buried at Odiham. Father and mother, Rev. Charles and Lady Charlotte Palmer. Miss Palmer began collecting British plants at Lighthorne, Warwickshire, in 1850, and she was the earliest authority for a large number of Warwickshire plants, and many of her records are to be found in the

lora of that county. In 1872 with her elder sister she removed to Odilham, in North Hampshire, and in that rich botanical district she worked with great care and assiduity. A large number of records to strict xi. of Townsend's *Flora of Hampshire* are due to her industry. The Isle of Wight, Bournemouth, and the New Forest were also assiduously searched. She was fortunate enough to discover *Eriophorum gracile* near Odilham, and near Bettws-y-Coed, at Coed Fyddon she found a marsh violet which suggests the hybrid of *epipsila*. In the Isle of Wight she found a pansy which was named *V. banatica*. In the eighties, when their nephew, Mr Bolton King, was at Balliol College, I had the pleasure of making the acquaintance of the Misses Palmer at their home with its beautiful garden at Odilham. I paid them many visits, and had the opportunity of seeing some of Miss Charlotte's discoveries in the place where she gathered them. They were delightful hostesses, kind, with a genuine sense of humour, and a delightful keenness. The elder sister was as interested in her garden and in philanthropic work as her younger sister was in botany, and it was very pleasing to see the mutual affection and respect which existed between them.

In 1907 Miss Charlotte Palmer was good enough to give me her large herbarium. This included a collection of plants made by her grandmother, the Countess of Aylesford, wife of the fourth Earl, who died in 1812. She was born in 1781 and died in 1832. This herbarium consists of specimens collected by Lady Aylesford. From these she made her water-coloured drawings, which were preserved in several folio volumes, and number more than a thousand sheets. These were purchased by Quaritch at the Aylesford sale, and disposed of to the Earl of Dartmouth, whose wife was a grand-daughter of Lady Aylesford. These specimens of plants were in many instances preserved by her daughter, Lady Frances Finch, who gave them to her niece, Miss Palmer. They also include 119 specimens collected by George Don, which have been alluded to in my memoir of that botanist. The collection also contained a specimen of *Cephalanthera rubra* collected by Sir H. Paul in 1818; *Galium Witheringii* from the Bishop of Carlisle, Dr Goodenough; specimens from the Warwickshire botanist, the Rev. W. Bree; from William Borrer, John Dickson, Mrs Holbech, Hon. Daniel and Lady Maria Finch, George Anderson, and others. The collection also included the plants of Miss Elizabeth Townsend, of Honington Hall, Warwickshire, which

she collected in Bucks., Northants., Warwickshire, &c., as well as plants given her by W. G. Perry, Albert Hamborough, and Frederick Townsend, who was her brother. Miss Palmer's collection also contained many plants collected by her nephew, Mr Bolton King. A valuable item of the collection was a set of Sole's Mints which illustrated his *Menthae Britannicae*. His own volume of that work, which he meant to find a home in the Linnean Society, was also in Miss Palmer's possession. She offered it to that Society at the price she paid for it, but it was declined, and it is now in my possession. It contains many MSS notes by Sole which may form the subject of a subsequent paragraph.

On one of my visits in 1897 Miss Palmer pointed out to me an *Epilobium* near Odiham which proved to be *E. Lamyi*, new to the county, and we had an expedition to Ewshot to see *Cervicina hederacea*, which had a humorous incident. The two sisters drove me out in a brougham to a lane near Ewshot, about 10 miles from Odiham, in order to visit a small pond on the borders of which the delicate *Campanula* grew. The day was drizzly, and Miss Palmer decided to stay in the carriage. We soon found the pond and the plant, but the rain increased, and as I wanted to search the pond margin, which looked attractive, Miss Charlotte decided to rejoin her sister, limiting me to half an hour, as they had to be home in time to be the hostesses of some philanthropic gathering. Time rapidly sped, and when I looked up to my amazement nothing was to be seen. The mist had come down so that I could not see more than a few yards ahead. I walked round the pond, but was utterly unable to find the path by which I had reached it. I was in a nice predicament. If I met anyone what could I ask? I had not the faintest knowledge of the district. To ask for Miss Palmer's carriage was absurd. I wandered about for the best part of an hour, when, the mist lifting a little, to my delight I saw Miss Charlotte trudging down a muddy lane, as I expected, in search of the wanderer. I met her with a thousand apologies, and asked, "Are we far from the carriage?" "What will Miss Palmer say?" Her reply was, "I don't know where we are, for I have lost my way too." Fortunately she knew the road by which we came from Odiham, and on meeting a cottager I was soon enabled, although sadly late, to find the carriage, to make our apologies and excuses, inadequate as I felt them to be. We were pardoned, but I had to do penance in the afternoon by assisting to

entertain people—who were not botanists—and to make it right with the housekeeper. In all my travels and wanderings over misty moorlands, or among lonely mountains, I had never lost my way before in such a helpless manner.

Last year I called upon the sisters at Odiham and found them busy in arranging stamps in their album, for they had become enthusiastic philatelists, and at that time they were in good health and spirits. I had a severe but not sour criticism on my party's legislation, little as I was responsible. It was the last time I saw Miss Charlotte, but one will not readily forget the clever, shrewd, kindly face, nor the patient industry which characterised her.

JOSEPH ANTONY MARTINDALE, the eminent British Lichenologist, who was born at Stanhope, Durham, July 19, 1837, died at Stavely, April 3, 1914. He worked assiduously at the *Flora of Westmoreland*, and traced out the old records with praiseworthy industry. His name is commemorated in *Ephebeia Martindalei* Crombie. He added to the British Flora *Gyrophora sporochroa* from Langdale Pikes in 1889, and prepared a list of Westmoreland Lichens, and a list (see *Report Westmoreland Nat. Hist. Soc.*) of Westmoreland and Lake Lancashire Plants, 1023 in number, of which he estimated 897 were native, or definitely plants of that area; and also 360 Mosses, 118 Hepatics, 500 Lichens, and 138 Fungi. In this list 253 plants recorded in pre-Linnean times are included and their history traced. He was President of the Kendal Natural Society in 1912. See also Obituary note in *Naturalist*, 157, 1914, and by E. M. Holmes in *Journ. Bot.* 1914.

HENRY FRANKLIN PARSONS, M.D., F.G.S., born at Frome, Somerset, 1846, died at Croydon, October 14, 1914. He was Medical Officer of Health at Goole, and became Medical Inspector to the Local Government Board, taking up his residence at Croydon, where he took great interest in the local Natural History Society of which he became Vice-President. He was a frequent contributor to its *Transactions*. A paper on the *Flowering of Spring Plants* appeared in 1897, the *Flora of the Commons near Croydon*, February 21, 1899, and again on November 21, 1911, which gave a valuable list of Flowering Plants and Mosses, and one on *London Casual Plants* in 1906.

During his residence at Goole he was an active member of the Botanical Record Club, and added many new records to South-east and

South-west Yorks. In 1875 he contributed to the *Naturalist* (new series i., 115) a paper on *The Maritime Plants of the West Riding of Yorkshire*, and in 1879 a *Report of the Botanical Section of Yorks Nat. Union for 1878* in its *Transactions* (series e., pp. 9-50). He also assisted Dr F. Arnold Lees in the *Flora of West Yorkshire*.

His Herbarium will be deposited in the Grangewood Museum, Croydon.

JOSEPH REYNOLDS GREEN "was born at Stowmarket on December 3, 1848, and was educated at a private school at St Ives. Ultimately he became associated with his father in business, and only retired to devote himself to scientific pursuits in 1881. In the meantime he had taken his bachelor's degree in Science at London. In the same year, 1881, he went up to Trinity College, Cambridge, was elected to a Major Scholarship in 1882, and was placed in the First Class of Part I. of the Natural Science Tripos in 1883, and in the First Class of Part II. in 1884 (Botany and Physiology). He took his M.A. in 1888, and his Doctorate in 1894. From 1885 to 1887 he held the post of Senior Demonstrator in Physiology in the University under the late Sir Michael Foster, was Rolleston Prizeman of the University of Oxford in 1890, and President of Section K (Botany) of the British Association in 1902. From 1887 to 1907 he was Professor of Botany to the Pharmaceutic Society of Great Britain, while in 1902 he was elected a Fellow and Lecturer of Downing College, Cambridge. From 1907 to the present year he held the Hartley Lectureship in Plant Physiology in the University of Liverpool.

In addition to many original papers contributed to the Royal Society (to which he was elected in 1905) he published the following works:—*A Manual of Botany* (1895); *The Soluble Ferments and Fermentation* (1899; translated into German in 1901); *Introduction to Vegetable Physiology* (1900); *Primer of Botany* (1910); and a *History of Botany from 1860 to 1900* (1910).

Of the value of his scientific work I am not qualified to speak, but I wish to place on record the conviction of all who knew him well that in his private life he uniformly displayed those qualities of patience, persistence, open-mindedness, and modesty, which are the best qualifications for any seeker after truth in every field of learning."—G. E. GREEN in the Preface, p. vii., to J. R. Green's *History of Botany in the United Kingdom*, 1914.

The Editor, Prof. R. J. HARVEY GIBSON, adds "what Derham said of John Ray, may with equal appropriateness be said of Reynolds Green"—"In his dealings no man more strictly just; in his conversation no man more humble, courteous and affable." I may add that some of his early physiological work was done at the Jodrell Laboratory under Dr Scott, and there he prepared his excellent study of the fermentations. For several years when I was on the Examining body of the Pharmaceutical Society, I was brought into close relations with Green, whose fairness, and what has been aptly termed his open-mindedness, struck one as distinguishing features in his character. He was much liked and respected by his pupils, and although not a lover of Field Botany, did not (as at that time was not infrequently among professional botanists) despise it. We had another bond of fellowship since we were both Masons; he was a sincere and enthusiastic member of the Craft, in which he won distinguished honours and for which he did yeoman service.

WILLIAM WEST, F.L.S., of Bradford. I do not much relish the attempt to give a pen-picture of a thirty years' intimate for those who knew him not personally, so high and delicately-hung was my respect for, and appreciation of, his character—one in a thousand, and singularly self-contained and above anything envious or petty. When I knew him first in the early seventies he "ran" a chemist's shop in Horton Lane, Bradford, and was absorbed in viewing things through the enlarging eyes of a binocular microscope. Without gush or convivial warmth, he did not greatly attract at once. His being aloof and complex (to me), for, to begin with, he was a musician! and an inborn genius as to acquiring languages. A mathematic mind, so, was his, not symptica, to whom a quadratic equation was ever a trouble unallowing imagination or a strain of sentiment any part in it. Dark-haired and eyed, with a Semitic cast of face, a mobile mouth, and a violinist's fingers, his hold on my flower-faces' enthusiasm grew stronger with acquaintance made and cemented in walks abroad over moor and field. Plein airistes, both of us, through the flower or flowerless seasons, alike bent on collating facts of little things or big, at a time my (and J. W. Davis's) *West Yorkshire* was in the making. A profounder lover of truth no man ever was. For a fact to be suspect," or a record false in the putting forth, was enough to set me aside as worth no minute of time in the sifting. At first I had the

larger store of facts to be considered in relationship, but soon, with a more alert intelligence and a tighter memory, as West, finding the gaps in our knowledge, began to study the mosses first, and then the fresh-water *Algae*, he drew ahead of me in specialised dexterity (microscope ever to his eye) and ventured into those regions of the marvellously small that perhaps lie at the basis of biologic evolutionary structure. Then his shop business began to "fail" him. A placid, madonna-like lady, his wife, passed away. A bright, almost precociously-clever elder son, Willie, died out in India suddenly of some dysentery or other, and he fell naturally (but not, I fancy, of set choice) into the chair of botany teacher at the Bradford Technical Schools, which post he retained, valued—even loved—by his pupils in long succession, until his death. What he "died of" I do not know, and it matters not. He lived and made a name for acute thoroughness, and his *Algae* monographs, vastly improving on Hassell, Ralfs,—all his predecessors, live, and will continue to testify to what he was. In his later years he was fearfully over-worked, and perhaps "Syllabus" and "Curricula" might most fittingly have been assigned as that "cause" for which the general public have so much curiosity. In letters, for five years back, scribbled in all sorts of places; on mountain tops, on inn tables in the Highlands, or from the Dove fields of Scania, in the intervals of well-won holidays, due to timely Association grants, the burthen of his arraignment of the "conditions" of life was always on similar lines: "All work and no play"—also little *pay*. His task, veritably that of a modern scholastic Sisyphus, rolling the stones of successive sessions so far with one class, to begin again the same traverse with another lot the next. An able teacher, I believe, and yet a pity! Such men are not born to teach, surely!

F. ARNOLD LEES.

William West, F.L.S., born at Workhouse, near Leeds, February 22, 1848, died at Bradford, May 14, 1914. He qualified as a pharmacist in 1870, and commenced business at Bradford in 1872. He had married in 1874 Hannah Wainwright, and his family consisted of two sons and a daughter. The elder son, William, matriculated and joined St John's College, Cambridge (see *Journ. Bot.*, 353, 1901), where I made his acquaintance, and found him a most intelligent and industrious field botanist, and although his health broke down he was a distinguished student. After taking a second-class he went out to India, but what was likely to have been a

most successful career was prematurely closed by his death from cholera in 1901. The second son, George, is Professor of Botany at Birmingham University, and was closely connected with his father's brilliant algological researches.

William West, the elder, became Lecturer on Botany at Bradford Technical College, where later on he also taught biology and pharmacology. In 1877 he became secretary to the Yorkshire Naturalists' Union, and was its president in 1879. At the Bradford meetings of the Association he was secretary of Section K. In his early days he was a keen field botanist, and one of his papers, (*Naturalist* 1881-2) gives a graphic account of his visit to Scotland, when in the space of a few days he ascended Ben Nevis, Ben Lawers, and Ben Mac Dhui, a proof of his energy and power of endurance. With his son algological research was carried on in an indefatigable manner, and in 1900-01 a list of the *Algae* of Yorkshire was completed. About that time I made West's acquaintance. I was visiting West Inverness in search of *Urospora Buxbaumii* at Arisaig, and returning triumphant, caught up West, who had been out for *plankton*. It was raining as it can rain on that western coast—the water literally ran in at our neck and out at our heels—but West's delightful cheeriness was not dispelled even by this climatic condition, and the homeward trudge and our evening past and rest afterwards was made happy by his bright conversation and wide range of thought. Not only Britain but the whole world brought grist, in the shape of specimens, to his mill, as he became an acknowledged authority on his subject. His magnum opus is the *Monograph of the British Desmidiaceae*, of which four volumes have appeared—1904-5-8-11. Two others yet await publication. The *Plankton Researches* appeared in the *Proceedings of the Royal Society* in 1909. In the recent survey of the Clare Island flora, he added 35 species of *Algae* to the Irish list; 55 for the first time as British, and 11 new to science.

He was a frequent contributor to the *Naturalist*, contributing papers on the *Autumn Flora of Whernside* in 1877 (with F. A. Lees); *The Rose of Towton Battlefield* in 1877; *Bucks. Lichens*, p. 69; and *Additions to the West Riding Flora*, p. 60 (1880), 1879; *The Principal Plants of Malham*, p. 25, &c., 1883; *Plants of the Bradford District*, p. 178, 1885; *A Year's Botanical Work*, p. 60, 1886; *Additions to the Flora of W. York*, 1808; *Goodyera repens in Market Weighton*, p.

312, 1888; *Sedum Rhodiola*, p. 139, 1891. For a very complete biographical list of his papers see the interesting memoir by Mr Roebuck in the *Naturalist*, p. 257, 1914.

JOHN KNOX, born in Kirkeudbright in 1831, died at Forfar, July 8, 1914. He was educated for the teaching profession, and had his first appointment at Crieff, which he held until 1866, when he became parish schoolmaster at Forfar, an office which he held for many years. As a master he was strong, conscientious and painstaking, and the influence of his firm and capable mind left an impress on the minds of hundreds of pupils who passed under his care, and at the termination of his lengthy mastership the public appreciation of his services for 43 years found expression in a tangible form, and he was also allowed to continue in the occupation of the Schoolhouse. . When he was only twenty-two years of age he was ordained elder at Crieff, and he stated that for over 60 years he had never allowed a year to go by without being present at a Communion, either as hearer, participator, or administrant. In 1913, on his completing his sixtieth year of eldership, he was presented with a purse of sovereigns and an address by his colleagues, which expressed their warm appreciation of his service. For nearly 50 years he served as session-clerk. In his early life he developed a strong love for botany, and when a demand for its teaching arose he, at the age of 59, sat for an examination and obtained the certificate to teach the subject under the Science and Art regulations. He became a member of the Perthshire Society of Natural Science, and started a botany class at Forfar, out of which grew the Forfar Field Club, of which Knox was the heart and soul. In conjunction with three brother dominics, Abram Sturrock, of Rattray; James Stewart, of Aberlemno; and Walter Graham, of Rescobie, a systematic working of the district was inaugurated, especial attention being paid to the series of fresh-water lochs near Forfar and those in the Vale of Strathmore around Blairgowrie. In 1880 he read a paper on *The Life and Labours of George Don* to the Perthshire Society, and this he published in the *Scottish Naturalist* for 1881. This attracted my attention, and in 1882 I called on him at Forfar. His personality was a striking one—tall, over six feet, and well built, his clear intellectual qualities soon impressed one, as did his keenness about the local flora, which he knew intimately. There, too, I made the acquaintance of Graham and Sturrock, and

ey accompanied me to the loch of Rescobie, where Knox showed me
 e curious submerged flowering Batrachian, then called *confervoides*,
 e alliance of which with *circinatus* seemed to me probable. Graham
 en took me to see *Caltha radicans*, one of Don's reputed discoveries,
 hich he had found in a neighbouring marsh. The rare *Coralorrhiza*
 is also pointed out to me as one of the trophies of their
 ork. The following year I took another opportunity of
 siting Forfar, and having had the misfortune to dislocate
 ankle, loch dredging was an acceptable form of work. Knox
 d Sturrock accompanied me to the Dunkeld Lochs, where I
 w the pondweed which Sturrock had found in Marlee Loch, which
 nnett named after him. There, too, we saw *Najas* and *Elatine*
caudra, and a great series of pondweeds. Craighall was visited in
 der to obtain *Polygonum verticillatum*, and in a noose of rope I was
 down the conglomerate cliff of Craighall to gather *Lychnis Viscaria*,
 hich I might, if I had then known, have reached from the roadside
 Glen Farg. They were very happy days, and a friendship grew up
 tween us which death alone terminated. Sturrock died young;
 en Graham, with his fund of witty stories, passed away; but Knox
 nained an evergreen. Riddelsdell and I explored Restennet with
 u subsequently, and I know how much Knox's strong and sterling
 alities commended themselves to my clerical friend. At Knox's
 quest I published a more detailed examination of Don's botanical
 rk in the *Scottish Naturalist* for 1884, as the opportunity had been
 en me of seeing the specimens sent by Don to Lady Aylesford,
 hich are now in my possession. Knox had convinced me of the
ca fides of Don, which these specimens bore out, and I felt con-
 eed that his traducers had no grounds for their opinions. It was
 asing subsequently to learn that one so well capable of forming an
 onion, Professor J. H. Balfour, also held the same view. In 1902,
 en I was President of the British Pharmaceutical Conference at
 ndee I took the subject of the *History of Scottish Botany* for my
 hress, and again did what I could to rescue Don's memory and to
 e him credit for his very remarkable botanical work. This
 isted the sympathies of my Dundee friends, who handed over the
 ance, after the expenses of the meeting had been defrayed, to Mr
 ox, who had long desired to see erected at Forfar some memorial
 the man who had done so much for the botany of his native
 nty, yet who had died almost of starvation in their midst.

Knox went at the matter in his earnest way, and in a short time a sufficient sum was raised to carry out his project. Local difficulties respecting a site, however, arose, and a considerable delay occurred, so that it was not until 1910 that a monument was erected in the Parish Churchyard at Forfar to the long-neglected townsman, whose reputation Knox had done so much to clear. Through his kindness and self-effacement I was allowed the honour to unveil it on Sept. 8, 1910. At the ceremony itself and afterwards at the more convivial gathering which was presided over by the local laird, my old respected fellow-worker at the Botany of the Glen Spean Hills, Mr E. H. Robertson of Burnside, it was very evident that Knox was held in great respect and affection by his fellow-townsmen, to whom he had set the example of steadfast work, of devotion to duty, and of an enthusiastic love of nature and her exponents.

WILLIAM BARBEY, the owner of the Boissier Herbarium at Chambésy, which he so generously endowed, and where he so hospitably entertained botanists of all nationalities, died November 18, and was buried at Valeyses sous Rances, Canton Vaud, Suisse, on November 21, 1914. Not only was he a generous patron of Botany, but he rendered distinguished service to his country. We are very delighted to be able to add the following note from the eminent conservateur of the Herbarium, M. G. Beauverd, "Madame William Barbey-Boissier et ses enfants se proposent de continuer, pour le moment du moins, la tradition scientifique créée pour leur père et grand-père, M. Edmond Boissier, puis reprise et étendue par M. William Barbey. Ils ont l'honneur de communiquer cette décision aux correspondants suisses et étrangers de l'Herbier Boissier. L'activité de cet herbier se poursuivra donc dans les mêmes conditions que précédemment, servant ainsi la mémoire et les intentions du défunt."

We have also to mourn the death of our members, Mrs Foord-Kelcey, of Kimble Vicarage, Bucks, a keen and zealous worker, who supplied me with many records of Bucks. plants; and of Mr P. H. Allen, of Woodhead Hall, near Cheadle, Staffordshire, who died at Pembroke College, Oxford, on August 6th, 1914, after a few days' illness. He had made a collection of British Plants.

NEW COUNTY AND OTHER RECORDS.

20. *RANUNCULUS ACRIS* L., var. *PUMILUS* Wahl. Mr Beeby's wetland plants (*Herb. S. Lond. Inst.*) are quite different from mine gathered on the Cairngorms, which are true *pumilus* of Wahlenberg. So far this is the only known locality.
25. *R. REPTANS* L.? Loch Brandy, Forfar, 90 (see *Trans. Bot. Soc. Edin.*, xiii., 93).
33. *R. OPHIOGLOSSIFOLIUS* Vill. Marshy meadow, Dorchester, Dorset, 9, Mr RONALD GOODE, teste E. G. BAKER, in *lit.* 1914.
40. *R. HETEROPHYLLUS* Web. Cumnor, Berks., 22; Otmoor, Oxon., 23; Marsh Gibbon, Bucks., 24; Eye, Northants., 32; Crowland, Lincoln S., 53, G. C. DRUCE; Galashiels, Selkirk, 79; Abbotsford, Roxburgh, 80, Miss I. M. HAYWARD.
41. *R. PELTATUS* Schrank. Stranraer, Wigton, 74; Selkirk, 79.
42. *R. BAUDOTH* Godr. Carmarthenshire, 44.
45. *R. LENORMANDI* F. Schultz. Midlothian, 83.
48. *CALTHIA RADICANS* Forst. Ben Lawers, 88, at 2000 feet, E. S. MARSHALL in *Journ. Bot.* 164, 1914. This much extends its known longitudinal range. *C. radicans* is already recorded from Strath Tummel, 88 (see *Ann. Scot. Nat. Hist.*, 248, 1905). I have found it also in Breidden, 78; East Perth, 89; Argyll, 98; East Ross, 106; Sutherland, 107.
51. *HELLEBORUS VIRIDIS* L. Native. Basildon, Berks., 22; Afffield, Oxon., 23.
52. *H. FOETIDUS* L. Native? Basildon, Berks., 22; Cornbury, Oxon., 23; Chilterns, Bucks., 24.
68. *ACONITUM NAPELLUS* L. Naturalised. Welford, Berks., 32; Stroud, Gloucester, 33.
83. *PAPAVER LECOQII* Lam. Beaulieu, S. Hants., 11 (but see *Fl. Hants.* 21); near Walden, Essex N., 19; near Ramsey, Hunts., 31; Oster W., 34; Perth E., 89.

106. *FUMARIA PURPUREA* Pugsley. Richmond, N.W. Yorks, 65, *Hb. C. Bailey*, ex Pugsley, *Journ. Bot.* 50, 1913; Drummore, Wigton, 74, J. FRASER, *l.c.*

108 (3). *F. PARADOXA* Pugsley. Forest Parish, Guernsey. Plentiful in a small field, H. W. PUGSLEY, *Journ. Bot.* 328, 1914.

109. *F. BASTARDI* Bor., var. *HIBERNICA* Pugsley. Cobo, Le Gouffre, Guernsey, H. W. PUGSLEY, *l.c.* Portpatrick, Wigton, 74, J. FRASER, *l.c.*

116. *MATHIOLA INCANA* Br. Newquay (see *Fl. Cornwall*); Dawlish, S. Devon, 3; Braunton, N. Devon, 4; Ramsgate, Kent E., 15; Hastings, 14; still plentiful, Sussex E. Probably these are all of adventitious origin.

124. *RADICULA SYLVESTRIS* Druce. Roxburgh, 80.

125. *R. AMPHIBIA* Druce. Blackwater, N. Hants., 12 (see *Flora*).

128. *BARBAREA VERNA* Asch. Alien. Portpatrick, Wigton, 74, J. FRASER, *l.c.*

143. *CARDAMINE AMARA* L. N. Hants., 12 (see *Flora*).

145. *C. FLEXUOSA* With. Haddington, 82; Argyll, 98.

158. *ALYSSUM MARITIMUM* Lam. Alien. Near Welwyn, Herts., 20, J. E. LITTLE.

167. *COCHLEARIA OFFICINALIS* L. Mid Perth, 88.

170. *C. GROENLANDICA* L. Gourock, Renfrew, 76, J. E. MATHESON, 1846 (!).

178. *WILCKIA AFRICANA* F. v. Muell. Alien. Ware, Herts., 20; Boston, Lincoln, 54.

183. *SISYMBRIUM SOPHIA* L. Slough, Bucks., 24; Tintern, Monmouth, 35.

185. *S. ORIENTALE* L. Alien. Hitchin, Herts., 20, J. E. LITTLE. Albecq, Guernsey, 1912, W. C. BARTON.

218. *BRASSICA JUNCEA* Coss. Alien. Par, Cornwall, 1, C. C. VIGURS. Slough, Bucks., 24; between Edworth & Langford, Beds., E. LITTLE.
226. *DIPLOTAXIS TENUIFOLIA* DC. Extinct in 32, the walls of Northampton Castle on which it grew being now demolished.
233. *CORONOPUS DIDYMUS* Sm. Alien. Reading, Berks., 22; Gerrard's Cross, Bucks., 24, G. C. DRUCE: Dunbar, Haddington, 82, Miss J. M. HAYWARD.
240. *LEPIDIUM RUDERALE* L. Boston, Lincoln N., 54, WOODRUFFE-PEACOCK.
- 240 (2). *L. NEGLECTUM* Thell. Alien. Par, Cornwall, 1912, C. VIGURS.
246. *L. SMITHII* Hook. Lincoln N., 53, WOODRUFFE-PEACOCK: Bin, 95.
- 247 (4). *L. DENSIFLORUM* Schrad. Alien. Pyrford, Surrey, 1910, Lady DAVY and G. C. DRUCE: Barcombe Mill, E. Sussex, 1906 (as *virginicum*), T. HILTON in *Hb. Druce*.
249. *THLASPI ARVENSE* L. Lincoln S., 53, WOODRUFFE-PEACOCK.
268. *RAPISTRUM RUGOSUM* All. Alien. Near Warnham, Sussex, 1914, A. WEBSTER.
288. *HELIANTHEMUM CHAMAECISTUS* Mill. Merioneth, 48, WAMPLIN in *Hb. Druce*.
291. *VIOLA STAGNINA* Kit. Menmarsh, Oxon., 1914, P. M. HALL. Originally found on Otmoor in 1812, *Hb. Ox.*
293. *V. SYLVESTRIS* Kit. Co. Down. (See Carrothers in *Irish Naturalist*, 99, 1913.)
var. *PUNCTATA* Druce. Kingsley Bottom, 13; Upham, S. Hants., 1914; Swanage, Dorset, 9, P. M. HALL: Bradenham, 24: Whittlewood, 1914, G. C. DRUCE.

296. *V. CANINA* L. Brickhill, Beds., 30; Harleston, Northants., 33; Sligachan, Skye, 104, G. C. Druce.

var. *PUSILLA* Bab. Hayling Island, 11, P. M. HALL.

298. *V. ODORATA* L., var. *PRAECOX* Gregory. Woodstock, Oxon., 23; Hayling Island, S. Hants., 11, with var. *DUMETORUM* and *SUBCARNEA*, P. M. HALL, vide sp.

299. *V. HIRTA* L., var. *VARIEGATA* Greg. Unhill, Berks., 22, P. M. HALL.

var. *PROPERA* Gill. Kingsley Bottom, W. Sussex, 13; Upham, S. Hants., 11, P. M. HALL.

var. *FOUDRASI*. Swanage, Dorset, 9; Kingsley Bottom, W. Sussex, 13, P. M. HALL.

var. *OENOCHROA* Gill. Kingsley Bottom, W. Sussex, 13, P. M. HALL.

300. *V. CALCAREA* Greg. Kingsley Bottom, W. Sussex, 13, P. M. HALL. A new locality.

301 (2). *V. EPIPSILA* Ledeb. Cliburn Moss, Westmoreland, 69, P. M. HALL, 1914, in *lit.*

308. *POLYGALA VULGARIS* L., var. *BALLII* Ostenf. Walls, Shetland. W. H. BEEBY (as *vulgaris*), *Hb. S. Lond. Inst.*

318. *DIANTHUS DELTOIDES* L. In a neglected field at Pardown, near Oakley, N. Hants, 12, Miss M. A. SCOTT, 1914, ex Dr D. H. SCOTT. The habitat, as Dr Scott states, does not suggest its being adventitious, therefore his daughter's discovery confirms this plant for the county (see *Flora Hampshire*, ed. 2, p. 72).

338. *SILENE CONICA* L. Alien. Sandy ground, Frilford, Berks., 22, 1914, Miss NANCY LINDSAY. A recent introduction, but now likely to spread in this suitable neighbourhood.

343. *S. ANGLICA* L. Alien. Barrow-in-Furness, L. Lancs., 69 b, W. H. PEARSALL, in *lit.*

344. *S. QUINQUEVULNERA* L. Near Braunton, S. Devon, 4, 1914, W. A. HARFORD, vide sp.

359. "~~LYSICHINIS~~ *DIOICA*, var. B, a rare and singular variety," Don in *Hb. Edin.*, teste J. FRASER, who says "the leaves look more like *alba*, capsules not ripe enough to show recurved teeth. Still it might be *L. Preslii*." Mr Chester sent from Kettering, 32, a glabrous *alba* in 1912. The type occurs in Roxburgh, 80.
378. *STELLARIA NEMORUM* L. Near Stranraer, Wigton, 74.
382. *S. DILLENIANA* Murr. Gloucester E., 33, DRUCE. Plentiful at St. Ives Water, L. Lanca., 69 b., W. H. PEARSALL, in *lit.*
399. *SAGINA NODOSA* Fenzl. Wellingborough, 32, GERARD, 1633.
401. *S. SUBULATA* Presl. Rhidroroch, W. Ross-shire, 105.
- 403 (2). *S. SCOTICA* Druce. Dr Moss (*Journ. Bot.* 57, 1914) has suggested that *S. scotica* is type *S. saginoides*, of which the British plant hitherto called *saginoides* is var. *macrocarpa*. The evidence he brings forward is not convincing, since *scotica* is much more closely allied to *S. procumbens* than to *saginoides*, which is much more frequent in Scandinavia than *scotica* (100 to 1). Dr Lindman writes on December 1914:—" *Saginoides* was quite plainly distinguished and perfectly known before Reichenbach published his *Icones*, vol. v., and Reichenbach confused it, wrongly describing the true *saginoides* as var. *macrocarpa*. The early authors, O. Swartz, G. Wahlenberg, Smith, Presl, Fl. Danica, and Pollini, used *saginoides* in the correct form, but by varying names.
405. *S. CILIATA* Fr. Roadside, Selkirk, 79, Miss I. M. WARD.
- 405 (2). *S. REUTERI* Boiss. Herts., 20; Oxon., 23; Bucks., 24; Northants., 32. Usually in the brick paving of railway stations.
413. *SPERGULARIA SALINA* Presl. Merioneth, 48, 1885, PAMPLIN in *Hb. Druce*; Ware, Herts., 20. Adventitious.
418. *CLAYTONIA SIBIRICA* L. Alien. Roadside bank, Gomshall, Surrey, 17, in plenty, W. H. GRIFFIN.
426. *HYPERICUM HIRCINUM* L. Alien. Chillington, S. Devon, Rev. J. MILLER, vide sp.

434. *H. ACUTUM* Moench. Frequent near Sawrey, L. Lancs., 69 b., W. H. PEARSALL.
- 435 (2). *H. DESETANGSII* Lamotte. Banks of the Lune, Caton, W. Lancs., 1900, J. A. WHELDON (see *Journ. Bot.* 18, 1914); Richmond, York, LEES, in *Nat.* 10, 1914.
449. *LAVATERA TRIMESTRIS* L. Alien. Warlaby, Northallerton, York, 1884, J. E. LITTLE, vide sp.
463. *TILIA PLATYPHYLLOS* Scop. Brecon, 42, probably native. Alien, Lincoln, 53, 54, WOODRUFFE-PEACOCK, 23, 24, 32.
467. *LINUM ANGUSTIFOLIUM* Huds. Cambridge, 29, H. W. GRAVESON. Professor Graebner, in *lit.*, rejects the suggested name *L. bienne* for this species which he believes refers to a form of *usitatissimum*.
475. *GERANIUM VERSICOLOR* L. Alien. Roadside bank near Noke, Oxon., 23, 1914, Miss N. GRIFFIN.
476. *G. NODOSUM* L. Alien. Rubbish heap, Warlingham, Surrey, 17, 1914, A. BEADELL, ex W. H. GRIFFIN.
- 505 b. *OXALIS CORNICULATA* L., var. *PURPUREA* Parl. Alien. Eton, Bucks., 24.
593. *MELILOTUS OFFICINALIS* Lam. Barmouth, 48, 1885, PAMPLIN; Roxburgh, 80.
596. *M. ARVENSIS* Wallr. Berks., 22; Oxon., 23; Bucks., 24; Northants., 33.
619. *TRIFOLIUM STRIATUM* L. Barmouth, Merioneth, 48, 1885, PAMPLIN.
638. *T. FILIFORME* L. West Mayo, EARL OF GAINSBOROUGH, in *Irish Nat.* 119, 1913.
641. *ANTHYLLIS VULNERARIA* L., var. *BICOLOR* (Rouy & Fouc.) Cornwall, J. W. HART, vide sp.
var. *COCCINEA* L. Caithness, 109.

665. *SCORPIURUS SUBVILLOSUS* L. Alien. Fortis Green, Middlesex, 21, J. E. COOPER, *l.c.*
676. *CICER ARIETINUM* L. Alien. Hitchin, Herts., 20, 1914, E. LITTLE; Cavendish Dock, Barrow-in-Furness, L. Lancs., 69 b, H. PEARSALL.
677. *VICIA SYLVATICA* L. Peebles, 78.
684. *V. PSEUDOCRACCA* Bert. Alien. Crouch End, Middlesex, J. E. COOPER.
687. *V. BITHYNICA* L. Alien. Ware, Herts., 20; Iver and Uxbridge, Bucks., 24; Stranraer, Wigton, 74, DRUCE; in wheat, Struby, Lincoln, S. ALLETT, ex WOODRUFFE-PEACOCK.
691. *V. LUTEA* L. Alien. Hitchin, Herts., 20, J. E. LITTLE; Epping Marshes, 21, J. E. COOPER, *l.c.*; Iver, Bucks., 24; Oxon., 22; Cothill, Berks., 22.
700. *V. LATHYROIDES* L. Barmouth, Merioneth, 48, 1885, WOODRUFFE-PEACOCK, *l.c.*
710. *LATHYRUS SYLVESTRIS* L. Ilfracombe, 4, 1896, DRUCE; Lincoln, 53, 54, WOODRUFFE-PEACOCK.
740. *PRUNUS INSITITIA* L. Near Monks Wood, Hunts., 31.
750. *RUBUS NESSENSIS* Hall (*R. suberectus* Anders.). Badby Wood, Northants., 32, 1914, L. CUMMING, named by W. M. ROGERS.
788. *R. SYLVATICUS* Weihe. Badby, Northants., 32, L. CUMMING.
804. *R. LASIOCLADOS* Focke, var. *ANGUSTIFOLIUS* Rogers. Badby Wood, 32, L. CUMMING.
- 844 (2). *R. GLAREOSUS* Rogers & Marsh. Broxbourn, Herts., Miss TROWER; Near Stokenchurch, Bucks., 24.
865. *R. SERPENS* Weihe, forma. Badby Woods, Northants, 32, 1914, L. CUMMING.
883. *GEUM RIVALE*, with *INTERMEDIUM*. Northants., 24, DIXON; Bucks., 24.

895. *POTENTILLA ARGENTEA* L. Alien. Waste ground, Barrow, L. Lancs., 69 b, W. H. PEARSALL.
896. *P. INTERMEDIA* L. Alien. Peppard, Oxon., 23, Miss RIDLEY; Forfar, 90, R. H. CORSTORPHINE.
902. *P. PROCUMBENS* Sibth. Monks Wood, Hunts., 31; Brecon, 42.
910. *ALCHEMILLA ARGENTEA* Don. (*A. conjuncta* Bab.). A specimen ex root from Ben Lawers, 88, J. MORLEY, 1871, in *Hb. Druce*.
914. *AGRIMONIA ODORATA* Mill. Lincoln N., 54, WOODRUFFE-PEACOCK; Selkirk, 79, Miss I. M. HAYWARD; Fife, 85; Bucks., 24; Northants., 32.
925. *ROSA SYSTYLA* Bast. Oxon., 23; Bucks., 24; Beds., 30; Hunts., 31.
946. *R. HIBERNICA* Sm. Speyside, Easternness, 96.
1000. *PARNASSIA PALUSTRIS* L. Lincoln S., 53, WOODRUFFE-PEACOCK; Devon N., 4; and Braunton as the var. *condensata* Travis and Wheldon.
1004. *RIBES ALPINUM* L. Llanderfel, 48, PAMPLIN, 1878, in *Hb. Druce*.
1010. *SEDUM FABARIA* Koch. Cornwall, 1 and 2; Berks., 22; Oxon., 23; Bucks., 24.
1040. *CALLITRICHE AUTUMNALIS* L. Esthwaite Water, L. Lancs., 69 b, W. H. PEARSALL; Spot Loch, Dunbar, 82, COWAN in *Rep. Wats. Exch. Club* 394, 1912-13.
1049. *EPILOBIUM TETRAGONUM* L. Bucks., 24; Beds., 30; Hunts., 31.
1052. *E. ROSEUM* Schreber. 76; Mid-Perth, 89.
1072. *CIRCEA LUTETIANA* L. Peebles, 78. var. *INTERMEDIA* (Ehrh.) 107.

1090. *BUPLEURUM ROTUNDIFOLIUM* L. Barmouth, Merioneth, 884, PAMPLIN; Lincoln, 54, WOODRUFFE-PEACOCK; Wigton, 74.
1104. *CARUM VERTICILLATUM* Koch. Rough marshy meadow on the border of Slape Heath, between Stoborough and Arne, Dorset, 9, H. GREEN (see *Journ. Bot.* 310, 1914).
1137. *OENANTHE LACHENALII* Gmel. Wittering, &c., Northants., 32.
1142. *SILVAUS FLAVESCENS* Bernh. Brecon, 42.
1153. *HERACLEUM VILLOSUM* Fisch. Alien. Roadside bank, Gomshall, Surrey, 17, A. BEADELL, ex W. H. GRIFFIN.
1176. *ADOXA MOSCHATELLINA* L. Llanderfel, Merioneth, 48, 884, PAMPLIN, *l.c.*
1183. *LINNAEA BOREALIS* L. Near Lyndhurst, S. Hants., c. 863 (*Fl. Hants.* 193, 1904). See *Country Life* 610, 1911, A MACDONALD, for a confirmation. Probably originally planted there.
1194. *GALIUM ERECTUM* Huds. Tring, Herts., 20; Berks., 20 (see *Flora*); Northants., 32.
1196. *G. ASPERUM* Schreber. Alien. Ironstone and clayey bank, Slipton Pits, Northants., 32, 1914, G. CHESTER, *vide sp.*: Frilford Golf Course, Berks., 22, LADY DAVY. Doubtless usually, if not always, introduced with grass seed into its localities in the Midlands.
1201. *G. TRICORNE* Stoke. Alien. Ballast, Barrow-in-Furness, Lancs., 69 b, W. H. PEARSALL; Stranraer, Wigton, 74, 1907.
1215. *VALERIANA OFFICINALIS* L. (*Mikanii* Syme). Teesdale, Durham, 66, C. E. SALMON in *Journ. Bot.* 138, 1914; Devon S., 3; York S.W., 63.
1242. *GRINDELIA SQUARROSA* Dunal. Alien, America. Rubbish heap, Hertford, 20, H. PIERSON, ex W. H. GRIFFIN: Twyford Mill pond, Miss TODD, *vide sp.*
1246. *CALOTIS CUNEIFOLIA* R. Br. Alien. Tweedside, Selkirk, beautiful, 1913, Miss I. M. HAYWARD. A beautiful composite.

1266. *FILAGO APICULATA* G. E. Sm. Oxon., 23.
1275. *GNAPHALIUM SYLVATICUM* L., var. *ALPESTRE* Druce. Tingwall, Shetland, 112, W. H. BEEBY in *Hb. S. London Inst.*
1310. *BIDENS TRIPARTITA* L. Galafoot, Selkirk, 79; Dryburgh, Roxburgh, Selkirk, 80, Miss I. M. HAYWARD.
1337. *DIOTIS MARITIMA* Cass. Sea coast in very small quantity, E. Sussex, 13, 1914, AUBREY O. HARRISON. A most interesting discovery; the extreme rarity accounts for the locality not being given. *But see Flora Sussex - 1917 - p. 236.*
1344. *ANTHEMIS RUTHENICA* Bieb. Alien. Hythe Quay, Colchester, Essex, 19, G. C. BROWN; Brean Down, Somerset, 6.
- 1356 (6). *CHRYSANTHEMUM SEROTINUM* L. Alien, S. Eur. Arbroath, Forfar, 1913, R. H. CORSTORPIINE. Det. A. THELLUNG. This name replaces *C. uliginosum* Pers., and *Pyrethrum uliginosum* W. & K.
- 1356 (7). *C. MAXIMUM* DC. Alien. Watergate, Newquay, Cornwall, 1, 1913, C. C. VIGURS (see *Report* 473, 1913).
- 1363 (2). *MATRICARIA CORYMBIFERA* DC. (*Chrysanthemum disciforme* C. A. Mey). Alien. Boston Docks, Lincoln, WOODRUFFE-PEACOCK.
1398. *SENECIO VERNALIS* W. & K. Alien. Mildenhall, W. Suffolk, 26, 1913, W. C. BARTON, vide sp.
1402. *S. CINERARIA* DC. Alien. Near Braunton, N. Devon, 4, W. A. HARFORD, vide sp.
1404. *S. SPATHULIFOLIUS* DC. The Mickle Fell habitat where the plant is barren is in Westmoreland, 69, teste C. E. SALMON in *Journ Bot.* 138, 1914.
1422. *CARDUUS NUTANS* L. Near Forfar, 90, G. C. DRUCE and J. KNOX.
1454. *CIRSIUM PALUSTRE* Scop., var. *FEROX* Druce. Scalloway, Shetland, 112, W. H. BEEBY in *Hb. S. Lond. Inst.*

1477. *CARTHAMUS TINCTORIUS* L. Alien. Warlingham, Surrey, and Iver, Bucks., A. BEADELL, ex W. H. GRIFFIN.
1488. *PICRIS ECHINOIDES* L. Gala, Selkirk, 79, Miss I. M. HAYWARD.
1489. *P. HIERACIOIDES* L. S. Wilts, 8.
1494. *CREPIS BIENNIS* L. N. Hants., 12; Wycombe, Bucks., 24; Badminton, Gloucester, 34.
1502. *C. TARAXACIFOLIA* Thuill. Odiham, N. Hants., 12, C. E. PALMER; Lincoln, 53, 54, WOODRUFFE-PEACOCK; Bucks., 24; Beds., 20; Gloucester E., 33; Flint, 51; Chester, 58.
- 1542 *b.* *HIERACIUM BOSWELLI* W. R. L. Glenade Cliffs, Leitrim. 800 feet, 1913 (teste E. F. Linton), W. C. BARTON, in *lit.* New to Ireland.
1663. *TRAGOPOGON PRATENSE* L. Peebles, 78, Miss I. M. HAYWARD.
- 1666 *b.* *JASIONE MONTANA* L., var. *MAJOR* Koch. Clovelly, Devon N., COUNTESS FORTESCUE and W. A. HARFORD, vide sp.; Brandon Cliffs, Co. Kerry.
1667. *CERVICINA HEDERACEA* Druce. Cree Hill, Kirkeudbright, 73.
1679. *LEGOUSIA SPECULUM-VENERIS* Fisch. Alien. In oat stubble, Ingleby, near Lincoln, C. E. PADDISON, ex WOODRUFFE-PEACOCK.
1685. *VACCINIUM MYRTILLUS* L. College Wood, S. Oxon., 23, May 1914, Hon. Mrs HANBURY TRACY. Very rare in Oxford, not recorded for the last 50 years.
1687. *OXYCOCCUS QUADRIPETALUS* Gil. Maer y Clawdd and Berwyn Mountains, Merioneth, 48, W. PAMPLIN in *Hb. Druce.* On Ben Lawers, Mid-Perth (already recorded for 88), G. E. MACONCHY and F. LAIDLAW, in *lit.*

1691 (3). GAULTHERIA SHALLON Pursh. Alien. Leith Hill, Surrey, 17, H. J. RIDDELSDELL in *Journ. Bot.*, 250, 1914.

1712. HYPOPITYS MONOTROPA Crantz. Chesterton Wood, Warwick, 38, BOLTON KING, 1905.

1719 (3). LIMONIUM SPICATUM Kunze. Alien. Walton, Liverpool, 1913, J. A. WHELDON. Det. A. THELLUNG.

1736. LYSIMACHIA NUMMULARIA L. Dolvorwyn Wood, Montgomery, 47.

1755. CENTAURIUM VULGARE Rafn. Portstewart, Co. Derry, C. H. WADDELL in *Irish Nat.* 21, 1914.

1757. C. PULCHELLUM Druce. Seaton sandhills, Durham, 66, A. WALLIS, see *Journ. Bot.*, 18, 1914.

1763. GENTIANA AMARELLA L., var. CALYCINA Druce. Burra-firth Sand, Shetland, 112, W. H. BEEBY in *Hb. S. Lond. Inst.* Mr Beeby writes on the label "approaches *G. subarcticum* Murb., but the calyx is too short."

1767. NYMPHOIDES PELTATUM Kuntze. Cowbit, Lincoln S., 53.

1783. OMPHALODES VERNA Moench. Alien. Buttercrambe Woods, N.E. York, 62. Wild and rampant, H. STANFIELD, ex F. A. LEES, in *lit.*, 1914.

1800 (2). ANCHUSA OCHROLEUCA Bieb. Alien, E. Europe. Cot-hill, Berks., 22, DRUCE; Fishergate, Sussex, ex *Kew.*

1831. VOLVULUS SEPIUM Medic. Tay side, Perth E., 89; Thurso, Caithness, 109. Probably of garden origin in both instances.

1849. SOLANUM TRIFLORUM Nutt. Alien. Wapping wharf, Bristol, N. Somerset, 6, J. W. WHITE in *Rep. Wats. Exch. Club* 402, 1912-13.

1882. (2). LINARIA ARENARIA DC. Alien. On June 2, Mr W. A. Harford, and independently the Countess Fortescue and Mrs Drummond, sent me this plant which was gathered in a new locality, *i.e.* in the Braunton Burrows, about a mile north of the lighthouse and

on the west side not far from the sea. There was a good deal on one end heap, but it was not elsewhere observed. Mr F. J. Hanbury (*Journ. Bot.*, 276, 1914) found it on August 17 at the Saunton end of Braunton Burrows (probably the same locality). I concur with Mr Painwright's suggestion (*l.c.* p. 310) that this new locality is owing to the presence of the plant at Westward Ho! The original locality was on the south side of the Creek near Westward Ho! I visited this spot and reported that, unless intentionally sown, it did not appear to have been accidentally introduced. As a matter of fact I subsequently discovered that a friend and neighbour of mine had many years ago brought seeds of this yellow *Linaria* from Brittany and sowed it at Westward Ho! Its occurrence in this new locality suggests that someone else has copied his example. He assures me that he only sowed it in one place. It is possible that by more natural means it may have been brought from Westward Ho! *Artemisia Stelleriana*, which grows on the North Bull, and is supposed to have come from Lord Cardigan's garden, occurs also across a creek, and is on the leeward side of the dunes, so that seeds or portions of the plant must have been blown or carried across the water.

1899. *MIMULUS MOSCHATUS* Dougl. Alien. Haughton Wood, Milford, Aberdeen, W. WILSON in *Journ. Bot.*, 107, 1914.

1943. *EUPHRASIA KERNERI* Wetts. Ingleborough, N.W. York, C. E. SALMON in *Journ. Bot.*, 140, 1914.

1953. *RHINANTHUS RUSTICULUS* Druce. Glen Ennich, Easter-ss, 96, 1914, Rev. J. ROFFEY, in *lit.*

1954. *R. STENOPHYLLUS* Schur. Ribblehead, M.W. York, 64, E. SALMON, *l.c.*

1966. *OROBANCHE MAJOR* L. (*elatior* Sutt). S. Lincoln, 53, DODRUFFE-PEACOCK : near Cheddington, Bucks., 24.

1969. *O. PICRIDIS* F. Schultz. Near Streatley, Berks., 22 ; Goring, Oxon., 23.

1970. *O. AMETHYSTEA* Thuill. Aldeburgh, Suffolk E., 1912.

Gen. 466. *UTRICULARIA* L. Mr Arthur Bennett (*Journ. Bot.*, 9, 4) gives some additions to the comital distribution of *Utricularia* those already given in *Top. Bot.* or its *Supplement*. *U. VULGARIS* L.

60 Lanc. W., *Flora*. 104 Ebudes. U. MAJOR Schmidel. 92 S. Aberdeen, *Trail*. U. OCHROLEUCA Hartm. 11 S. Hants., *Mennell Hb.* [I gathered this near Bournemouth in 1904]. 62 York N.E., *Martindale*. 73 Kirkcudbright, *Coles* sp. 87 Perth W., *Hb. Perth*. 90 Forfar, *Hb. Edin.* 91 Kincardine, *Hb. Edin.* 92, *Trail*. 97 Westernness, *Macvicar* sp. 99 Dumbarton, *Watt* sp. 101 Cantire, *Ewing* sp. 102 Ebudes S., *Somerville* sp. 103 Ebudes M., *Macvicar* sp. 105 Ross W., *Hb. Salmon*. 106 Ross E., *Hb. Mennell*. 110 Hebrides, *Shoobred* sp.

1976. U. MAJOR Schmidel. Moccas, Hereford, 36, A. LEY (as *vulgaris*) in *Hb. Bailey*. See *Rep.* 1872. Pond near Burbage Wood, F. J. MOTT, 1881, in *Hb. Bailey*. Ponds on Coniston Moor, &c., L. Lancs., 69 b, W. H. PEARSALL.

1977 (2). U. OCHROLEUCA Hartm. Ennerdale, Cumberland, 70, C. E. SALMON, *l.c.*; Strensall, York, *Hb. Stabler*; Coniston, L. Lancs., 69 b, J. COMBER. To this must be referred all Mr W. H. Bechy's gatherings from Walls, Spygie Loch, Roeness Hill, Shetland, 112, which should therefore be queried for *intermedia*. E. Sutherland, 107.

1978 (2). U. BREMII Heer. Dr H. Glück (*Rep. Wats. Exch. Club*, 404, 1912-13) is reported to have said "That he had never seen true *U. Bremii* from Great Britain." That may be so far as the mainland is concerned. When he was staying with me, he named as *U. Bremii* specimens collected by me near Killarney, Co. Kerry, in 1875. Mr Lumb's gatherings from Bigland Moss had larger flowers than *U. minor* of the south, and at first I thought it might be *Bremii*, but the receipt of fresh flowers enabled me to refer it to *minor*. (It was recorded as *U. Bremii* in *Journ. Bot.*, 316, 1912.) Dr Glück also named it *minor*. It is worth further study, as the flowers are distinctly larger than ordinary *minor*.

1988. MENTHA ROTUNDIFOLIA Huds. Forfar, 90. Removes "extinct" in *Top. Bot.*, R. H. CORSTORPHINE; Swindale, Westmoreland, MARTINDALE, 69, see *Journ. Bot.*, 140, 1914.

1997. M. GENTILIS L. Dovedale, Derby, 57, 1912, G. C. DRUCE, see *Fl. Derby*, 237. Alien, var. HACKENBRUCHII Briquet. Galashiels, Selkirk, Miss I. M. HAYWARD.

1999. *M. RUBRA* Sm. Portpatrick, Wigton, 74, J. FRASER, *l.c.*
2009. *SATUREIA HORTENSIS* L. Alien. Near Carmarthen, 44, HAMER, 1912.
2025. *SALVIA NEMOROSA* L. Alien. Par, Cornwall, 1, 1910, C. DRUCE. Named at Kew.
- 2032 (2). *S. VIRGATA* Ait. Alien, Europe. Ware Gravel pits, Herts., 20, 1910, Misses TROWER and G. C. DRUCE. Named at Kew with the remark, "the calyx is more hairy than usual."
2039. *DRACOCEPHALUM PARVIFLORUM* Nutt. Alien. Chilsham, Surrey, 17, A. BEADELL, ex W. H. GRIFFIN.
2056. *STACHYS AMBIGUA* Sm. Isle of Wight, 10; Peebles, 78; Arwick, 81; Midlothian, 83.
2069. *LAMIUM MACULATUM* L. Alien. Near Haileybury, etc., Herts., 20, J. E. LITTLE.
2072. *L. HYBRIDUM* Vill. Bucks., 24; Beds., 30.
- 2090 (2). *PLANTAGO CORONOPUS*, var. *SABRINÆ* Baker and Cardew. I brought home roots from the Steep Holme, and although the plant has increased in size and in the elongation of the leaves, yet the leaves and characters remain distinct. I have dissected the ripe fruit and find as Miss Cardew and Mr Baker did, *Report* 28, 1911, that its alliance is with *Coronopus*, not with *Serraria* which in appearance it very resembles. Evidently it should be raised to specific rank as *sabrinæ* (Baker and Cardew) comb. nov.
- 2091 *d.* *P. MARITIMA* L., var. *LANATA* Edmonston (var. *hirsuta* Greene). A good variety, differing from Hooker & Arnott's var. *minor*. Hills near Balta Sound, W. H. BEEBY in *Hb. S. Lond. Inst.*
2120. *CHENOPODIUM HYBRIDUM* L. North Hants., 12.
2122. *C. MURALE* L. North Hants., 12, C. E. PALMER: Stranor, Wigton, 74.
2125. *C. LEPTOPHYLLUM* Moq. Alien. Chilsham, Surrey, 17, 44, A. BEADELL, ex W. H. GRIFFIN.

2126. *C. FICIFOLIUM* Sm. Par, Cornwall, 1; Berks., 22; Beds., 30; Northants., 32, G. C. DRUCE. Selkirk, 79, Miss I. M. HAYWARD. Common about Peterborough.

2129. *C. POLYSPERMUM* L. Alien. Boston, Lincs. N., 54.

2140. *ATRIPLEX NITENS* Schrank. Alien. Warlingham, Surrey, A. BEADELL, *l.c.*

2150. *A. LACINIATA* L. Dunbar, Haddington, 82, Miss I. M. HAYWARD (!).

2176. *POLYGONUM TOMENTOSUM* Schrank (*maculatum* Bab.). Devon S., 3; Ramsey, Hunts., 31; Wigton, 74; Selkirk, 79.

2196. *RUMEX LONGIFOLIUS* DC. (*domesticus* Hartm.). Urswick Tarn, L. Lancs., 69 b, W. H. PEARSALL.

2198. *R. ACUTUS* L. Berks., 22; Bucks., 24.

2215. *DAPHNE MEZEREUM* L. Berks., 22; Northants., 32.

2216. *HIPPOPHAE RHAMNOIDES* L. Alien. Tweedside, Melrose, 80, Miss I. M. HAYWARD.

2230. *EUPHORBIA CYPARISSIAS* L. Alien. Cambridge, 29, H. GRAVESON, ex Dr MOSS; Barrow, Carl, L. Lancs., 69 b, W. H. PEARSALL.

2243. *MERCURIALIS ANNUA* L. Alien. Eton, Bucks., 24; Northants., 32.

2267. *SALIX PENTANDRA* L. Northants., 32; Westernness, 97.

2295. *EMPETRUM NIGRUM* L. Berwyn, 47, PAMPLIN in *Hb. Druce*.

2303. *CORALLORRHIZA TRIFIDA* Chat. Whitemuir, Selkirk, 79, Miss I. M. HAYWARD (a locality given long ago in *Berw. Proc.*).

2306. *LISTERA CORDATA* Br. Berwyn, 47, 1882, PAMPLIN, *l.c.*

2317. *HELLEBORINE MEDIA* Druce. Threlkeld, Cumberland, 1914, G. ADAIR. With very pale flowers.

2318. *H. PURPURATA* Druce. Wilts. S., 8.
2323. *ORCHIS USTULATA* L. Urswick and Dalton, L. Lancs., W. H. PEARSALL.
- 2326 (2). *O. PRAETERMISSA* Druce. Par, Cornwall, 1; Mil-Cornwall, 2; near Holsworthy, N. Devon, 4; near Fawley Mes, 24, G. C. DRUCE; Lullingstone, Kent, *Hb. Hume*; Pudmore, Asham, H. T. G. WATKINS; Ockham, Surrey, C. E. BRITTON; near Dorrough, 62, Mr ROE; L. Lancs., 69 b.
2332. *ACERAS ANTHROPOPHORA* Br. Near Winchester, 2, H. VAUGHAN, in *lit.*
- 2340 c. *HABENARIA VIRIDIS* Br., var. *OVATA* Druce. Unst, Shetland, W. H. BEEBY in *Hb. S. Lond. Inst.* Exactly the Caithness plant.
2349. *IRIS PSEUDACORUS* L., vera. Millook, Cornwall W., 1914.
2378. *LEUCOJUM VERNUM* L. By and near a brook between Pop's Lydeard and Williton, Somerset S., 5, 1914, Miss M. A. LARD, ex E. S. MARSHALL in *Journ. Bot.* 153, 1914.
2379. *L. ÆSTIVUM* L. Banks of Suir, S. Tipperary, R. A. SLIPS in *Irish Nat.* 143, 1913.
2407. *MUSCARI RACEMOSUM* Lam. and DC. Native. Chadling-Oxon., 23.
2417. *FRITILLARIA PYRENAICA* L. Alien. Two localities, one 2 miles from Eastbourne, the other about 7 miles west of that Sussex E.; one unlocalised specimen from Berkshire, 22, 1914, RICHARDS. It would be very interesting to trace the origin of specimens which were named at Kew.
2433. *JUNCUS SUBNODULOSUS* Schrank. Odiham, N. Hants., 12.
2441. *J. TENUIS* Willd. Between Seathwaite Vale and Duddon 69 b, R. S. ADAMSON and W. H. PEARSALL, ex F. A. LEES; Put, near Poole, Dorset, 9, C. B. GREEN, ex J. W. WHITE *Journ. Bot.*, 340, 1914; by wharf on canal, Chalford, Gloucester, 34, T. TODD, 1914, vide sp.; Cheshire, 58, CHARLES BAILEY in *ibid.*, 500, 1913. Doubtless adventitious in all cases.

2442. *J. RANARIUS* Nees. Weston-super-Mare, Somerset N., 6.
2451. *JUNCOIDES NIVEUM* (L.) = *Luzula*. Rothiemurchus, Easterness, 96, 1914, Rev. J. ROFFEY, in *lit.*
2485. *POTAMOGETON FLUITANS* Roth. Near Peakirk, Northants., 32, 1914, G. CHESTER, vide sp.
2489. *P. ALPINUS* Balb. Esthwaite Water, 69 b, and var. *ANGUSTIFOLIUS* A. and G. Rusland, L. Lancs., 69 b, W. H. PEARSALL.
2493. *P. GRAMINIFOLIUS* L., var. *LONGIPEDUNCULATA* Mérat. Esthwaite, L. Lancs., 69 b, W. H. PEARSALL, in *lit.*
2502. *P. PERFOLIATUS* L., var. *CORDATO-LANCEOLATUS* (Mert. and Koch). Loch Boardhouse, Birsay, Orkney, 111, MAGNUS SPENCE *Fl. Orcad.*, 9. 1914.
2503. *P. CRISPUS* L., var. *SERRATUS* (Huds.). Esthwaite Water, L. Lancs., 69 b, W. H. PEARSALL, in *lit.*
2507. *P. FRIESII* Rupr., forma *LATIFOLIA*. Market Harbour, Leicester, 55, 1914, G. CHESTER.
2508. *P. PUSILLUS* L., var. *STURROCKII* (A. Benn). Esthwaite Water, L. Lancs., 69 b, W. H. PEARSALL.
- 2517 (2). *ZANNICHELLIA GIBBEROSA* Reichb. S. Briavel's, Gloucester W., 1910, C. BAILEY, vide sp.
2523. *NAIAS FLEXILIS* Rost. and Schmidt. Esthwaite Water, L. Lancs., 69 b, 1914, W. H. PEARSALL, in *lit.* A most interesting discovery, adding it to the English flora.
2529. *ELEOCHARIS UNIGLUMIS* Schult. Near Oxford, both in Berks., 22, and Oxon., 23.
2531. *E. ACICULARIS* Br. Fenland, near Eye, Cosgrove, &c., Northants., 32.
2539. *SCIRPUS PAUCIFLORUS* Lightf. Bagshot Heath, Surrey, 17. Lady Davy showed me this previously recorded but rare Surrey species in 1914.

2554. *SCHOENUS NIGRICANS* L. Near Winslow, Bucks., 24.
2561. *CAREX VESICARIA* L. Bucks., 24; Grendon, &c., Hants., 32.
2565. *C. LASIOCARPA* Ehrh. Urswick Tarn, L. Lancs., 69 b, I. PEARSALL, in *lit.*
2570. *C. HELODES* Link. Black Park, Bucks., 24.
2578. *C. EXTENSA* Good., var. *MINOR*. North Hill, Westray, Wey, 111, 1913, H. HALCRO JOHNSTON. Removes "lost" in *Top.*
2600. *C. ELATA* All. In the meadows, Easton, N. Hants., 12. Variant.
2601. *C. GRACILIS* Curtis. Easton, N. Hants., 12.
2604. *C. GOODENOWII* Gay, var. *JUNCEA* Fr. Urswick Tarn, L. Lancs., 69 b, W. H. PEARSALL.
2607. *C. ELONGATA* L. Blackwater, N. Hants., 12.
- 2614 *b.* *C. MURICATA* L., var. *LEERSII* (Schultz). Duisley, W. W. Chester, 34, Miss E. TODD, *vide sp.*
2615. *C. PAIRAEI* F. Schultz. Easton, N. Hants., 12; near Guildford, Surrey (with Lady Davy); Maidstone, Northants., 32.
2619. *C. DIANDRA* Schrank. Urswick Tarn, L. Lancs., 69 b, I. PEARSALL.
2620. *C. DISTICHA* Huds. Urswick Tarn, L. Lancs., 69 b, I. PEARSALL.
2639. *SETARIA VIRIDIS* Beauv. Alien. Oxford, 23; Slough, Bucks., 24.
2653. *PHALARIS MINOR* Retz. and 2654. *P. PARADOXA* L. Aliens. Purwell, Hitchin, 20, J. E. LITTLE; Stranraer, J. FRASER.
2658. *ANTHOXANTHUM ARISTATUM* Boiss. Alien. Field, Purwell, Hitchin, Herts., 20, J. E. LITTLE.

2667. *ALOPECURUS AEQUALIS* Sobol. Beds., 30.

2700. *APERA INTERRUPTA* Beauv. Alien. Freshfield, S. Lancs., 59, W. G. TRAVIS in *Journ. Bot.*, 217, 1914. On sandy and cindery soil along the margin of the road. In such a habitat near Wittering, Northants., 32, H. N. DIXON. Wall-top at Marcham, Berks., 22.

?2759 (2) *POA IRRIGATA* Lindm. Dog's Bay, Galway, W. C. BARTON in *Rep.* 512, 1913. New to Ireland. Prof. Lindman would like to see more specimens, as he is rather disposed to consider the one sent him to be *subcaerulea*.

2765. *P. COMPRESSA* L. Railway track, Castle-Douglas, 73, J. FRASER; Selkirk, 79.

2773. *GLYCERIA PLICATA* Fr. Beds., 30; S. Lincs., 53; Wigton, 74; Peebles, 78. var. *DECLINATA* (Bréb.), Lawers, Mid-Perth, 88, E. S. MARSHALL, *Journ. Bot.*, 168, 1914; Giggleswick, 64; High Force, C. E. SALMON, *Journ. Bot.*, 141, 1914.

2783. *FESTUCA SYLVATICA* Vill. Craig Rhiwastle, Brecon, 42, 1860, A. LEY.

2812. *BROMUS INTERRUPTUS* Druce. Failand, N. Somerset, 6, J. W. WHITE in *Report* 513, 1913.

2819. *BRACHYPODIUM PINNATUM* Beauv. Bucks., 24.

2832. *AGROPYRON DONIANUM* F. B. White. Mid-Perth, 88. Our member, Dr F. Laidlaw, found in 1914, this very rare species, hitherto only known from one locality, in some quantity on another mountain of the Breadalbane group.

2850. *HORDEUM MARINUM* Huds. Alien. Kettering, Northants., 32, G. CHESTER, vide sp.

2867. × *EQUISETUM LITORALE* Kühl. Loch Tummel, 88, E. S. MARSHALL in *Report* 575, 1913.

2874. *E. VARIEGATUM* (Schleich.) Weber. Glen Cahir, Ballyvaghan, Co. Clare, 1908, G. C. DRUCE. Probably an unnamed variety, approaching *Wilsoni*. Sheaths quite different from type.

2893. *POLYSTICHUM ACULEATUM* Roth. Penorant Llandilo, Merioneth, 47, PAMPLIN; Dolvorwyn Woods, Montgomery, 48, 1882, *Ib. Druce*.

2894. *P. LONCHITIS* Roth. Wart Hill, Hoy, Orkney, 111, 1913, H. HALCRO JOHNSTON, confirmatory record. Teesdale, York, 5, C. E. SALMON in *Journ. Bot.*, 141, 1914.

2902. *DRYOPTERIS OREOPTERIS* MAXON. Coniston Moor, L. Lancs., 69 b, W. H. PEARSALL.

2922. *PILULARIA GLOBULIFERA* L. Cefridwysarn, Merioneth, 8, 1882, PAMPLIN in *Ib. Druce*.

2923. *AZOLLA FILICULOIDES* Lam. Alien. *Report* 515, 1913. Between Sandwich and Minster, Kent, 1914, C. P. WORSFOLD and J. E. MURRAY.

CORRECTIONS, Etc.

Report 1912, p. 186. *ASPLENium LANCEOLATUM*, var. *SINELII*. To Mr J. Sinel . . . belongs the honour of having first discovered and recognised this pretty fern, which is exactly intermediate between *lanceolatum* and *microdon*, and forms a perfect connecting link between these two forms." The contrasting features of *lanceolatum*, *Sinellii*, and *microdon* are then shown in a tabular form. The characters of *A. lanceolatum* (*Sinellii*) are given, and Robinson adds—"Fronds have been submitted to our best authorities . . . all declare it to be a new and very distinct variety." This was my reason for citing it as var. *Sinellii* Robinson. That, too, was apparently at one time Mr Robinson's view as in the *Journal of Botany*, 244, 1880 (in which vol. it is also indexed as *Asplenium lanceolatum*, var. *Sinellii*), he writes under this name [written as above] Mr J. F. Robinson describes (in Cardwicke's 'Science Gossip' for July) a new and very distinct variety of *Asplenium lanceolatum* . . . We cannot express any opinion as to its distinctness, as neither Mr Moore nor Mr Baker have seen specimens, nor have we been able to obtain any." My note (*op. cit.*) was inserted in order to give Mr Sinel's own statement respecting the discovery of this fern, which I was enabled to obtain through the kindness of Mr Marquand.

In criticising the *Report*, Mr Britten (*Journ. Bot.*, 338, 1913) writes—“A good example of enthusiasm for the creation of new names is afforded by *Asplenium lanceolatum*, var. *Sinelii*; of this a single plant was found in Jersey by Mr Sinel, who has never, after repeated search, seen it again; the record is based on a note by J. F. Robinson in *Science Gossip* for 1880. When the variability of *A. lanceolatum* is remembered, it seems hardly justifiable to bestow a name upon a plant which only occurred once, is only known from descriptive phrase, and has not been seen by the namer.” In the *Journal of Botany*, 361, 1913, Mr Britten writes—“Mr Druce complains that we have misrepresented him by crediting him with this name. We have looked up J. F. Robinson’s note on which Mr Druce’s remarks are based, and cannot find that he [Robinson] published the plant as a variety. . . . The first combination [sic] of the names is that by Mr Druce, to which we referred. . . . We fail to see how the plant can be quoted otherwise than as *Asplenium lanceolatum*, var. *Sinelii* Druce.”

On this no other comment need be made than to disclaim the credit of naming it as a variety. If the publication in *Science Gossip*, (*l.c.*), is not valid, then it must date from Britten in *Journ. Bot.*, 244, 1880. Mr Britten’s remarks upon “a good example of enthusiasm for making new names” appear to be singularly misplaced and uncalled for; perhaps he may yet crown his labours by giving us a *General Index* to the *Journal of Botany*, which certainly seems to be needed.

Report 1912, p. 211. No. 1045. LYTHRUM HYSSOPIFOLIA L. The locality although near Barroden was, the Rev. E. A. Woodruffe-Peacock tells me, on the Northants side of the Welland, for which county it is already recorded. The Rutland record must be deleted.

Report 1888, p. 220. No. 1366. CHRYSANTHEMUM CORYMBOSUM L. (*Pyrethrum* Willd.) On the Quay, Bangor, J. GRIFFITHS. Dr Thellung names my specimen *Tanacetum vulgare* L.

Report 1913, p. 488. No. 1960. MELAMPYRUM PRATENSE, var. ERICETORUM Oliv. ? Grassy knoll, Inch Garth, near Keltneyburn, Mid-Perth, W. A. SHOOLBRED. More recently definitely referred to Oliver’s *ericetorum* by C. E. Salmon. As stated in the *Report* (*l.c.*) I hesitated to refer it to Oliver’s plant, and sent the Perthshire specimen to M. Beauverd, who is critically studying the *pratense* group. The colour of the flowers removes it from *M. hians*. He writes as

follows:—"Owing to illness it is only to-day that I have been able to examine the *Melampyrum* which accompanied your kind letter of February 7. In my opinion it is a new form which cannot be referred to the var. *ericetorum*: it seems to me to approach the sub-sp. *alpinians*, nevertheless I cannot be positive on this point: in order to be certain it would be necessary (1) to examine the colour of the corolla in a fresh state: (2) to make a biometrical study of the population on an average of several stations. Your new plant is remarkable by the form of the calyx with long subulate teeth, and still more by the stamens being much shorter than in the var. *ericetorum* ($1\frac{1}{2}$ mm. against $2\frac{1}{4}$ mm. in var. *ericetorum*): the paraphyses, however, are of the same dimensions, reaching $\frac{1}{2}$ mm. in the two superior lobes.

In a general way the *M. pratense* of Great Britain seems to me to present several races which are sensibly differentiated from those of the continent. Moreover, the descriptions of var. *montanum* and var. *ericetorum* have been interpreted in different ways by different collectors: and these descriptions give rise to confusion: the pubescence upon which they are based not being a sufficiently precise character. As I shall have shortly new materials for comparison, I hope to be able to mark out the limits of these various races, and, after having seized the characters of the typical forms, to return you, with notes, the valuable specimens which you have been so kind as to send me, and for the too long retention of which I must again beg of you to excuse me. With very cordial salutations,—I remain your devoted friend.—GME BEAUVERD."

2102 (2). *PARONYCHIA BONARIENSE* DC. This, teste Dr Thellung, 1914, in *lit.* is *P. BRASILIANA* DC., and to it he also refers the *P. CHILENSIS* DC., recorded in the *Report* 1911, p. 29, which must therefore be deleted.

2131 (3). *CHENOPODIUM HIRCINUM* Schrad. See *Report* 1898, p. 86. The plant from Milverton, Warwick, H. BROMWICH, 1898, named *C. ficifolium* (*l.c.*), which a recent examination showed me was not that species has been referred to Dr Murr, who names it as above. This is probably the earliest British record.

2160. *SALICORNIA RAMOSISSIMA* Woods. See *Report* 1913, p. 93. Dr C. E. Moss determined D. Lumb's specimen from Dunnerolme as above.

2774 d. GLYCERIA DISTANS Wahl., var. PULVINATA. See *Report* 1913, p. 345. This variety was inserted, owing to its inclusion in the *Rep. Wats. Exch. Club* for 1911-12, p. 367, on the authority of Mr Arthur Bennett. From the *Report* of the same Club 1912-13, p. 378, it appears there is great diversity of opinion as to what its right name is, but the one point of agreement of the critics is that it is not *pulvinata* Fries, which may therefore disappear from our lists. Hackel hesitates to give the above plant a name, and Stapf thinks it is a form of *maritima*.

Report 1913 :

- p. 309, No. 247 (12). For "SAGITTALATUM," read "SAGITTULATUM."
 p. 326, No. 1259 (10). For "Australia," read "Africa S." 1262
 (4). Add as a synonym "*Erigeron linifolius* Willd."
 p. 332, No. 2035. For "(2)," read "(3)."
 p. 339. In line 8 from bottom, insert "Lip" before "broader."
 p. 364. Line 9 from top for "*British Plant List*," read "*Dillenian Herbaria*, 225, 1907." Line 10 from top for "xlv., 1908," read "lii., 1907."
 p. 374. Line 12 from top for "Mr," read "Mrs."
 p. 385. For No. "408," read "403." and add Ben na Bourd.
 p. 391, No. 1894. For "PRYORII," read "BOBARTII."

The following are earlier publications of the binomial than those given in the *Supplement* :—

- p. 417. DESMANTHUS PERNAMBUCANUS Thellung Fl. Adv. Montp. 29, 1912.
 p. 417. DYSODIA AURANTIA (L.) Robinson in Proc. Amer. Acad. 507, October 1913.
 p. 419. HELIOPSIS HELIANTHOIDES (L.) (as *Bupthalmum* Sp. Pl. 904.) Sweet Hort. Brit. 487, 1827, teste Thellung, vice *H. oppositifolia* (L.) Druce (*l.c.*)
 p. 420. LAUNAEA RESEDIFOLIA (L.) Kuntze Rev. Gen. Pl. 350, 1891.
 p. 425. TRITICUM SQUARROSUM (L.) Raspail in *Ann. Sc. Mus. Nat.* v., 435, 1826, teste Thellung.
 p. 440. PHYLLITIS SCOLOPENDRIUM Newman retains the earliest trivial.
 p. 440. CETERACH VULGARE. Sampanio also published this name in *Segundo apendice a Lista das especies Herb. Portug.*, p. 3, on February 1914.

We may add that Dr Thellung says (in *lit.*) that (p. 423) *Inula rovincialis* Gouan is, from its locality (Corbieres), on no account *enecio inconnu*. He also, referring to my contention (pp. 406-410), says "that he and Dr Schinz (*Viert. Nat. Ges. Zurich* liii., 1908, p. 520, 1909) pointed out the dangers which would arise from a strict following of Art. 45 (with retro-active power) upon the stability of the nomenclature of genera. Herein, he says, I entirely share your opinions. And so too Miller's *Abridg.*, 1754, and Hill *Brit. Herbal*, 1756, are to be respected throughout for the names of Genera. Compare Schinz and Thellung in *Bull. Herb. Boiss.*, 2nd ser., vii., 1907, p. 567-8, and Schinz and Keller *Fl. der Schweiz.*, ed. 3. On the other hand I now, with you, am of the opinion that the casual double names in Hill, Marsault, and Miller, are not to be accepted for the names of species. According to the present standing of the Rules they must of course be regarded as valid."

MIDDLESEX ALIEN PLANTS.

The following additional aliens to vice-county 21 are included on paper on Casual Plants in Middlesex, by J. G. Cooper, in *Journ. Bot.*, 127, 1914. The nomenclature and numbers are mainly those of the *List of British Plants*. 185. *Sisymbrium orientale* L.; 198. *Erysimum repandum* L.; 200. *Conringia orientalis* Dum.; 247. *Lepidium virginicum* L.; 258. *Vogelia paniculata* Horn.; 261. *Soraria riaca* Desv.; 266. *Rapistrum perenne* All.; 267. *R. orientale* DC.; 339. *Silene conoidea* L.; 354. *S. nutans* L.; 579. *Medicago lappacea* Desr.; 605. *Trifolium lappaceum* L.; 631. *T. parviflorum* Ehrh.; 665. *Corpiurus subvillosus* L.; 684. *Vicia Pseudo-cracca* Bert.; 701. *V. peregrina* L.; 718. *Lathyrus hirsutus* L.; 721. *L. Cicera* L.; 1201. *Galium tricorne* Stokes; 1306. *Gnizotia abyssiniea* Cass.; 1327. *Chillea tanacetifolia* All.; 1380. *Artemisia biennis* Willd.; 1383. *A. longifolia* Nutt.; 1426. *Cirsium eriophorum* Scop.; 2065. *Leonurus cardiaca* L.; 2130. *Chenopodium ambrosioides* L.; 2654. *Phalaris aridoxa* L.; 2650 (2). *P. angusta* Nees; 2658. *Authoxanthum cristatum* Boiss.; 2689. *Agrostis scabra* Willd.; 2715 (3). *Trisetum uniceum* Pers.; 2737. *Cynosurus echinatus* L.; 2795. *Bromus rigidus* Roth.; 2838. *Triticum triunciale* Rasp.; 2842. *T. cylindricum* P. and G.

ALIENS IN WIGTON, ETC., J. FRASER

(*Transactions of the Botanical Society of Edinburgh*, 1914, and
Dumfries and Galloway Nat. Hist. and Antiq. Soc., 1913.)

Include among others the following:—197. *Erysimum cheiranthoides* L. Aberfoyle, 87. 228. *Eruca sativa* Mill.; 505. *Oxalis corniculata* L.; 548. *Trigonella Foenum-graecum* L.; 595. *Melilotus alba* Desr.; 597. *M. indica* All.; 707. *Lens esculenta* Moench (the earlier name is *L. culinare* Med.); 1157. *Coriandrum sativum* L.—All from Stranraer, Wigton, 74. 1306. *Gnizotia abyssinica* Cass., Portpatrick, 74. 1362. *Matricaria suaveolens* Buch., Dalbeattie, Kirkcudbright, 73; Aberfoyle, 87. 1385. *Petasites ovatus* Hill, Portpatrick, 74. 1443. *Mariana lactea* Hill, Stranraer. 1792. *Symphytum peregrinum* Ledeb., Moffat, 72; Portpatrick, 74, 1912; Kirkfield bank, Stoneybyres, 77; Romay^{offo} Bridge, Broomlee, Kipperfield Loch, 78; Ashiestiel, 79; North Berwick, East Linton, 82; Braid Hills, Slateford, Cramond, &c., 83; Carlowrie, West of South Queensferry, 84; Blair Athol, Tay below Perth, 89. [Also Tayside, Perth, 88, Druce]. 1798. *Anchusa sempervirens* L., Castle Kennedy, Portpatrick, &c., 74. 1834. *Convolvulus althaeoides* L. 1835. *C. tricolor* L., Stranraer, 74. 1883. *Linaria minor* Desf., Railway, Castle Douglas, 73. 1886. *L. Cymbalaria* Mill., Portpatrick, 74; Creetown, 73. 1989. *Mentha alopecuroides* Hull, S. of Creetown, Douglas Hall, 73; Morroch Bay, Ferally Bay, Portpatrick, 74. 1990. *M. longifolia* Huds., Drummore, Portpatrick, 74. 1993. *M. piperita*, var. *officinalis*, Port of Spittalburn, 74. 2191. *Polgonum cuspidatum* Sieb. and Zucc., Portpatrick, &c., 74. 2363 (4). *Tritonia crocosmiflora* Nichols, Portpatrick, &c., 74. 2390. *Asphodelus fistulosus* L. 2653. *Phalaris minor* Retz. 2654. *P. paradoxa* L., and var. *praemorsa* Coss. and Dur. 2668. *Alopecurus utriculatus* Soland. 2681. *Phleum subulatum* A. and G. 2718. *Avena barbata* Brot. 2718 (2). *A. sterilis* L. 2726. *Gaudinia fragilis* Beauv. 2758. *Poa Chaixii* Vill. 2784. *Festuca heterophylla* Lam., Yester Grounds, 82. 2794. *Bromus rigens* L. (*villosus* Forsk.). 2809. *B. arvensis* L. 2821. *Lolium temulentum* L., Stranraer, 74.

2210 (9). RUMEX ALTISSIMUS Wood. Alien, N. Amer. Ridge Hill, Stalybridge, Lancs., 1914, F. COLLIER, ex W. G. Travis. Named at Kew.

BOOKS IN PREPARATION.

THE VEGETATION OF YORKSHIRE. Its History and Associations on the lines of Botanical Survey, based on the Geologic and Phyto-geologic remains: being an examination into the sources, the presence or passing of the Floristic Constituents—their When and How and Where: being also a Supplement to previous "Floras" of York, and a list of the Localities and Species, newly classified, new to the County or some of its river basins since 1888, by F. ARNOLD LEES. The Brambles by A. E. Bradley. Demy 8vo., about 500 pages. Subscription 12/6 net. London: A. Brown & Sons, 5 Farringdon Avenue, E.C. This important work is unfortunately being held up, owing to the inadequacy of the response to subscribe copies. May we press upon our members to support the publication.

THE FLORA OF NOTTINGHAMSHIRE by Professor CARR is nearing completion.

A NEW FLORA OF SHROPSHIRE is offered to subscribers at 10/6. Orders may be sent to Mr E. S. Cobbold, Church Stretton, Salop.

FLORA OF OXFORDSHIRE. The second edition by G. CLARIDGE DRUCE is in preparation, being published by the Clarendon Press, Oxford. Subscription price 15/-.

THE FLORA OF BUCKINGHAMSHIRE by G. CLARIDGE DRUCE is also in preparation by the Clarendon Press. Subscription price 15/-.

 PERSONAL NOTES.

Mr E. W. HUNNYBUN, who is making a series of drawings of British plants for the *Cambridge British Flora*, would be much obliged if members would assist him in obtaining some of his *Desiderata*, a list of which, with other information, will be gladly supplied by him. He will defray the cost of transmission and supply tins for the plants.

MISS BERTHA REID, 26 Ardilaun Road, Highbury N., Prof. J. ARCIVAL, The Pyghtle, Northcourt Avenue, Reading, and R. Y. APLEDON, Esq., Agricultural Dept., University College of Wales, The

Fangan, Llanbadarn, Aberystwyth, would be much obliged if members will kindly supply seeds and fruits of British plants. Members willing to assist are asked to communicate with the foregoing members direct. Mr Stapledon especially wishes for *Leguminosae*, *Umbelliferae*, *Compositae*, and *Scrophulariaceae*. Miss REID would also like fresh examples of the British orchids (without roots).

LADY DAVY, Wintergreen Wood, Pyrford, Surrey, wants fresh specimens of *varieties* of the British orchids.

MRS ADAMS, F.L.S., 14 Vernon Road, Edgbaston, and Miss TROWER, Stansteadbury, Ware, Herts., are painting British plants. Would members who are willing to assist in supplying specimens kindly let them know? The latter specially needs British *Rubi*, named by Rev. W. M. Rogers.

F. J. HANBURY, Esq., Brockhurst, East Grinstead, is anxious to have seeds or roots of rare British species. He will defray all expenses.

W. NORWOOD CHEESMAN, Esq., J.P., The Crescent, Selby, York, will be glad to receive or exchange specimens of *Mycetozoa*.

The Society is greatly indebted to the Director and Staff of the Royal Gardens, Kew, and to the Keeper and Staff of the British Museum Herbarium for much assistance, as well as to our foreign experts. Mr F. N. Williams, Mr E. D. Marquand, and the Rev. F. Bennett have also very kindly rendered assistance.

The Society is greatly indebted to Miss HAYWARD for generously supplying the plates in the *Report* for 1913, and to R. H. CORSTORPHINE, Esq., and Prof. WEISS for their kind donations.

We must offer our sincerest congratulations to "the father" of the Club, Mr J. GILBERT BAKER, of Kew, on his attaining his eightieth year on January 13, 1914. To no one does the Club owe a greater debt for all his services to it for many years. May all happiness attend him in the future.

Members having any spare copies of the *Report* for 1912, or any copies of *Reports* anterior to 1879, are asked to kindly send them to the Secretary, who will defray the cost of transmission.

Will members kindly endeavour to induce their botanical friends to join the Society.

May I add that any opinion expressed in the preceding pages is purely personal and necessarily in no way assumes to carry with it the authority of the Society.

With best wishes, I am yours very sincerely,

G. CLARIDGE DRUCE.

SUPPLEMENT TO BOTANICAL SOCIETY REPORT FOR 1914,

BY

G. CLARIDGE DRUCE, M.A.

PART I.—EROPHILA.

Attention was called to the forms of this genus, which differs but slightly from *Draba* in having much more deeply bifid petals, but which Bentham and Hooker kept as a distinct genus in their important *Genera Plantarum*, at the meeting of the Botanical Exchange Club at Thirsk (see *Phytol.* 501, 1858) by our hon. member, Mr J. Gilbert Baker, who gave brief diagnoses of *E. brachycarpa*, *E. glabrescens*, *E. hirtella*, *E. stenocarpa*, and *E. majuscula*. M. Jordan himself verified *majuscula* and *brachycarpa* gathered in Yorkshire by Mr Baker. Baker, however, felt himself unable to give specific rank to these 5 species. Jordan described about 200 species, but Rouy and Foucaud in *Flore de France* grouped all the French forms under 8 names.

Since members have been sending specimens to the Society recently, perhaps it may be well to give a translation of the clavis, and to its more recent exposition by an able, painstaking, and enthusiastic student of the genus, namely, M. Is. Maranne, who made an important communication to the Bulletin de la Société Botanique de France in 1913, vol. xiii., n 5, from which the following translation has been made in a somewhat abbreviated form. I have to thank our member, Mr Marquand, for kind help in the matter. It will be seen M. Maranne is content to enumerate 68 species.

One must first say that the standard of preparation of specimens sent in for examination must be immensely raised before they are of the slightest use in a scientific sense. (This is also true of *Taraxacum*). With *Erophila* it is necessary to gather specimens in the flowering stage, to take accurate measure of the expanded flowers, to note the colour of the leaves, and whether blotched or not, the colour of the petals, and then to dry the specimens quickly under considerable pressure, so as to ensure the leaf-shape being properly displayed.

Later on in the fruiting stage specimens should be carefully collected of the same form, and these dried under moderate pressure, so as to ensure the proper shape of the silicule being seen. The number of seeds in a loculus should be noted. It is advisable to collect specimens from a habitat in which one form only grows. Single specimens are useless to send to experts. At least twenty should be in each packet. Great difficulty will be experienced in working with a *clavis*. In these critical plants, there is no hard and fast line, or definite characters. They differ from each other in degree only. A *clavis* always presents pitfalls. Again, it must be borne in mind that many of our British plants may not occur in France, hence these descriptions will not fit them.

M. Maranne gives this introductory paragraph:—"The genus *Erophila* includes a number of plants which differ by their habit, their size, the form and size of their seed pods, the form of the leaves, their pubescence, and their colour, and it is quite possible to distinguish these different species although they present among themselves many intermediate forms. For that purpose it is necessary to fix the limits of species taken as types and bearing well marked characters. This is what we have endeavoured to do at the outset of our work. Nevertheless, certain precautions are needful in the study of the group. It is not to be expected that a species can be determined by the examination of a single specimen—on the contrary, several specimens must be gathered, and chosen in various states of development. When the species grow in more or less dense tufts, it is easy to take a pinch here and there, and thus one is more likely to obtain certain variations of the same species. But if the plants are isolated and scattered here and there, each plant becomes a perfect puzzle, and it is then that we need the idea of the conventional type of the species, viz., that all forms are to be referred to one type species when they possess the largest number of characters belonging to that species, for without this precaution many individual plants of *Erophila* would then become themselves varieties or forms demanding a special name. Those forms alone are to be considered as special varieties or species, which differ from the type species, by a *combination of characters which are important and independent of each other*. The determination of the plants depends in some measure on the specimens being moderately young, especially as regards the examination of the leaves, as these vary with the age of the plant, in form, and especially in

colour, many becoming brown or reddish with age. Further it is best to examine freshly gathered specimens, as the characteristic blotches on the leaves of certain species often disappear in drying. The characters drawn from the length of the pedicels in relation to the fruits refer to the *lower* pedicels, and preferably to those of old specimens.

Although the species of *Erophila* present many variations and intermediate forms, it does not follow that one may, in a given locality, gather a large number of these forms. "It is seldom," says Jordan, "that one finds more than three or four species growing mixed together, and there are plenty of places where only one single form is found, pure and without mixture, represented by millions of individuals. Each year one finds in the same locality the forms that were previously seen there, without any difference in their characters." We have been able by observation extending over many years to confirm this, and this proves that in spite of the variability of each species it may continue to multiply for a long period in the same region without any modification, and with only a few slight differences caused by substratum or exposure. This fact alone should suffice to show that species of *Erophila* have as much value as species of other genera of plants. If in fact these species are to be considered merely as variations due to climate, altitude, soil, etc., one ought to meet with all the possible forms in regions presenting all the conditions required for these modifications. Observation sufficiently shows that such is not the case.

We know that there are at the present time 80 species of *Erophila* spread over the two continents between the 30° and 60° parallels of the northern hemisphere. Four species occur in Western and Central Asia, but three of them are French species, and the fourth grows in Greece and Turkey in Europe. For France we enumerate 68 species, of which a few are also found in North America and Northern Africa.

Only the French species are taken into account in the synoptical tables which follow. As far as possible we have indicated only well-marked characters for each species, whilst at the same time pointing out the modifications which very frequently occur, especially in the form of the fruits and of the leaves, because, as already remarked, no single character is constant.

We give no indication of the distribution of the species, as so few botanists have minutely studied them, and they have almost always

been collected in the same regions, therefore their geographical distribution is not sufficiently known, and the few localities which we might have cited would have been of no use whatever."

ABBREVIATIONS.

To save space I have made several abbreviations in the following clavis. The length of the pedicel refers to the lowest one on the plant. The measurements of the *plants* are always in centimetres; those of the *flowers, petals, or silicules* are in millimetres. The number of seeds are those in each loculus, that is half the number in the entire silicule.

Abbreviations.—*Asc.* = ascending; *atten.* = attenuate or attenuated; *bl.* = blotch or blotched; *cal.* = calyx; *contig.* = contiguous; *ellip.* = elliptic; *ent.* = entire; *fl.* = flower; *gr.* = green; *h.* = hairs; *lanc.* = lanceolate; *lin.* = linear; *loc.* = loculus; *l.c.* = in place already cited; *ls.* = leaf or leaves; *obl.* = oblong; *obov.* = obovate; *obt.* = obtuse; *ov.* = ovate; *ped.* = pedicel; *pet.* = petal; *pl.* = plant; *rot.* = rotund or rotundate; *s.s.* = style short; *sep.* = sepals; *sil.* = silicule; *simp.* = simple; *sm.* = small; *slend.* = slender; *sol.* = solitary; *spr.* = spreading; *st.* = stem; *sub-lanc.* = sub-lanceolate; *sub-orb.* = sub-orbicular; \pm = more or less.

ADAPTATION OF THE CLAVIS IN THE FLORE DE FRANCE TO SECTIONS OF EROPHILA.

- | | | | |
|----|---|---|-----------------------|
| 1. | { | H. all or nearly all simple (rarely mixed with bifid); sil. ellipt. or obl.; loc. 14-24 seeded | 2. |
| | { | H. all or nearly all bifid, some trifid, rarely with a few simple h. | 3. |
| 2. | { | Ls. broadish, ov. or obl.-lanc., spreading (flat to the ground); sil. ellip. or obl., slightly atten. or not at base | 1 <i>glabrescens.</i> |
| | { | Ls. lanc., erect or ascending; sil. obl., much atten. at base | 2 <i>hirtella.</i> |
| 3. | { | Sil. ov.-sub-orb. or obov.-rotund., very obt.; loc. 8-24 | 4. |
| | { | Sil. of a different shape | 5. |
| 4. | { | Fl. sm. (3); lobes of pet. nearly or quite contig.; sil. ov.-sub-orb., 3 long \times 2.5 broad, rounded at top .. | 3 <i>praecox.</i> |
| | { | Fl. large (3.5-4); lobes of pet. divaricate or divergent; sil. ellip.-obov., 4.7 long \times 2.5-3 broad | 4 <i>spathulata.</i> |
| 5. | { | Pl. \pm robust, with short bi- or trifid h.; fl. large; sep. ov.-rotund.; sil. elongate, large, obt. or obl.-lanc.; loc. 30-40..... | 8 <i>majuscula.</i> |
| | { | Pl. \pm slend., mostly bifid, a few simp. h.; sep. ov. or obl.; loc. 16-24 | 6 |
| 6. | { | Ls. lanc. or lin.-lanc.; sil. obl. | 6 <i>leptophylla.</i> |
| | { | Ls. ov.-lanc. or lanc.; sil. narrow, lanc. or lin.-obl. ... | 7 <i>lanceolata.</i> |
| | { | Ls. broader, ov. or ellip.; h. fairly long; sil. obl. or sub-lanc. | 5 <i>vulgaris.</i> |

The 68 species described by Maranne are grouped as follows under the 8 sections of Rouy and Foucaud's *Flore de France*.

Division I.

Hairs all or nearly all simple, rarely a few bifid hairs.

Section I.—GLABRESCENS—St. slender, short, 6-10 cm.; Ls. ± narrow, lanc., obl., or ov.-lanc., with spr. lamina, often recurved at apex; sil. medium size, ellip. or ov.-obl.; loc. 20-24 seeded. 1, *Erophila virescens* Jord. Diagn., 207; 2, *E. nana* Sudre Bull. Ass. Pyren., 5, 1897-8; 3, *E. subnitens* Jord., l.c., 208; 4, *E. spathulifolia* Jord., l.c.; 5, *E. vivariensis* Jord., l.c., 210; 6, *E. campestris* Jord., l.c.; 7, *E. ambigens* Jord., l.c., 211; 8, *E. medioxima* Jord. in Billot Fl. Gall. et Germ. Exsicc., 1818 (*E. glabrescens* Jord. p.p. Pug. 10, 1852); 9, *E. micrantha* Jord. Diagn. 213; 10, *E. roseola* Sudre Le Monde des Pl., 17, 1912; 11, *E. oblongata* Jord., l.c., 214 (*E. glabrescens* Jord. p.p., var. *erratica* (R. & F.)); 12, *E. rubella* Jord., l.c., 215; 13, *E. procerula* Jord., l.c.; 14, *E. chlorotica* Jord., 216; 15, *E. lepida* Jord., l.c., 217; 16, *E. euchloa* Sudre, l.c.; 17, *E. patula* Jord., l.c., 217; 18, *E. iodophylla* Briquet (*D. glabra*, var. R. & F. 229); 19, *E. minuscula* Sudre, l.c.

Section II.—HIRTELLA—St. slender; ls. lanc. or ov.-lanc., nearly erect; fl. large (5 mm.); sil. ellip., obt. or obov., ± atten. at base, medium size (6); loc. 20-24. 20, *E. hirtella* Jord. Pug. 10; 21, *E. corsica* Jord. in Magn. Scrin. Fl. Sel. 187 (*D. hirtella*, var. *Debeauxii* R. & F. 231).

Division II.

Hairs all or nearly all bi-trifid, rarely a few simp. hairs.

Section III.—PRAECOX—St. slender; ls. ov. or broadly lanc.; h. mostly bifid, a few simp.; sil. sub-orb. or broadly ov., usually sm., mostly rounded at base and at top; loc. 16-24; 22, *E. brachycarpa* Jord. Pug., l.c. 9 (*Draba verna*, var. *rotundata* Neilr. Fl. Nied. Oester. 752, 1866); 23, *E. praecox* DC. Syst. Nat. ii., 357, 1821; 24, *E. Girodi* Sudre, l.c., 3, 1906-7; 25, *E. subrotunda* Jord. Diagn. 220; 26, *E. decipiens* Jord., l.c.; 27, *E. Revelieri* Jord., l.c.

Section IV.—SPATHULATA—St. slender, few (1-3); ls. broadly lanc. or nearly ov.; h. mostly bifid, a few trifid or simp.; pet. sm., scarcely longer than sep.; sil. broadly obov. or ellip., lanc., atten. at base, rounded or sub-atten. at top, of medium size, but mostly sm. (4-7); loc. 16-24.; 28, *E. obovata* Jord., l.c., 221; 29, *E. confinis* Jord., l.c., 222; 30, *E. breviscapa* Jord., l.c.; 31, *E. subintegra* Jord., l.c., 223; 32, *E. pyrenaica* Jord., l.c., 224 (*D. muricola*, var. *Jordani* R. & F.,

l.c., 227); 33, *E. muricola* Jord., *l.c.*, 224; 34, *E. rurivaga* Jord. Diagn. 225; 35, *E. cabillonensis* Jord., *l.c.*, 226; 36, *E. lucida* Jord., *l.c.*; 37, *E. andegavensis* Jord., *l.c.*, 227; 38, *E. lugdunensis* Jord., *l.c.*, 228; 39, *E. fullacina* Jord., *l.c.*; 40, *E. Bardini* Jord., *l.c.*, 229.

Section V.—VULGARIS—St. slender; ls. ov. or ov.-lanc.; h. short, bifid or trifid; sil. ellip.-obl. or obl.-sub-lanc., 5-6; loc. 16-24; 41, *E. claviformis* Jord., *l.c.*, 230; 42, *E. cuneifolia* Jord., *l.c.* (*Draba claviformis*, var. *cuneata* R. & F., *l.c.*); 43, *E. vulgaris* DC. Syst. ii., 356, 1821, sensu stricto; 44, *E. Ozanoni* Jord., *l.c.*, 231.

Section VI.—LEPTOPHYLLA—St. slender; ls. lanc. or lin.-lanc., shortly pubescent; h. usually bifid, the others simp.; pet. distinctly larger than sep.; sil. 5-7, obl.; loc. 16-24; 45, *E. dentata* Jord., *l.c.*, 232; 46, *E. furcipila* Jord., *l.c.*, 233; 47, *E. serrata* Jord., *l.c.* (*D. furcipila*, var. *serrata* R. & F.); 48, *E. leptophylla* Jord., *l.c.*, 234; 49, *E. sparsipila* Jord., *l.c.*, 235; 50, *E. vestita* Jord., *l.c.*; 51, *E. affinis* Jord., *l.c.*, 236 (*D. leptophylla*, var. *australis* R. & F., *l.c.*, 223); 52, *E. cinerea* Jord., *l.c.*, 237; 53, *E. propinqua* Jord. in Bull. Bot. Soc. Fr. t. xviii., 920; 54, *E. brevipila* Jord. Diagn., 237; 55, *E. rigidula* Jord., *l.c.*, 238 (*D. vulgaris*, var. *rigidula* R. & F.); 56, *E. Charbonnelii* Sudre, *l.c.*, 4, 1907-8.

Section VII.—LANCEOLATA (*Draba lanceolata* Neilrich, *l.c.*, 742)—St. thin, slender, usually numerous; ls. lanc. or ov.-lanc.; h. short, bifid or trifid; pet. slightly longer than sep.; sil. \pm large, lanc., lin. or lin.-obl.; loc. 30-36; 57, *E. stenocarpa* Jord. Pug. 11, 1852 (*E. americana* DC., *l.c.*, 1821); 58, *E. Krockeri* Andr. En. Pl. Wollh., 82; 59, *E. propera* Sudre, *l.c.*, 5; 60, *E. aurigerana* Sudre, *l.c.*; 61, *E. tenuis* Jord. Diagn., 239; 62, *E. subtilis* Jord., *l.c.*, 240; 63, *E. psilocarpa* Jord., *l.c.*, 241; 64, *E. rubrinaeva* Jord., *l.c.*

Section VIII.—MAJUSCULA—St. 6-20 cm., fairly robust; h. short bi-trifid; ls. mostly ov., broad; pet. much longer than sep.; sil. large, obl., rounded at the top; loc. 30-40; 65, *E. curtipes* Jord., *l.c.*, 252; 66, *E. occidentalis* Jord., *l.c.*, 243; 67, *E. brevifolia* Jord., *l.c.*; 68, *E. majuscula* Jord. Pug. 11 (*E. verna*, var. *majus* R. & F.).

M. MARANNE'S CLAVIS.

- | | | | |
|----|---|--|-----|
| 1. | { | H. all or nearly all simp., rarely mixed with bifurcate h.; sil. 20-24 seeds | 2. |
| | | H. all or nearly all bi-or trifid, rarely mixed with a few simp. h. | 22. |
| 2. | { | Ls. erect; sil. ellip.-obl., much narrowed at base | 3. |
| | | Ls. spreading; sil. ov., ellip.-ov., or obl.; ls. ov. or obl.-lanc., sometimes lin. | 4. |

- 3. { Ls. toothed, lanc.; petiole rather wide, bl.; ped. twice as long as sil. (var. 3 times as long); sil. 6×2.5 (var. $7 \times 1.5-2$); pl. 5-10; st. many erect 20 *E. hirtella*.
 Ls. ent. or slightly toothed, broadly ov.-lanc., narrowed into a long petiole; ped. as long or nearly as long as sil.; sil. $5.5-6 \times 1.5-2$; pl. sm., 4 cm.; st. asc..... 21 *E. corsica*.
- 4. { Pl. dwarf, 2-4, often reddish; st filiform, sol., rarely 2-3; fl. sm., 3 mm.; sil. 3.5×2 ; s.s.; ped. scarcely longer than sil.; ls. very sm., lanc., green or reddish 19 *E. minuscula*.
 Pl. usually tall; ls. green, rarely violet. 5.
- 5. { Ls. all or nearly all violet, very sm., lanc., curved, nearly glabrous; st. filiform, violet; sil. 4×2 ; pl. sm., 4-6 cm. 18 *E. iodophylla*.
 Ls. green 6.
- 6. { Fl. large, 6 mm., pure white; sil. $5-6 \times 2.5$; s.s.; ped. twice as long as sil.; ls. ov.-lanc., usually toothed; pl. 6-7, with many st., diffuse or asc., flexuous 3 *E. subnitens*.
 Fl. not more than 5 mm. in diam. 7.
- 7. { Fl. 4-5 mm. diam. 8.
 Fl. 3-3.5 mm., rarely reaching 4 mm. 15.
- 8. { Sil. about three times as long as broad 9.
 Sil. less than three times as long as broad..... 11.
- 9. { Sil. large, 6-8; ls. often bl. at base of limb.... 10.
 Sil. 5.5×2 ; s. very s.; ped. twice as long as sil.; ls. bright green, lanc. or lin.-lanc., glabrous, or with a few h. on margin, sm.; pl 7-8; st. slend., erect or spr., sol., or many very variable 11 *E. oblongata*.
- 10. { St. spr., asc., flexuous. sm (6-7); ls. ov.-lanc., pointed, with many teeth; Sil. $6-7 \times 2.25$; s.s.; ped. twice as long as sil. ... 6 *E. campestris*.
 St. erect, taller; ls. lanc. or lin. lanc., pointed, much atten into petiole; sil. $7-8 \times 2.5$; s. very s.; ped. more than twice length of sil. 13 *E. procerula*.
- 11. { S. long; ls. broadly spathulate, much atten. into petiole..... 12.
 S. very s.; ls. narrow, less clearly spath., equally narrowed to the petiole; sil. twice as long as broad 13.
- 12. { Ls. ov. or obl., usually ent. or with few large teeth, deep or \pm brownish gr.; cal. pale reddish; sil. 5×3 ; ped. twice as long as sil. (var. 3 times); st. erect, few, 5-7 cm. 4 *E. spathulifolia*.
 Ls. obl.-lanc., ent. or with few teeth, bright gr.; sil. 5.6×2.75 ; ped. flexuous, twice as long as sil.; pl. 8-12; st many, erect-asc. 5 *E. vivariensis*.
- 13. { Sil. 6×2.5 , atten. at base; ls. ent., ellip.-lanc., obt., not bl.; st. erect or asc. 7 *E. ambigens*.
 Sil. 4.5×2.5 14.
- 14. { Pl. sm., 4-5; st. slend., erect; sil. 4×2.5 ; ped little longer than sil.; ls. bright gr., not bl. 2 *E. nana*.
 Pl. taller, 6-8; st. erect or arcuate-asc., few; sil. $4.5-5 \times 2.75$; ped. twice as long as sil.; ls. lanc., deep gr., hispid, petiole narrower, reddish. 8 *E. medioxima*.
- 15. { Sil. about 3 times as long as broad; s.s.; ped. twice as long as sil.; cal. reddish; ls. lanc. or lin.-lanc. acute, greyish gr.; sil. 5×2 ; pl. 4-6; st. few, slender; sil. 5×2 12 *E. rubella*.
 Sil. about twice as long as broad 16.

6. { Fl. rosy; ls. lance., atten. into the reddish petiole; sil. 4.4-5 × 2.2-5;
s. long; ped. twice as long as sil.; pl. 5-6; st. slend., few.
10 *E. roseola*.
Fl. white 17.
7. { Sil. 3.5 × 1.75-2; s.s.; ped. twice as long as sil.; fl. sm.; pl. sm., 4-5;
st. slend., erect; ls. pale gr. 16 *E. euchloa*.
Sil. more than 4 mm. in diam. 18.
8. { Ls. deep gr. 19.
Ls. greyish or yellowish gr. 21.
9. { Pl. very dwarf; st. diffuse, asc.; fl. pure white; sil. 4.5 × 1.75; s. very
s.; ped. twice as long as sil.; ls. sm., lance., recurved at apex.
15 *E. lepida*.
Pl. more developed; fl. dull white 20.
10. { Sep. brownish-gr. or violet; pet. a little longer than sep.; sil. 4.5-5 ×
2.75; s.s.; pl. 6-8; st. erect or asc. 9 *E. micrantha*.
Sep. clear gr.; sil. 4 × 2; s. longer; pl. 6-7; st. slend., sub-erect,
flexuous, often numerous 1 *E. virescens*.
11. { Ls. lance. or obl., shortly toothed, or nearly ent., greyish gr., flat, not
recurved at apex; sil. 4.5 × 1.75; st. many, very spr.; pl. 5-7
17 *E. patula*.
Ls. lance. or lin., ent., yellowish-gr., often recurved; fl. yellowish-white;
sil. 4.4-5 × 2; s.s.; pet. a little longer than sep.; pl. 8-10; st. many,
spr., asc. 14 *E. chlorotica*.
12. { Sil. sm., 4 mm., sometimes round, obl.-ov., very obt.; ls. ov. or lance.;
ped. elongated 23.
Sil. more than 4 mm. long, obov., obl. or lance. 28.
13. { Fl. large, 4-5, in short rac.; sil. 4 × 3; s. very s.; ped. 3 or 4 times
longer than sil.; ls. ov.-obl., very gr., ent. 27 *E. Revelieri*.
Fl. very sm., 2-3-5 mm. 24.
14. { Fl. extremely sm., 2 mm.; sil. 3.25-4 × 2.5-3; s. rather long; ped. thrice
as long as sil.; pl. 5-7; st. many; ls. obl., atten. into wide petiole.
24 *E. Girodi*.
Fl. 3-3.5 mm. diam. 25.
15. { Sil. twice as long as broad, 4.5 × 2; s.s.; ped. thrice as long as sil. (var.
twice as long only); pet. narrowed into a very long claw; pl. sm.,
4-6; st. arcuate-asc.; ls. lance., deep gr., teeth scarcely prominent.
26 *E. decipiens*.
Sil. nearly round 26.
16. { Sil. thick, convex, 3.5 × 3; s. very s.; often nearly or quite absent;
ped. 2 or 3 times as long as sil.; fl. more than 3 mm.; pl. 5-7; st.
spr. or asc.; ls. broad, ov.-obl., ashy gr. 25 *E. subrotunda*.
Sil. flattened, 3 × 2.2-5; s.s.; ped. thrice as long as sil.; pet. a little
longer than sep.; fl. 3 mm. 27.
17. { Pl. 3-6; st. many, erect; ls. obl.-lance., deep gr., petiole short.
22 *E. brachycarpa*.
St. more slend., fewer; ls. lance.-lin., clear gr., petiole elongated.
23 *E. praecox*.
18. { Ls. ov. or ov.-lance. with very long h.; sil. obl. or lance. 29.
Ls. ov. or obl. or lin.-lance., with short h. 31.
19. { Ped. flexuous, often recurved 30.
Ped. not flexuous, twice as long as sil.; sil. 7.8 × 2.75, atten. at base;
s. very s.; pl. large, 20-22; st. many, erect or arcuate-asc., often reddish;
ls. large and broad; fl. 4-5 mm. 44 *E. Ozanoni* ex p.

30. { Ls. narrow, sm., lane., deep gr., very hispid; fl. 5.5; sil. 7 × 2, atten. at base; s. very s.; ped. twice as long as sil. (var. peds. equal to or a little longer); pl. 8-10; st. erect, slend. 41 *E. claviformis* ex p.
 Ls. broad, toothed, euneate, gr., often bl. with brown; fl. 5-6; sil. 7-8 × 2.5, atten. at base; s.s.; ped. hardly longer than sil. (rarely twice as long); pl. 8-10; stem many, robust, asc. or erect-spr. 42 *E. cuneifolia* ex p.
31. { Sil. lin.-lane. or lin.-obl., 4-5 times longer than broad..... 32.
 Sil. ellip. or obl., 2 or 3 times longer than broad 42.
32. { Fl. large, 5 mm. or less; sil. narrowed below only 38.
 Fl. sm., 3-4; sil. very much atten. at base, nearly from the middle 35.
33. { Sil. large, 10 × 2; s.s.; ped. twice as long as sil.; ls. large, ov.-lanc., acute, ashy gr. (or deep gr.), bl. at base with reddish-violet; pl. 8-10; st. robust, asc. or spr. 64 *E. rubrinaeva*.
 Sil. sm., 6-8 × 2 mm. 34.
34. { Pl. dull gr., 10-12; ls. short, 2-3 times longer than broad, atten. into short petiole; sil. 6.7 (see § 30)..... 42 *E. cuneifolia* ex p.
 Pl. bright gr., large, 15-18; ls. large, 4-5 longer than broad, atten. into petiole; sil. 8 mm. long..... 43 *E. vulgaris*.
35. { St. usually spr.-asc., few; ls. obl. or lane., often bl. or toothed, very hispid; sil. large 7.9 × 1.5-2; s.s.; ped. 2-3 times as long as sil.; pl. strong, 10-18..... 63 *E. psilocarpa*.
 St. erect, plant sm. 36.
36. { Ped. equal in length to sil., or a little longer; sil. 6.6-5 × 1.75-2; s.s.; pl. sm., 4-6; st. often sol.; ls. sm., lanc. 60 *E. aurigerana*.
 Ped. twice as long as sil.; pl. usually taller with many stems..... 37.
37. { Ls. bl. at base; fl. 3.5-4 mm. 39.
 Ls. unbl. 38.
38. { Fl. not exceeding 3 mm. .. 40.
 Fl. exceeding 4 mm.; sil. 7 mm. long (see § 72)... 47 *E. serrata* ex p.
39. { Ls. deep gr., lin.-lanc., pubescent with bifid h.; sil. 7 × 2; s.s.; pet. scarcely longer than sep.; pl. 8-10..... 61 *E. tenuis*.
 Ls. ashy-gr., lanc., densely pubescent with bi- or trifid, often stellate h.; sil. 7 × 2; s. long; pl. 5-6..... 62 *E. subtilis*.
40. { Ls. lane., ent., bright gr.; sil. 5.5-5 × 1.75; s.s.; pl. 6-7 em. 59 *E. propera*.
 Ls. toothed, lin.-lane. (or obl.), deep gr.; sil. 6-8; s.s. 41.
41. { Sil. very narrow, 7-8 × 1.5-1.75; pl. 8-10; st. one or few, asc. 57 *E. stenocarpa*.
 Sil. less narrow, 6-7 × 1.75; pl. 6-8; st. slend., sol.; ls. very sm. 58 *E. Krockeri*.
42. { Sil. ellip. or obov., very obt., or rounded at apex..... 43.
 Sil. elongated, obl., lin.-obl. or lanc., more or less atten. at apex 66.
43. { Each loc. with 10-24 seeds... 44.
 Each loc. with 30-40 seeds 63.
44. { Sil. a little longer than broad, 5 × 3; ped. twice as long as sil. (var. thrice as long); s.s.; pl. variable, 3-8; st. arcuate-asc. or erect; ls. ov. or obl.-lanc., toothed, greyish gr. 28 *E. obovata*.
 (*E. spathulata* is often confounded with *obovata*).
 Sil. 2 or 3 times longer than broad..... 45.
45. { Sil. 2 or 2½ times longer than broad 46.
 Sil. 3 times longer than broad..... 56.
46. { Fl. 3-3.5 mm., rarely 4 mm. 47.
 Fl. 4.5-5 mm. 53.

17.	{	Pl. sm., 3-6 cm.....	48.
	{	Pl. well developed.....	49.
	{	Ls. shining, thick, lanc., toothed, often bl. with brown; pet. scarcely longer than sep.; sil. 4.5-5 × 2.25; s. very s.; ped. twice as long as sil.; st. slend., erect, 5-6 (var. st. short, 3-4, many spr.).	36 <i>E. lucida</i> .
18.	{	Ls. not shining, ov. or obl.-lanc., toothed, sometimes bl. with brown at base, sometimes ent. reddish-brown; sil. 4.5 × 2.5; s.s.; ped. slightly longer than sil.; st. 5-6, many, erect or asc.	30 <i>E. breviscapa</i> .
	{	Ls. deep gr., obl.-lanc., ent., or with very few inconspicuous teeth; sil. 4.5-5 × 2.5; s.s.; ped. twice as long as sil. (var. thrice as long); h. of the st. simp., of the ls. bifid; pl. 8-9; st. slend., erect, few.	31 <i>E. subintegra</i> .
19.	{	Ls. evidently toothed.....	50.
	{	Ped. 4 times as long as sil.; pet. slightly longer than sep.; sil. 6 × 2.75; s.s.; st. slend., erect, ls. lanc.	35 <i>E. cabillonensis</i> .
20.	{	Ped. thrice as long as sil.....	51.
	{	Ped. slightly longer than sil. (rarely twice as long); sil. 6 × 3, dull gr. or reddish-brown; s.s.; pet. often rosy; pl. 6-8; st. often many, erect or asc. or spr.; ls. ov., deep gr., with few teeth, petiole bl.	56 <i>E. Charbonnelii</i> .
21.	{	Ped. 2 or 3 times as long as sil.....	52.
	{	Fl. 3.5-4; ls. ov.-lanc., shortly pointed, ashy-gr. (or deep gr.), atten. into the longer or shorter often bl. petiole; sil. 5.5 × 2.5; ped. twice as long as sil. (var. thrice as long); pl. 7-9; st. erect or asc., fairly numerous.....	29 <i>E. confinis</i> .
22.	{	Fl. not 3 mm.; ls. ov. or obl.-lanc., greyish gr., distinctly pointed, toothed, atten. into petiole, which is often bl.; pet. slightly longer than sep.; sil. 5 × 2, slightly atten. at base; s.s.; ped. twice as long as sil.; pl. 6-8; st. few or sol., slend.	54 <i>E. brevipila</i> ex p.
	{	Ped. 3-4 times as long as sil; sil. 5.5-5 × 2.2-2.5, slightly atten. at base; s.s.; pl. 7-8; st. few, erect, hispid at base only; ls. ent., ov. or obl., ashy-gr.	32 <i>E. pyrenaica</i> .
23.	{	Ped. about twice as long as sil.	54.
	{	Ls. ov. or ov.-lanc., petiole sometimes bl.; sil 6.5 × 2.5; s.s; pl. 8-12; st. strong, asc. or spr.	55 <i>E. rigidula</i> .
24.	{	Ls. obl.-lanc., deep gr., atten. into the long narrow petiole ...	55.
	{	St. erect, many, strong, 9-11; ls. and petiole for the most part reddish; sil. 6-6.5 × 3-3.5; s.s.	30 <i>E. fallacina</i> ex p.
25.	{	St. spr., shortish, 5-6; raceme short; ls. and petiole not bl.; sil. 6 × 3-3.5; s. mediocre	33 <i>E. muricola</i> .
	{	Ped. a little longer than sil.	57.
26.	{	Ped. twice as long as sil.; fl. 4.5-5; s.s.	58.
	{	Fl. very sm., 2 mm.; s. very long; sil. 7 × 2, atten. at base; pl. 5-6; st. slend., often sol.; ls. very sm., lanc., ent. or slightly toothed, deep gr.	40 <i>E. Bardini</i> .
27.	{	Fl. large, 5-6; s.s. (see § 30).....	42 <i>E. cuneifolia</i> ex p.
	{	Ls. very gr., petioles very short and reddish (see § 55)	39 <i>E. fallacina</i> ex p.
28.	{	Ls. and petiole broad (limb often lanc.), bl. or not	59.
	{	Ls. with strong teeth	60.
29.	{	Ls. often ent. or with few teeth.....	62.
	{	Ls. ov.-lanc., deep gr., short petiole; sep. obl.; pet. sm., 3 × 1.5 (see § 30).	41 <i>E. claviformis</i> ex p.
30.	{	Ls. ov. or ov.-lanc., bright gr.; sep. ov.....	61.

61. { St. large, reaching 20 cm., petiole short ; pet. 3×2 (see § 29).
 44 *E. Ozanoni* ex p.
 St. sm., 7-8, many ; sil. 6.5×2.25 ; pet. 2.5×1.5 ; ls. longly atten.
 into petiole. 37 *E. andegavensis*.
62. { Sil. $7-8 \times 3$; ls. ellip.-lanc., deep gr. (var. ls. lin.) ; pl. 6-8 ; st. slend.,
 few 34 *E. rurivaga*.
 Sil. $5-6 \times 2.2-2.25$; ls. ov. lanc., ashy gr. (var. ls. lin.) pl. 6-7 ; st. erect.
 slend., few 38 *E. lugdunensis*.
63. { Fl. large, 6-7 ; sil. $7 \times 2.5-3$; s. rather short ; ped. twice as long as sil.
 (var. thrice as long) ; pet. 3 times longer than sep ; pl. strong, 10-15 ;
 st. many, erect ; ls. large, ov., broad, atten. into long petiole, pale gr.
 or greyish 68 *E. majuscula*.
 Fl. about 5 mm. diam. 64.
64. { Ls. deep gr., bl. with brown at base, ov. (var. sometimes sm. and
 narrow, sometimes broad and larger), frequently toothed ; sil. 6×3 ;
 s.s. ; ped. twice as long as sil. (var. 3 or 4 times as long) ; pl. robust,
 12-15 ; st. erect or asc., many 67 *E. brevifolia* ex p.
 Ls. bright gr., unbl., ent. or with a few sm. teeth ; pl. 6-8. 65.
65. { Ped. as long as sil. ; sil. $5.5-5 \times 2.5$; s.s. ; pl. 6-7 ; st. erect ; ls. obl.
 65 *E. curtipes* ex p.
 Ped. twice as long as sil. ; sil. $4.5-5 \times 2.5$; s.s. (var. style longer) ; pl.
 6-7 ; st. erect, slend., often sol. ; ls. ov. (var. lanc. or lin.-lanc.).
 66 *E. occidentalis* ex p.
66. { Ls. narrow, lanc. or lin.-lanc., loc., 16-24 seeds. 67.
 Ls. broad, obl., loc., 15-40 seeds 75.
67. { Ls. ashy-white ; sil. $5.5-6 \times 2$, atten. at base ; s.s. ; ped. twice as long as
 sil. ; pl. 6-10 ; st. erect, many 52 *E. cinerea*.
 Ls. more or less deep gr. 68.
68. { Ls. gr., somewhat shining ; pet. often roseate ; calyx pale violet or rose ;
 sil. $6-6.5 \times 2$, atten. at base ; s.s. ; ped. twice as long as sil. ; st. erect.
 51 *E. affinis*.
 Ls. not shining 69.
69. { Ls. bl. at base of limb and petiole. 70.
 Ls. not bl. 72.
70. { Ls. deep gr., some teeth very projecting, bl. with brown on petiole
 ending in a lanc. point ; sil. 6×2.5 ; s. rather s. ; ped. twice as
 long as sil. ; pl. 5-10 ; st. slend., erect or asc., sol. or many (var. with
 many spr. st.) 45 *E. dentata*.
 Ls. ent. or slightly toothed. 71.
71. { Ls. lin. or lin.-lanc., quite ent., \pm pubescent, rarely nearly glabrous,
 clear gr. ; sil. 6×2 ; pl. 6-7 ; st. erect, many ... 48 *E. leptophylla*.
 Ls. lanc. with very sm. teeth, generally glabrous, deep gr. ; sil. 5.5×2 ;
 st. erect. 49 *E. sparsipila*.
72. { Sil. 7 mm. long, atten. at base ; s. very s. ; ped. twice as long as sil.
 (var. thrice as long) ; ls. pointed, toothed, bright gr., pubesc. rare,
 or short (var. ls. hispid) ; pl. 8-10 ; st. erect, slend., many
 47 *E. serrata* ex p.
 Sil. not more than 6, rarely reaching 6.5 mm. 73.
73. { Ls. lanc. or obl., pointed, teeth prominent, very hispid with long h.,
 clear gr. (var. dark gr.) ; sil. $5.5-6.5 \times 2$, narrowed at base ; s.s. ; ped.
 twice as long as sil. ; pl. 7-10 ; st. slend., erect or asc., sol. or many.
 46 *E. furcipila*.
 Ls. ent. or obscurely toothed. 74.

74.	{	Ls. obl. or lanc., deep gr., softly ciliate, pointed ; sil. 5.5 × 2 ; s.s. ; ped. twice as long as sil. ; pl. 5-8 ; st. erect 53 <i>E. propinqua</i> .
		Ls. very sm., ellip. or lanc., clear or greyish gr., obt., with soft and dense pubescent calyx, violet or pinkish ; sil. 5.5-6 × 2.2.5 ; s.s. ; ped. twice as long as sil. ; pl. 6-8 ; st. slend., often sol., rarely in tufts. 50 <i>E. vestita</i> .
75.	{	Ls. ov. or ov.-lanc., loc., 15-24 seeds 76.
		Ls. ov., broad, loc., 30-40 seeds (see § 63) 68 <i>E. majuscula</i> ex p.
	 (see § 64) 67 <i>E. brevifolia</i> ex p.
	 (see § 65) { 65 <i>E. curtipes</i> ex p.
		{ 66 <i>E. occidentalis</i> ex p.
76.	{	Sil. 5 mm. long ; fl. very sm., 3 mm. (see § 52) 54 <i>E. brevipla</i> ex p.
		Sil. large, 6.5-8 ; fl. much larger..... 77.
77.	{	Ped. not flexuous ; fl. 4-5 ; sil. 7-8 mm. (see § 29) 44 <i>E. Ozanoni</i> ex p.
		Ped. flexuous 78.
78.	{	Fl. sm., 4 mm. ; sil. 6-5 long (see § 54) 55 <i>E. rigidula</i> ex p.
		Fl. large, 5-6 mm. ; sil. 7-8 long... (see § 30) { 41 <i>E. claviformis</i> ex p.
		{ 42 <i>E. cunelfolia</i> ex p.

PART II.—ORCHIS MACULATA L. AND O. FUCHSII.

ORCHIS MACULATA L.

For some years a wrong conception of this Linnean species has been prevalent in Britain, so that it may be well to draw attention to the original description in the *Species Plantarum*, where Linnaeus clearly and precisely indicates the plant he had in view when he established *Orchis maculata*. In so many cases in that work the species is a composite species, often badly defined, with contradictory synonyms differing from each other and from the descriptive name. In some cases they are practically nomina nuda, whose descriptions can only be ascertained by tracing a synonym to some pre-Linnean source. In this instance, however, while citing the long descriptive name from the *Acta Upsala*, 14, 1740, *Fl. Suecica*, 729 (800, ed. 2), and the synonyms "*O. palmata pratensis maculata* Bauh. Pin. 85 ; *O. palmata montana maculata* Bauh. Pin. 86 & Vaill. Paris t. 31, 9, 10 (these figures of the flower only agree fairly well with the description in the *Sp. Pl.*), *Satyrium basilicum femina* from *Dod. Pemptades*, 240, 1583,* he goes on to describe his *O. maculata* Petala 3 exteriora erecta ; 2 interiora conniventia. Nectarium tubium trifidum planum ; lobis lateralibus majoribus crenatis ;

*This is Lobel's fig. from the *Observationes*, 90, 1576, fig. 4!

intermedo angustissimo, integerrimo." This does not agree with the figure in *English Botany*, t. 632, 1799, but does correspond to the description of *Orchis maculata praecox* described by Webster in his *British Orchids*, the first edition of which was printed in 1886, and the second (now quoted) in 1898. On page 69 the author says, "Tubers palmate, smaller and more deeply divided than in *O. maculata*. Stem 4 to 7 inches in height, with narrow, lanceolate leaves at the base, the upper portion being thickly beset with long, linear bracts. Leaves at the base $2\frac{1}{2}$ inches long by 1 inch broad, stem-clasping and usually spotted. Flower-spike large in proportion to the plant's size, 2 to 3 inches in length, usually dense and conical in shape, and varying in colour from a bright pinky-purple to nearly white. . . Lip wide in proportion to the flower's size, three-parted, the middle lobe small, angular, and hardly an eighth part the size of the lip. . . The following wide differences between this and *O. maculata* may be pointed out. (1) The great difference in size. In a mountain meadow, 700 feet altitude, the average height did not exceed six inches. Elsewhere on the same estate *O. maculata* averages eighteen inches. Transferred to my garden, *praecox* kept the same size. (2) The difference in the time of flowering, *praecox* flowering in April and May, *maculata* in the sheltered parks and woods not generally in flower till July. (3) The difference in soil and situation—*maculata* always lowland, in thin, sheltered woods and copses, or adjoining fields, preferring a cool rich loam. *Praecox* ascends from 500 to 1000 feet, bearing the roughest blasts of bare hillsides, which its dwarf, sturdy habit, closely-set flower spike, short, stiff, acuminate foliage, and strong, wiry stem enable it to do. Damp, boggy meadows amongst *sphagnum*, in company with the butterwort, sundews, and marsh *Pedicularis*, are the favourite abodes; indeed, it is so partial to damp ground that whole patches of it have been destroyed by drainage. (4) Difference in construction. In *maculata* the lower leaf or leaves are always smaller than those further up and rounded at the tips. In *praecox* the reverse is the case. Again, the middle lobe of the lip of *maculata* is longer than the side ones. In *praecox* it is invariably shorter." This article, (which I have abbreviated) under the heading of 'An unnamed British Orchid' (and accompanied by living specimens), was read before the Botanical Society of Edinburgh on June 10, 1886, but as Prof. Dickson considered the plant as a variety of *O. maculata* it is now included as

such, although my own convictions, based on the above description, are certainly strongly in favour of its being regarded as a new and distinct species. The pages of the *Transactions* have been searched in vain for any reference to this paper. In the *Flora of Bournemouth*, 208, 1902, the Rev. E. F. Linton, doubtless unaware of the publication of Mr Webster's *praecox*, since he does not refer to it, describes the same form as *O. ericetorum* as a sub-species or species. Evidently neither Webster nor Linton could have consulted the original description of Linnaeus or they would have seen that their plant and that of the *maculata* of the *Species Plantarum* were practically identical. From time to time, as *praecox* became better understood, English botanists expressed surprise that such a common British plant was not reported from the continent. Had the descriptions in the continental floras been consulted, it could have scarcely escaped attention that the description of *O. maculata* in the majority of them really applied to the Linnean plant, the *ericetorum* of Linton and the *praecox* of Webster. In a few instances the descriptions are either accidentally or intentionally drawn so as to cover both forms, but I have not yet found a description in a modern foreign flora clearly defining the plant which Webster and Linton took to be the type *maculata*. The continental descriptions of *maculata*, as I have said, either definitely or vaguely refer to the Linnean species. For instance, M. Rouy in the *Flore de France*, xiii., 153, 1912, describes it as *maculatus genuinus*, as having "labelle faiblement 3-lobé, le lobe médian plus petit que les latéraux." Cosson & Germain (*Fl. Env. Paris*, 553, 1845) say, "Labelle large, presque plan, à 3 lobes peu profonds, le lobe moyen entier plus petit que les latéraux." This is practically repeated by Lloyd (*Fl. l' Ouest*, p. 301). Grenier & Godron (*Flore de France*, iii., 96) say, "Labelle . . . presque orbiculaire a trois lobes peu profonds, les 2 latéraux larges, crénelés, lobe moyen plus petit entier, aigu ou rondi," and Boreau (*Fl. du Centre*, ii., 646, 1857) gives the same characters. Gaudin (*Flora Helvetica*, v., 444) says, "Trilobum, lobis exterioribus latis, obtusis, crenulatis, medio minori, tegro." The plate t. 933 in *Flora Danica* is a not very characteristic figure of the Linnean plant, the middle lobe being too large and the lateral ones not large enough. Bouvier (*Flore des Alpes*, 641) says, "Labelle à 3 lobes, les 2 latéraux crénelés, plus large que le moyen." Dehangelii (*Fl. d'Italie*, 659, 1882) gives, "Labello trilobo a lobo

medio ovato quasi acuto, i laterali larghi il doppio di esso." Merino (*Fl. Galicia*, iii., 81, 1909) writes, "Mediano menor y por veces diminuto." The excellent *Flore de France* by the Abbé Coste gives the same description, with which his figure agrees. Willkomm & Lange (*Prod. Fl. Hispani*, i., 170) say, "Labelli purpureo-maculati trilobi lobis lateralibus medio multo latioribus crenulatis." Krocker (*Fl. Silesia*, iii., 21, 1814) gives, "Labellum profunde trifidum, planum, lobis latioribus, majoribus, crenatis, intermedio integro." Persoon (*Synopsis*, ii., 505, 1807) also describes the true plant. Reichenbach (*Ic. Fl. Germ. et Helv.*, xiii., t. cccvii., fig. 2) gives also the Linnean plant, but his figures 1 and 3 are not typical. On p. 66 he says, "Lobo medio vulgo minore." Koch (*Syn. Fl. Germ.*, 687, 1837) merely says, "Labello trifido," which covers both forms, and this vagueness is retained in the last edition of the same work by Hallier and Wohlfarth. So much for the continental authorities. Let us glance at its British history. Johnson (*Gerard Herbal*, 220, 1633) gives a figure of *Palma Christa foemina*, which shows the broad labellum of true *maculata*, and this figure, which had been previously printed in Lobel's *Adv.*, t. 157, 1576, and *Icones*, t. 188, 1581, is copied in Parkinson's *Theatrum*, 1357, 1640. Bobart (*Morison Plantarum Historiae Universalis Oxoniensis*, iii., 491, t. 13, f. 6) also figures the true plant. Withering (*Nat. Arr. Brit. Pl.*, 544, 1776) too says "Lateral lobes large and scalloped, the middle one very narrow and entire." The descriptions in the works of Ray, *i.e.*, *Historia*, *Catalogus*, and *Synopsis* are too indefinite, and can only be applied in an aggregate sense. Berkenhout (*Outlines*, ii., 248, 1770) says, "Lateral lobes large, notched, plane." Lightfoot (*Flora Scotica*, 576, 1777) quotes the Linnean description, but also cites Haller's figure, which he says is "bona," while his description is, "three-lobed, the middle one narrower and generally acute or entire." Sibthorp (*Flora Oxon.*, 11, 1794) also cites Haller's figure, which it is true represents the common Oxford plant. The description in Smith's *Flora Britannica* is too vague, but in *English Botany*, t. 632, 1799, the figure of the plant does not agree with the Linnean description, nor indeed with his own, *e.g.*, "Lip three-cleft, flat. The lip is flat, with two large rounded side-lobes and an intermediate sharp small point." A drawing of a flower is given to which this description to some extent applies. Doubtless this figure in the *E. B.* plate was instrumental in giving a wrong idea of the Linnean type. In the

English Flora, iv., 22, 1828, Smith makes *maculata* quite an aggregate species, since he quotes the Linnean name and the figures from Vaillant which Linnaeus had correctly cited as representing his plant and Lobel's *Icones*, 188, 1581, as well as the same plate reproduced in Johnston's *Gerard*, but he also quotes Haller's *Hist.*, t. 32, f. 1, and Vaillant's *Paris*, 152, t. 30, which are practically the same as the beautiful figure t. 112 of "*O. maculata*" in Hooker's *Flora Londinensis*, all of which are the plant to be alluded to hereafter. On the plate in *Fl. Lond.* there is a single flower of true *maculata*, while Hooker's description covers both, *i.e.*, "Labellum large, varying remarkably in figure, sometimes roundish, crenate, bluntly three-lobed (fig. 3); generally obovate three-lobed, the lateral lobes the broadest, entire or emarginate, the intermediate one the longest." The second edition of Withering by Dr Stokes (*Nat. Arr.*, ii., 976, 1787), gives *O. maculata* in an aggregate sense, since he quotes Bellan (*Fl. Cantab.*) whose description, "Labellum latum, medio tegmini simplici acute minore," probably refers to the true plant, while Woodward's description, which he also cites, suggests the other. More recently S. F. Gray (*Nat. Arr. Br. Pl.*, ii., 202, 1828) and Lindley (*Synopsis*, 260, 1829) vaguely describe *maculata*, and Hooker (*Flora Scotica*, 251, 1821) curiously gives a description which is probably taken from the plate in his *Flora Londinensis* rather than from a Scottish specimen, where the true *maculata* is the commoner species. In the *British Flora*, 368, 1842, the same author includes both plants in his description, which runs, "Lip plane three-lobed, sometimes obscurely so, . . . its generally deeply lobed lip having the central lobe the longest." In the edition of 1855 of the same work Arnott, on p. 434, repeats this, and with the critical acumen one expects from him when describing British plants, adds the illuminating suggestion that *maculata* is not distinct from *latifolia*, as *latifolia* also including *incarnata*! Babington's (*Manual*, 310, 1847) description suggests *O. Fuchsii*. Leighton (*Fl. Salop*, 428, 1841) is indefinite. Bromfield's (*Fl. Vectensis*, 477, 1856) is an aggregate species. Sir Joseph Hooker (*Student's Flora*, 353, 1870) describes "The lip as broad as long, margins recurved, middle lobe narrower and about as long as lateral, which are toothed." Syme (*Eng. Bot.*, ix., 101) has a description covering both plants. The figure is reproduced from the *E. B.* plate, 632; the solitary flower on it suggests true *maculata*.

The point then arises as to what is the second plant and what is its name. In the preceding remarks stress has been laid upon the lip characters ; but the plant of our basic soils in England has other well marked features. It is typically a taller and stronger plant, with broader and stiffer, strongly spotted leaves ; with flowers which look smaller than those of true *maculata*, since they are narrower and not so flat, and the labellum is cut into three nearly equal divisions, usually with the middle one as large and much longer than the lateral ones. Normally it is lilac coloured, with well defined dark purple markings ; the spike is long, dense, and cylindrical. It grows on stiff soils in woods and wood margins, in basic marshlands, and on chalk downs where there are impervious layers of chalk, and in such situations is subject to a small range of variation, except as to the flowers assuming a paler or darker tint, but if there is much humus overlying the basic soils, a widening of the lip and the more unequal size of the lobes will show themselves ; indeed, I have seen an almost unbroken change of form between it and true *maculata* when a peaty field adjoins a basic woodland. Whether these intermediates are hybrids between two distinct super-species or whether the variations are due to soil condition has yet to be ascertained. To prove it seed of true *maculata* ought to be sown on basic clay—it takes seven years from the germination of the seed to the flowering stage—and also seed of the other should be sown on peaty soil. The earliest name suggesting our basic plant which I have been able to find is *O. maculata*, var. *trilobata*, which is given (teste Rouy) in the first edition of Brébisson's *Flore de la Normandie* of 1837 ; in the edit. 4, p. 310, it is described as “épi grêle, fleurs petites, labelle à trois lobes profonds presque égaux.” This does not very happily describe our plant, since the spike is not slender, nor are the flowers small, and while the divisions of the lip are subequal, the centre one is the longer. Rouy (*l.c.*) makes *trilobata* synonymous with the var. *Meyeri* Reichenbach (*Icones* xvii., 67, 1851), described as “gracilis laxa elongata, foliis spica elongata, parviflora, labello profunde trilobo, lobo medio producto, calcare angusto,” a name which is taken up in a subordinate sense under *O. maculata* by Ascherson and Graebner (*Fl. Mittel-Europ.*, iii., 746). Here also the description is not correct for our British plant, which is not slender, nor lax, nor has it a slender spur. In what grade shall this plant of ours be put ? The standard of Bentham would give it varietal rank ; that of Syme would place it as a sub-species ; while, comparing it with

Rubi, *Hieracia*, *Fumaria* as recently defined, there need be no hesitation in claiming for it full specific rank. Since the varietal descriptions given by Brébisson and Reichenbach, even as elaborated in the works of Rouy and Ascherson and Graebner do not accurately define this plant, I would suggest for it the name *Orchis Fuchsii*. A fairly good representation of it is given in *De Historia Stirpium*, by Leonard Fuchs, 703, 1542, labelled *Satyrium Basilicum foemina*. Kreutz blum Weible. This was given in a reduced form in the smaller edition of *L'Hist. des Plantes*, 1550, printed in Paris, where the plate is marked (p. 486) *Satyrium Royale femelle*. One of the flowers on the spike shows the subequal divisions with the long middle lobe which is characteristic of the plant. There is also a figure of it in Lobel's *Adversaria*, p. 91, fig. i., of 1576, and in his *Icones*, t. 189, 1581, as *Serapius candido flore montana maculata foliis*, which is reproduced in Gerard's *Herbal* of 1597 as *Serapius candido flore*; in Johnson's *Gerard*, p. 222, f. 1, 1633 (he says it is a kind of *Palma Christi*); and also in Parkinson's *Theatrum*, 1360, f. 4, 1640, as *Orchis palmata montana maculata candido flore*. Parkinson also recognises its relationship to his *Orchis palmata foemina*, but the figures of the flowers represent the two species: doubtless the colour was considered by him to be the strong distinguishing feature. There is also an excellent figure in Haller's *Historia*, vol. ii., p. 141, t. 32, f. 1, 1768, and he says, contrasting it with *latifolia*, that the *spica* is more triangular (as it is in the young state), that its flowers are "pallidior, dilute violaceus. . . Labellum profundius trifidum." Sibthorp (*Fl. Oxon.*, 11, 1794) and Smith (*Eng. Fl.*, iv., 22, 1828) cite this plate for their *maculata*, and it is the common Oxfordshire plant. There is another excellent plate labelled *O. maculata* in Reichenbach's *Icones Criticae*, vi., t. 566, 1825. In addition to the foregoing may be quoted Smith *E. B.*, t. 632, 1799, and Hooker *Fl. Lond.*, t. 112, in each case excluding the single figure of the flower, and Müller *Orchid.-Arten*, n. 9, 1904, as *O. maculata* Huds.

ORCHIS FUCHSII MIHL.

Description: Tubers palmately cleft, somewhat flattened. Stem solid, 6-24 inches. Lower leaves oval or oblong, usually strongly marked with purplish-black, keeled, but the sides of the leaves recurved from the mid-rib,—that is, the general outline of a transverse section is more or less flattened (in *maculata* the leaves are strongly

keeled and the leaf is narrower). Bracts three-nerved, shorter or sometimes slightly longer than the flowers, usually green. Petals acute or subobtuse, pale lilac, white or purplish-lilac, with darker purple ribs. Labellum deeply three lobed, the lobes subequal, the centre longer and somewhat larger than the lateral, entire. The lateral ones have their outer margin straight or only slightly curved or rounded, slightly crenate or entire. The lip is variously marked with dark purple—obscurely, or in strong clear lines or spots, or hieroglyphically. Spur stouter, enlarged upwards, conico-cylindric. Spike usually dense-flowered cylindric, more rarely sub-pyramidal. Flowers June—Aug. From Kent to Cornwall northwards to Caithness, and in Ireland from Cork to Antrim. Commoner in the Midlands and in the Eastern counties.—*Caulis* solidus, in altitudinem 15—60 centimetrorum crescit. *Folia inferiora* ovata, oblongo-ovata vel oblonga, subobtusa vel ad apicem plus magisve coarctata; plus magisve plana, carinata. *Folia superiora* lanceae modo acuta, maculis atropurpureis insignita. *Bracteae* plerumque breviores sunt quam flores, aliquando aequa longitudine vel etiam longiores, plerumque virides. *Petala superiora* connivent; labrum tribus lobis altius indentatum, quae lobae ut subaequales sunt, ita media longior et aliquanto major quam laterales, et omnes integrae. *Labellum* maculis atro-purpureis interstinctum. *Calcar* firmius formam et coni et cylindri habet, a parte superiori grandescens. *Spica* plerumque densis floribus, cylindri saepius, pyramidis rarius formam refert. *Floret* mensibus Jun.—Aug.

ORCHIS FUCHSII × MACULATA. This presumed hybrid exists under two conditions—first, that in which the plant has the strong erect tall stem, broadish leaves, and the general habit of *Fuchsii*, but the flower appears to be much larger from the lip being flat, and with the two lateral lobes large, rounded and often crenate. This occurs on basic soils where there is damp humus. The other plant is *maculata* × *Fuchsii*, which has the weaker habit, the more curved stem, and the more deeply, strongly keeled, and narrower leaves of *maculata*, but with the flowers less conspicuous, owing to the lateral lobes being narrow, while the centre one is as large or larger, and distinctly longer than the lateral.

ORCHIS FUCHSII × PRAETERMISSA. A very tall and handsome plant with a long head of dark, rich crimson purple flowers, often with long bracts; hollow stem; leaves strongly marked with dark purple rings or spots. Sometimes the leaves are unspotted, the outline of the

flowers nearer *praetermissa*, but less darkly coloured, and with the more conspicuous markings of *Fuchsii*, with which it grew. Burgh Fen, Norfolk; Whitewater, Northants.; Cothill, Berks.

ORCHIS FUCHSII × LATIFOLIA. Plants stout erect, spikes large, cylindric, strongly bracteate, flowers large, with prominent lateral lobes to labellum, but in some cases with the middle lobe longer than the lateral, pale purple, with darker markings.

ORCHIS FUCHSII × INCARNATA. With both parents near Winchester. P. M. Hall and R. B. Ullman, see *Report* 338, 1913, as *incarnata* × *maculata*, and *Report Winch. Coll. Nat. Hist. Soc.* 1912-13.

ORCHIS FUCHSII × HABENARIA VIRIDIS, comb. nov. With both parents, Winchester Downs, as *O. maculata* × *Habenaria viridis*, see *Report* 342, 1913. This may be a ternary hybrid of which the original cross was *O. Fuchsii* × *incarnata* crossed with *H. viridis*.

ORCHIS MACULATA L. Sp. Pl., 1753. *O. maculata praecoec* Webster Brit. Orch. 54, 1886. *O. ericetorum* Linton Fl. Bournemouth, 208, 1902, as sub-species. Plant rather slender, stem often curved and frequently purplish above, leaves narrower and relatively longer than in *Fuchsii*, strongly keeled and folded, rarely flattened, usually acute, rarely rounded at apex; spike 1-2 inches, usually broadly pyramidal, lengthening in the fruiting stage; bracts usually shorter than the flowers, often purplish; flowers conspicuous, broad, pale, or of different shades of lilac-purple, the markings fainter than in *Fuchsii*, and the margins less distinct, often crenulate. The lateral lobes of the labellum large, rounded, flat, much larger than the median one which is sometimes quite small and rarely as long or longer than the side ones. Spur slender, not enlarged upwards. Flowers April, July, commonly in May.

Habitat: heathery moorlands, heathy ground, peat bogs, and in damp places on silicious soils, locally abundant and ascending to 3000 feet. From Cornwall northwards to the Shetlands and in Ireland. Absent from large areas on the basic soils of the Midlands and Eastern counties.

ORCHIS MACULATA × PRAETERMISSA = O. HALLII. Lip broad, trilobed with hieroglyphic markings, purplish-lilac, more strongly bracteate, and the plant more erect and stiff; spike oblong.

ORCHIS MACULATA L. (sens. strict.) × LATIFOLIA. Spike oblong, thick, with large but not very long bracts; lip broad, trilobed, lateral

lobes large purple, strongly marked with dark purple lines and spots. Stem somewhat flexuous, strong. Leaves broad, flat, faintly spotted. Sligachan, Skye. To this I also put the Rev. E. S. Marshall's gathering [Ref. No. 3540] from Stogamber, S. Somerset, which is nearer *O. maculata*. Others still nearer *maculata* from Hampshire, coll. R. B. ULLMAN and P. M. HALL. See *Report* 338, 1913, as *latifolia* × *maculata*, var. *ericetorum*.

ORCHIS OKELLYI Druce. *Orchis maculata* L., var. *Okellyi* Druce in *Irish Naturalist* 211, 1909. A third member of the *maculata* group is a plant I found locally on the limestone hills of Co. Clare, and by the Rev. E. S. Marshall on the interesting limestone area of Inchnadamp, in Sutherland. My attention was first called to it by P. O'Kelly when I was in Ballyvaghan, in Co. Clare. There it was locally common, ascending to over 1000 feet. Mr O'Kelly had known it for many years and found it remained constant when removed to a different soil, and from its unspotted leaves had called it *immaculata*, but had not described it. The Rev. E. S. Marshall independently found it locally at Inchnadamp [Ref. No. 3240], and Dr Shoolbred at Kylesku, in W. Sutherland, in 1908. Since then I have found it at Toome Bridge, Antrim, and between Omagh and Newton-Stewart, Tyrone.

The plant is from 9-14 inches high; stem erect, or slightly curved, slender but stiff; leaves unspotted, oval lanceolate, flat, slightly keeled, the upper gradually diminishing in size and becoming very narrow and elongated; flowers in a dense oblong-cylindric, blunt, not tapering, spike of pure white flowers, smaller than in *Fuchsii* or *maculata*. The three segments of the labellum narrow oblong, sub-acute, the middle segment longer and as broad as the lateral. Flowers in July. Rarely the flowers have a dot or two of colour near the base of the labellum. The plant is nearer to *Fuchsii* than to *maculata*, and it comes nearer than *O. Fuchsii* to Brébisson's description of his *trilobata* which he records from the calcareous district of Caen. Perhaps in these three plants we have soil-species—(1) *O. maculata*, almost restricted to the acid, silicious areas; (2) *O. Fuchsii*, especially represented on the basic clays and impervious beds of chalk; (3) *O. Okellyi*, a plant strongly calcipete, and restricted to well-drained soils. Whether the intermediate forms which occur are the result of hybridisation as treated here, or are merely variations await, as has been said, scientific experimental culture.

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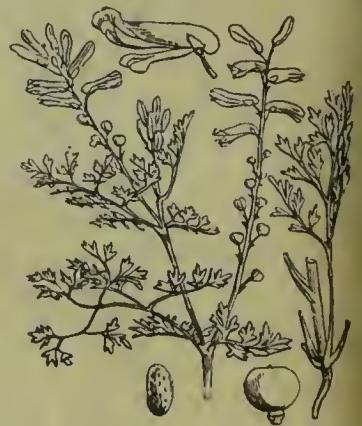
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In view of the dangers which at present seriously threaten our indigenous fauna and flora with extinction, the above Society has been formed with the following objects:—

- I. To collect and collate information as to areas of land in the United Kingdom, which retain their primitive conditions and contain rare and local species liable to extinction owing to building, drainage and disafforestation, or in consequence of the cupidity of collectors.
All such information to be treated as strictly confidential.
- II. To prepare a scheme showing the areas which in the opinion of the Society should be acquired as Nature Reserves.
- III. To acquire such areas and, if desirable, to hand them over to the National Trust under such conditions as may be necessary.
- IV. To preserve for posterity as a national possession some part at least of our native land, its fauna, flora, and geological features.
- V. To encourage the love of Nature and to educate public opinion to a better knowledge of the value of Nature Study.

These objects are to be attained by means of the Press, by personal efforts, and by correspondence with local Societies and individuals.

The Society exacts no subscription from its members, who are elected by invitation of the Executive Committee. All interested in the objects here outlined are invited to communicate with the Secretaries at the address given below, and those who are anxious to forward the aims of the Society can do so, not only by supplying the Executive Committee with information, but also (when asked to do so) by rendering financial assistance, however slight, for the purchase of any desired area, and by inducing their friends to do likewise. It may be pointed out that in the past the National Trust has been greatly assisted by such voluntary contributions.

Communications should be addressed to "The Secretary, SOCIETY FOR THE PROMOTION OF NATURE RESERVES, Natural History Museum, Cromwell Road, London, S. W."

THE BOTANICAL SOCIETY
AND EXCHANGE CLUB
OF THE BRITISH ISLES.

(VOL. IV. PART II).

REPORT FOR 1914

OF THE

BOTANICAL EXCHANGE CLUB

(Conveniently Abbreviated for Citation REP B.E.C.)

BY THE

EDITOR AND DISTRIBUTOR,

R. H. CORSTORPHINE, B.Sc.

The Subscription, 7s 6d per annum, and Non-Contributing Members' Subscription of 5s per annum, become due on January 1, 1916, and should be sent to

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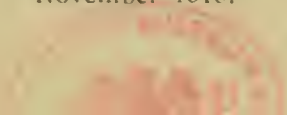
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Parcels for 1915 should be sent post paid, on or before 10th December 1915, to A. R. HORWOOD, Esq., MUNICIPAL MUSEUM, LEICESTER.

The Distributors and Editors for 1916 will be W. H. PEARSALL, Esq., and D. LUMB, Esq., DALTON IN FURNESS.

PRINTED BY T. BUNCLE & Co., ARBROATH.

November 1915.



22 NOV. 1915

REPORT OF THE DISTRIBUTOR FOR 1914.

THE total number of plants sent in for distribution shows a reduction on the two previous years. This, however, is readily accounted for by the abnormal condition of the country—many of our members having had to devote themselves to more imperative work. The number of plants sent in was 6537, contributed by thirty-four members.

The specimens were on the whole well prepared and the rules of the Club fairly well adhered to. The critical genera were all well represented, the most noticeable increase being in the genus *Erophila*. With regard to *Fumaria*, Mr Pugsley remarks "The plants were well dried, and the naming a great improvement on what obtained a few years ago." There were also a large number of good specimens of our less critical plants, which would doubtless be much valued by the newer members. Our largest contributor was Mr Robinson, whose specimens showed much care in preparation. Mr Pearsall's excellent specimens of *Hydrilla* were much appreciated.

The Rules of the Club have been reprinted, and I should like to direct the attention of the members to the remarks on the labelling of the specimens. At present the distributor receives with each packet of plants the requisite number of labels, but only *one* copy of the additional particulars and remarks of the collector regarding the plant. These remarks are generally printed in the *Report*. They are not, however, available until too late for the use of the experts who criticise the plant. This is obviously a great disadvantage, as the critic in his examination of the plant does not have before him facts as to abnormal conditions of growth or other details which might considerably influence his opinion, nor, when he is unaware of them, can he elucidate the sender's difficulties or answer his questions. Therefore, it is very necessary for those contributors who have any remarks of import to make upon their plants to send a copy of these with each label, or at least to send a sufficient number of copies to supply the critics.

The Club is greatly indebted to the following botanists for critical notes on the specimens:—Mr E. G. Baker, Mr W. Barclay, Dr Crabbie, Mrs Gregory, Mr J. Groves, Mr W. P. Hiern, Rev. E. F. Jinton, Dr C. E. Moss, Mr H. W. Pugsley, Rev. W. Moyle Rogers, Mr F. W. Stansfield, Dr Thellung, and Members of the Club whose names will be seen in the body of the *Report*.

R. H. CORSTORPHINE,

Editor of Report and Distributor for 1914.

HILLSIDE HOUSE,

ARBROATH, Nov. 1, 1915.

LIST OF PARCELS RECEIVED.

	No. of Specimens.
Adamson, R. S., <i>B.A.</i>	22
Bailey, Charles, <i>M.Sc.</i> , <i>F.L.S.</i>	20
Barelay, W.,	34
Barton, W. C., <i>M.A.</i>	279
Bickham, S. H., <i>F.L.S.</i> , <i>J.P.</i>	98
Britton, C. E.,	126
Brown, G. C.,	425
Chester, G.,	116
Comber, John, <i>J.P.</i>	229
Corstorphine, Mr and Mrs R. H.,	292
Cryer, John,	378
Cumming, L., <i>M.A.</i>	132
Druce, G. Claridge, <i>M.A.</i> , <i>J.P.</i>	694
Groves, J., <i>F.L.S.</i>	56
Hayward, Miss Ida M., <i>F.L.S.</i>	41
Horwood, A. R.,	10
Jackson, A. Bruce,	44
Johnston, Henry Halcro, Col.	188
Little, J. E., <i>M.A.</i>	439
Lumb, D.,	425
Marshall, Rev. E. S., <i>M.A.</i> , <i>F.L.S.</i>	190
Pearsall, W. H.,	112
Riddelsdell, Rev. H. J., <i>M.A.</i>	219
Rilstone, F.,	42
Robinson, F.,	755
Salmon, C. E., <i>F.L.S.</i>	53
Travis, W. G.,	81
Vigurs, C. C., <i>M.D.</i>	308
Waddell, Rev. C. H.,	37
Waterfall, Charles, <i>F.L.S.</i>	310
Webster, Alfred,	37
Wheldon, J. A., <i>F.L.S.</i>	72
White, J. W., <i>F.L.S.</i>	238
Wilson, A., <i>F.L.S.</i> , <i>F.R.Met.S.</i>	35
Total,	6537

Thalictrum minus L., var. *montanum*. Dry bank, sandy soil, Tottington, v.-c. 28, July 23, 1914.—F. ROBINSON. "So I should name it."—E. S. MARSHALL.

Thalictrum majus Crantz. East Kennack Valley, June 19, 1914, and near Penhale, June 18 and August 12, 1914, both in the Lizard peninsula. There can be no doubt, I think, that this plant is native in the Lizard district, though it seems strange that it should be there. I think the plant is correctly named, though, as far as I know, it has never been determined by any competent authority. Is *T. majus* Crantz, of the *Lond. Cat.*, ed. x., and Druce's *List* = *T. majus* Sm. of *Bab. Man.*, ed. ix., and = *T. majus* Jacq. mentioned by Mr Salmon in last year's *Report*? The Penhale locality is a new one. Some of the plants in both places were more than four feet high. I am much indebted to Mr E. Thurston, C.L.E., for this and other Lizard plants. (Coll. E. THURSTON; comm. C. C. VIGURS. "I prefer to call this *T. collinum* Wallr."—E. F. LINTON. "I have seen a similar plant on the rocky coast near Mullion. Not *T. majus*. I should refer it to *T. montanum* Wallr."—E. S. MARSHALL. "Not a *majus* form, I should say. Is it not *dunense*?"—C. E. SALMON.

Thalictrum alpinum L. In abundance on what is termed the "Sugar-Loaf Limestone," Cronkley Fell, Teesdale, v.-c. 65, June 9, 1914. Altitude 2000 ft.—J. CRYER.

Myosurus minimus L. Arable land near Madresfield, Great Malvern, v.-c. 37, May 7, 1914.—Coll. R. F. TOWNDROW; comm. C. WATERFALL.

Ranunculus bulbosus L. Golf Links, Askam, v.-c. 69b, June 15, 1914. I think that this could not be anything but spontaneous. I thought the plant had "flowered itself to death," but it has recovered.—D. LUMB. "This seems to be the "*Ranunculus dulcis multiplex*, Double wilde Crow-foot" figured in Johnson's *Gerard*, 957 (1633), where one reads that it "hath of late beene brought out of Lancashire into our London gardens, by a curious gentleman in the searching forth of simples, Mr Thomas Hesketh, who found it growing wilde in the towne fields of a smal village called Hesketh, not farre from Latham in Lancashire."—C. E. SALMON. "A form with double flowers; new to me."—E. S. MARSHALL. "Good examples of the *flore pleno*' form."—G. C. DRUCE.

Ranunculus Flammula L., f. *minima* Ar. Benn. Slacks in sandhills, Freshfield, v.-c. 59, July 5, 1914.—W. G. TRAVIS. "I have such the same thing from Holburn Head, Caithness. Only a *state* due to local conditions."—E. S. MARSHALL. "*R. Flammula* L."—G. C. DRUCE.

Ranunculus sardons Crantz. Wyke, Weymouth, v.-c. 9, July 14, 1914. Frequent round Weymouth, I believe; but this is a "new locality" for the species. The flowers are much smaller than those of *R. repens* L., but of just about the same bright polished yellow. At the Lizard, the flowers I gathered there were of a lighter lemon-yellow.—H. J. RIDDELSDELL.

Ranunculus parviflorus L. Hedge bank, Upper Chase Road, Malvern, v.-c. 37, May 7, 1914.—C. WATERFALL. "Yes, a very hairy form."—G. C. DRUCE.

Ranunculus—? [Ref. No. 2791.] Near Cowbit, Lincolnshire, July 1912.—G. C. DRUCE. "*R. Bandotii*."—J. GROVES. "Cf. *confusus*."—W. P. HIERN.

Ranunculus heterophyllus Weber. Pool on roadside between Great Malvern and Madresfield, v.-c. 37, May 2, 1914.—C. WATERFALL. "Yes. Carpels practically glabrous."—J. GROVES. "Is *triphyllus*."—W. P. HIERN.

Ranunculus heterophyllus Bab. [Ref. No. 41.] Stagnant water, Watton, v.-c. 28, May 14, 1914.—F. ROBINSON. "*R. heterophyllus* Weber. Carpels with numerous strong bristles."—J. GROVES. "Is *radians*."—W. P. HIERN.

Ranunculus heterophyllus Weber, var. *triphyllus* Wallr. Portbury marshes, N. Somerset, May 29, 1914.—J. W. WHITE. "Is *radians*."—W. P. HIERN. "*R. heterophyllus*. The carpels are bristly, whereas those of *R. triphyllus* Wallr. are described as 'glaberrimis nitidis.'"—J. GROVES.

Ranunculus heterophyllus Weber, var. *submersus* Hiern. Marsh ditch, Portbury, N. Somerset, June 3, 1902.—J. W. WHITE. "Is *trichophyllus*."—W. P. HIERN. "I am doubtful about this. It has more rigid leaves than is usual in *R. heterophyllus submersus*. The entirely undeveloped heads of carpels suggest hybridity. I do not think we can properly cite Hiern as the authority for var. *submersus* of *R. heterophyllus*, as in his paper on the group he treated the whole genus *Batrachium* as one species. Moreover, his form No. 30 *submersus* was not ranged under the head of *R. heterophyllus*."—J. GROVES.

Ranunculus peltatus Schrank, var. *truncatus* (Hiern). Birkdault, v.-c. 69b, June 13, 1914. This grows in the same ditch as the form distributed last year [Ref. No. 380], and seems intermediate between it and var. *truncatus*.—W. H. PEARSALL. "*R. truncatus*."—W. P. HIERN. "Yes, I suppose this curious plant must be so labelled, but I have never seen *truncatus* with similar leaves."—J. GROVES.

Ranunculus pseudo-fluitans Bab. In the River Ribble, near Preston, South and West Lancashire, v.-c. 59 and 60, July 1914. This is probably the plant recorded from about ten miles higher up the river in the *Flora of Stonyhurst* as *R. fluitans* Lam., "not flowering" (see *Flora of West Lancashire*, p. 129). During this last dry summer flowers were freely produced near Preston, the river being exceptionally low.—A. WILSON. "My specimen is too meagre for determination; fruit and floating leaves absent, and only one flower."—E. S. MARSHALL. "From this specimen, I should have thought a form of *R. fluitans*, but I should like to see more of it."—J. GROVES. "Cf. *R. Bachii*."—W. P. HIERN. "This appears to be identical with the Batrachian *Ranunculus* sent to the Club in 1904 by the same collector from the River Wharfe, W. Yorks, under the name of *R. pseudo-fluitans* Hiern. The latter plant was considered by Messrs Groves to be a small river form of the *peltatus* group. Examples of both gatherings agree with descriptions of *R. pseudo-fluitans* except in the characters of robustness and the average length of the peduncles, and both curiously agree in the fact of being completely sterile! If this latter characteristic is not unusual, it would probably be as well to publish a description of this form as a new species."—C. E. BRITTON.

Ranunculus Baudotii Godr.? Braekish ditch inside sea wall between Sidlesham and Pagham, W. Sussex, v.-c. 13, June 15, 1914.—J. E. LITTLE. "*R. Baudotii*."—C. E. BRITTON, J. GROVES, and W. P. HIERN.

Ranunculus Baudotii Godr. Roose, v.-c. 69b, May 22, 1914. Very plentiful in braekish water near the coast.—W. H. PEARSALL. "A small form of this, I think."—E. S. MARSHALL. "Yes."—J. GROVES. "Cf. *confusus*."—W. P. HIERN.

Aquilegia vulgaris L. Marsh, Carbrooke Fen, v.-c. 28, May 19, 1914.—F. ROBINSON.

Papaver hybridum L. Near High Down, Hitchin, Herts, v.-c. 20, August 1, 1914.—J. E. LITTLE.

Corydalis lutea DC. Newquay, Cardiganshire, May 1914.—J. W. WHITE.

Corydalis claviculata DC. Clophill, Beds, v.-c., 30, April 25, 1914. Not recorded by Abbot (*Flora Bedfordshire*, 1798).—J. E. LITTLE. "Small specimens. It is a plant very responsive to conditions of shade or exposure. The var. *minor* R. & F. *Flore de France*, 188, from schistose soil, is only 4 to 12 cm. high. I have seen such in recently burnt commons. I found it at Woburn in 1874."—G. C. DRUCE.

Fumaria paradoxa Pugsley. Orig. near Reigate Hill, Surrey, 1912, Hort. Reigate, 1914. It is difficult to imagine a more beautiful Fumitory, when in a fresh state, than the one now distributed. It is a mystery how the plant reached the cultivated ground near the farm on Reigate Hill where I gathered it on June 16, 1912. Not far away were *Thlaspi arvense*, *Lolium temulentum*, and two or three plants of *Hyoscyamus*. Could the *Fumaria* have been accidentally introduced with potatoes from Cornwall?—C. E. SALMON. "Yes; I have rarely seen cultivated specimens of *Fumaria* so satisfactory as this."—H. W. PUGSLEY.

Fumaria capreolata L., var. *Babingtonii* Pugsley. Blackhead, Co. Clare, June 1909.—G. C. DRUCE. "Showing no fruit, but no doubt correctly named."—H. W. PUGSLEY.

Fumaria Borœi Jord. [Ref. No. 1168.] Chobham, Surrey. May 31, 1914.—C. E. BRITTON. "Yes; under type, I believe."—E. S. MARSHALL. "Correct; near Jordan's type, but with rather small flowers and fruits. This is a rare plant in Surrey."—H. W. PUGSLEY.

Fumaria —? Odiham, Hampshire, July 1903. (See *Report* 1903, p. 9.)—Coll. C. E. PALMER; comm. G. C. DRUCE.

Fumaria Bastardi Bor. (*F. confusa* Jord.). Arable land near Llangollen, Denbigh, v.-c. 50, September 20, 1914.—C. WATERFALL. "Yes. The sheet sent is var. *hibernica* Pugsley. Easily distinguishable by its dark-tipped upper petal."—H. W. PUGSLEY.

Fumaria officinalis L., var. ? This appeared in great abundance in a ploughed field at Charlestown, Baildon, v.-c. 64, June 1, 1914.—J. CRYER. "A narrow-leaved form; but I do not see the varietal character."—E. S. MARSHALL. "The sheet sent is a floriferous, early flowering form of *F. officinalis* L., var. *Wirtgeni* Haussk., but some of the fruits enclosed in the envelope are different from the majority, and appear to have come from a plant of *F. officinalis* type."—H. W. PUGSLEY.

Barbarea verna Ascher. Garden weed, Colchester, v.-c. 19, May 23, 1914.—G. C. BROWN. "Rightly named."—C. E. SALMON. "Yes; very characteristic."—A. B. JACKSON.

Barbarea verna Ascher. Railway, Askam, v.-c. 69b, July 5, 1914. Woods gives as a character of this plant "auricles ciliate." Is any member able to say whether this is constant and diagnostic? There were what seemed to me two plants growing together, and I feel certain that I have failed to separate them; in all probability I have paid too much attention to "ciliate auricles."—D. LUMB. "No; this

I should call *B. intermedia* Bor."—C. E. SALMON. "Looks right."—E. S. MARSHALL.

Barbarea vulgaris Bor. Railway, Askham, v.-c. 69b, July 5, 1914. I have named this with some doubt. All these plants may possibly belong to the other set.—D. LUMB. "*B. intermedia* Bor., I think, but specimens badly dried."—A. B. JACKSON. "Is *B. intermedia* Bor."—A. THELLUNG.

Barbarea vulgaris R. Br., var. *campestris* Fr. Nov. Fl. Suec., p. 205, 1828. Stiff clay soil on railway embankment between Alperton and Sudbury, Middlesex, May 22, 1914. This, the commonest variety of *B. vulgaris* in Britain, is distinguished by its slightly spreading or secund pods, but it passes gradually into the var. *arcuata* Fr. (pods renate) on the one hand, and into var. *sylvestris* (pods adpressed) on the other.—A. B. JACKSON.

Arabis hirsuta Scop., var. Symond's Yat, W. Glos, May 28, 1913. Of course only a slight variety, with the pods somewhat spreading. As a rule, the species has closely adpressed pods, even in shady woods; the variety is not due, as it seems, to the presence of shade. There is a parallel variety in *Barbarea vulgaris*. The form occurs also on the Great Doward, v.-c. 36. The sparseness of the hairs is probably due to the less exposed conditions.—H. J. RIDDELSDELL. "I collected this (same place and date) and thought it untypical. No special name suggested so far."—E. S. MARSHALL. "This seems nearest to var. *raciloscens* (Jord.) R. & F. Fl. Fr. i., 216. Plante assez élevée (3—5 cm.) mais à tiges grêles flexueuses; feuilles d'un vert clair, les caulinaires tronquées ou légèrement subcordées, lancéolées ou oblongues-uncéolées, acutiuscules, nombreuses, à 4 dents souvent saillantes; siliques (25—35 mm.) étroitement linéaires, disposées en grappe allongée, lâche. I have the same form from Wells, Somerset; Culford, Suffolk."—G. C. DRUCE.

Arabis scabra All. Clifton, W. Glos., v.-c. 34, April 27, 1914.—W. C. BARTON.

Arabis alpina L. North side of the Cuchullins, Skye, June 1910.—G. C. DRUCE and T. H. LEACH. This was from a different locality on the Cuchullins to that which was discovered by Mr H. Hart in 1887, and is, I believe, the second time it has been gathered in the British Isles. Mr Hart's specimens, gathered on his wedding tour in the first week in July, are in fruit; ours gathered in June are in good flower. The plant is very local and requires climbing to reach (700—2800 ft. alt.), growing on damp rock ledges. Mr A. H. Evans and Mr T. H. Leach (my godson) were with me, and the latter was the first to spot the prize, for we were systematically working the

corrie in sections. We did not see it on Scur Alister, where it is believed Mr Hart originally found it.—G. C. DRUCE.

Arabis petraea Lam., var. *hispida* DC. Ben Hope, W. Sutherland, July 1907. This hispid variety of *A. petraea* from Ben Hope differs from the plant of the Cairngorms and Snowdon in having much larger flowers, in this point resembling my var. *grandifolia* from Ben Laoigh; in fact, a few plants referable to that variety were found there. Mr Arthur Bennett referred my *grandifolia* to *A. petraea*, var. *ambigua* Fries Mantissa iii., 77; the vague definition "elatior, foliis radicalibus lyrato-sinuatis caulinis subdentatis radice tenuiori" does not give the essential characters of the Ben Laoigh plant I designated var. *grandifolia*, which must stand for the Ben Laoigh plant. The var. *ambigua* Fries, *A. ambigua* DC. *Syst. i.*, 231, is chiefly Siberian and Unalaskan and is not a perennial, and he makes no mention of size of leaves or flowers.—G. C. DRUCE.

Arabis glabra Bernh. (*perfoliata* Lam.). Dry heath amongst gorse, Barnham Common, v.-c. 28, August 22, 1914.—F. ROBINSON.

Cardamine impatiens L. Seedlings. Occurs as a weed on several gardens in an allotment near Kettering, v.-c. 32, Jan. 17, 1914.—G. CHESTER.

Erophila. [Ref. No. 2041]. Fairford, Glos., April 1904. This is a not uncommon plant of our oolitic areas in Oxfordshire and Gloucestershire, and is, I think, *E. Ozanoni* Jord. *Diagn.* 231, et *Icones*, t. 5, n. 17.—G. C. DRUCE. "Some specimens rather closely approach *E. praecox* DC."—E. S. MARSHALL.

Erophila——? [Ref. No. 50]. Edge of salt marsh near Montrose, v.-c. 90, May 16, 1914.—R. and M. CORSTORPHINE. "This is a form of *E. majuscula* Jord., and apparently is the *Draba majuscula* R. & F., var. *occidentalis* R. & F. = *E. occidentalis* Jord."—C. E. BRITTON. "Depauperate *E. stenocarpa* I strongly suspect."—E. S. MARSHALL.

Erophila——? [Ref. No. 56]. Roadside near Restennet, v.-c. 90, May 2, 1914.—R. & M. CORSTORPHINE. "I think there are two plants here. The bulk is nearly glabrous, the few hairs mostly simple. The silicle measurements and narrow leaves suggest placing it under *Draba glabrescens*, var. *erratica* Rouy et Fouc."—J. A. WIELDON. "A peculiar little plant. Pods much reticulate, veined as they mature. Leaf surface nearly glabrous, except near the margins."—E. S. MARSHALL.

Erophila verna E. Meyer. [Ref. No. 4]. Wall under trees, in a dip in the road from Hook Norton to Wigginton, Oxon, April 14,

1914. This bushy, much branched *Erophila* occupied a section of the wall top, pretty much to the exclusion of everything else. Perhaps it should come under *E. verna* agg.—H. J. RIDDELSDELL. "This seems to occupy an intermediate position between *E. praecox* and *E. majuscula*, though considerably nearer the latter. I would name it *E. obovata* Jord."—C. E. BRITTON. "Petals large; pods broad, round-topped. Resembles what I have as British *E. majuscula* Jord."—E. S. MARSHALL. "These come under *E. praecox* DC."—G. C. DRUCE.

Erophila verna E. Meyer, var. [Ref. No. 5]. Wall, fully exposed, between Hook Norton and Wigginton, Oxon, April 14, 1914. A plant with darker foliage than Ref. No. 4, narrower pods, and quite distinct habit.—H. J. RIDDELSDELL. "I think this must be referred to *E. majuscula* Jord., from which it differs chiefly by the narrower leaves. It is probably the var. *occidentalis* R. & F. = *E. occidentalis* Jord."—C. E. BRITTON.

Erophila verna Meyer. [Ref. No. 54]. Field track near Rescobie, v.-c. 90, May 2, 1914.—R. & M. CORSTORPHINE. "Small plants, which seem to me to be nearer *E. stenocarpa* Jord."—E. S. MARSHALL.

Erophila majuscula Jord. [Ref. No. 52]. The Lurgies near Montrose, v.-c. 90, April 27, 1914.—R. & M. CORSTORPHINE. "*E. majuscula* Jord."—J. A. WHELDON. "Yes."—C. E. SALMON. "Correctly named."—C. E. BRITTON. "*E. stenocarpa* Jord., mostly very typical."—E. S. MARSHALL.

Erophila majuscula Jord. [Ref. No. 52b]. Near Bridge of Dun, v.-c. 90, May 14, 1914.—R. & M. CORSTORPHINE. "Yes, I suppose best so labelled, but silicles less rounded above than usual, giving more the shape of those of *E. stenocarpa*. But the large petals and width of silicles quite exclude that."—J. A. WHELDON. "Correct, I believe."—C. E. SALMON. "Correctly named."—C. E. BRITTON. "No, my specimen is good *E. stenocarpa* Jord."—E. S. MARSHALL.

Erophila majuscula Jord. ? [Ref. No. 83]. Cultivated ground on Ash Brook, St Ippolyts, Herts, v.-c. 20, April 10, 1914. The most luxuriant examples grow to a considerable size (14 cm), and have large rosettes of broad leaves.—J. E. LITTLE. "I do not recollect seeing anything quite like this. Conf. *E. affinis* Jord. (*Draba leptophylla*, var. *australis* R. & F.). Hairs bifid (rarely trifid or simple); flowers large; silicle oblong; calyx and petals often suffused with violet-rose."—J. A. WHELDON. "*E. occidentalis* Jord."—C. E. BRITTON. "Foliage curious. Near *E. verna*; but I am not able to name this."—E. S. MARSHALL.

Erophila verna E. Meyer, d. *majuscula* (Jord.). Wall top and edge of footpath, the Marine Drive, The Great Orme, v.-c. 49, March 12, 1914.—C. WATERFALL.

Erophila stenocarpa Jord. Field at St Ippolyts, near 2nd milestone for Hitchin, Herts, v.-c. 20, April 24, 1914. Cornfield, about a mile away from Ref. No. 60 (*Report* 1913, p. 450), in similar stony loam. As with Ref. No. 60, there was an admixture of plants with less characteristic silicles.—J. E. LITTLE. "Right, I think."—C. E. SALMON. "One specimen is certainly right (rather small); the others come between that and *E. verna* (*vulgaris* DC.)."—E. S. MARSHALL.

Erophila stenocarpa Jord. Sandy cultivated ground, Mauldon, Beds, v.-c. 30, April 25, 1914. The later stage of a plant similar to the preceding, and, like it, mixed with less characteristic forms.—J. E. LITTLE. "Yes, I think so, but not an extreme example." J. A. WHELDON. "Yes."—E. S. MARSHALL.

Erophila verna E. Meyer, var. *stenocarpa* (Jord.). [Ref. No. 6.] From another part of the wall on which No. 4 occurred, between Hook Norton and Wigginton, Oxon, April 14, 1914. Some of this small gathering seems to fit *stenocarpa* very well, but some of it looked as if it had a touch of No. 4 in it.—H. J. RIDDELSDELL. "Four of my five specimens are *E. stenocarpa* Jord.; the other has shorter pods and approaches *E. verna*."—E. S. MARSHALL.

Erophila stenocarpa Jord.? [Ref. No. 53]. Field side near Lunanhead, v.-c. 90, May 2, 1914.—R. & M. CORSTORPHINE. "Silicles 5×2 mm. In *E. stenocarpa* they frequently attain 7 mm. in length, while only $1\frac{1}{2}$ — $1\frac{3}{4}$ mm. broad. I would suggest that this is a form of *E. brevipila* Jord."—J. A. WHELDON. "I think so; a weak small podded state."—E. S. MARSHALL.

Erophila obovata Jord.? [Ref. No. 55]. Wall top near Clocksbriggs, v.-c. 90, May 2, 1914.—R. & M. CORSTORPHINE. "I do not know that. Leaves remarkably glabrous at this stage."—E. S. MARSHALL.

Erophila praecox DC. [Ref. No. 3]. Wigginton, Oxon, April 11, 1914. The wall tops of this neighbourhood are covered with *Erophila*, a fair proportion of which is *E. praecox*. These elusive micro-species are all the more difficult to determine, in a great number of individual cases (some of the specimens now sent are only doubtfully *praecox*), because the colonies are by no means homogeneous; and there is much obvious transition between species, to say nothing of highly probable crossing. Another difficulty arises from the fact that pods vary in shape even on a single plant. The best and unmistakable *praecox* runs

small.—H. J. RIDDELSDELL. “Yes, mostly a tall drawn up form.”—
E. S. MARSHALL.

Erophila præcox DC.? Sandhills, Askham, v.-c. 69b, April
2, 1914. This seems to be the same plant as I sent last year.—
D. LUMB. “Clearly *E. præcox* DC.”—C. E. BRITTON. “Yes, the
usual small coast form.”—E. S. MARSHALL. “Yes, a new county record
for 69b.”—G. C. DRUCE.

Erophila præcox DC. [Ref No. 58]. Sands of Barry, v.-c. 90,
April 26, 1914.—R. & M. CORSTORPHINE. “Yes, the normal plant of
east sands.”—E. S. MARSHALL. “Yes, for one specimen at least. A
new county record.”—G. C. DRUCE.

Erophila spathulæfolia Jord.? (fide J. A. Wheldon). Gravel pit,
Lippolyts, Hitchin, Herts, v.-c. 20, April 4, 1913, and March
7, 1914. I sent this plant to the *Watson B.E.C.* 1913-14,
named by Mr J. A. Wheldon as *E. spathulæfolia* Jord. I
think it is reasonably certain that it belongs to Rouy and Foucaud's
sub-sp. vii. *Draba glabrescens* Rouy and Fouc. (*Erophila glabrescens*
Jord.); but I have not felt able to carry the limitation further. The
specimens now sent are the result of selection three times repeated,
leading in the elimination of a very much larger number of plants with
more numerous bifid hairs. I have not succeeded in finding any other
locality in this neighbourhood for this form with long sparse
mostly simple hairs.—J. E. LITTLE. “The examples sent under
this name belong to that section of aggregate *E. verna* distinguished
by the hairs being predominantly simple rather than branched.
These specimens come very close to Jordan's description of *E.*
spathulæfolia, but differ in the glabrous scapes, shorter pedicels, and
narrower silicles. For these reasons I do not think these plants can
be referred to *E. spathulæfolia* Jord.”—C. E. BRITTON. “I do not
know that. The leaves are certainly remarkable.”—E. S. MARSHALL.

Cochlearia groenlandica L. Coast at Boddin, Forfar, v.-c. 90,
June 3, 1914. N.C.R. for Forfar.—R. & M. CORSTORPHINE.
“Certainly *C. groenlandica*.”—E. S. MARSHALL. “Yes, a new county
record, I believe.”—G. C. DRUCE.

Sisymbrium Sophia L. Sainfoin field, Thetford, v.-c. 28, June 1,
1914.—F. ROBINSON.

Sisymbrium pannonicum Jacq. = *S. altissimum* L. Waste heap,
north of Welwyn Tunnel, Herts, v.-c. 20, June 16, 1913. I send as
a record. The waste heap is now cultivated.—J. E. LITTLE. “Yes,
the older name is *S. altissimum* L., a frequent alien.”—G. C. DRUCE.

Sisymbrium orientale L. (= *S. Columnae* Jacq.). Par Harbour, East Cornwall, June 19, 1914. I send this common alien because the plants are mostly young ones, and show the lower foliage better than I have ever seen before.—C. C. VIGURS. "Yes."—G. C. DRUCE. "The var. *subhastatum* (Willd.) Thell."—A. THELLUNG.

Brassica elongata Ehrh. Roadside, Billingshurst, Sussex, July 22, 1914.—A. WEBSTER. "The sub-sp. *persica* (B. & R.) Thell."—A. THELLUNG.

Brassica Erucastrum Vill. [Ref. No. 40]. Sandhills by sea, Yarmouth, N. Devon, v.-c. 27, May 10, 1914.—F. ROBINSON. "Is *Sisymbrium orientale* L."—A. THELLUNG.

Brassica balearica Loisel.? Railway side, Askham, v.-c. 69b, July 2, 1914.—D. LUMB. "*Brassica juncea* (L.) Coss."—A. THELLUNG.

Diplotaxis tenuifolia DC. Railway cutting, Thetford, v.-c. 28, June 15, 1914.—F. ROBINSON. "This must, I think, be referred to *D. muralis*, var. *Babingtonii* (Syme). In *tenuifolia* the flowers are distinctly stalked at the time of full flowering, and the pods are more distinctly narrowed at both ends. This is the biennial form."—G. C. DRUCE.

Diplotaxis—? [Ref. No. 716]. On cotton seed refuse, Hythe Quay, Colchester, v.-c. 19, June 1914.—G. C. BROWN. "*Erucaria myagroides* Halac."—G. C. DRUCE.

Bursa pastoris Weber, var. *bifida* Druce. Hort., Oxon, July 1908. This plant, which approaches *macrocarpa* in having a few of the silicles with curved sides, has persisted for the last 20 years as a weed in the Botanic Garden, Oxford.—G. C. DRUCE.

Bursa pastoris Weber, var. *bifida* Druce. Seed from plants from the Botanic Garden, Oxford (1890), Hort. Druce, 1913. The deep sinus and shape of capsule and leaves remain practically unaltered in culture.—G. C. DRUCE. "This is the form of *Capsella Bursa-pastoris* that F. M. Mott called var. *bifida*. It is one of the best marked varieties of Shepherd's Purse."—C. E. BRITTON.

Lepidium latifolium L. River Lavant, near Appledram, W. Sussex, v.-c. 13, Sept. 23, 1913.—J. E. LITTLE.

Lepidium Smithii Hook., var. *alatostyla* Towns. Garden specimen from a 2-year-old plant raised from seed collected at Redbridge, near Southampton, Sept. 1901. Hab.—rough hedge banks on the coast. See *Report* 1903, p. 10.—Coll. FREDK. TOWNSEND; comm. G. C. DRUCE.

Lepidium neglectum Thell. Waste ground, Askam, v.-c. 69b, August 9, 1914. I name these plants thus with some doubt.—D. UMB. "Yes."—C. E. SALMON and A. THELLUNG.

Thlaspi alpestre L., var. *occitanum* (Jord.). Roadside bank, Llanrwst, Carnarvon, v.-c. 49, April 1878.—J. COMBER. "This is not *Thlaspi occitanicum* Jord. The specimens are not sufficiently developed to show the characters of the capsules, but judging by the evidence afforded by the habit, foliage, and flowers, this is *Thlaspi virens* Jord.—C. E. BRITTON. "Wrongly named as Jordan's plant (*T. occitanicum*). I know it well in the Llanrwst district but am not sure if it differs from type."—E. S. MARSHALL.

Teesdalia nudicaulis Br., var. *minor*. Dry heath by Ringmere, Roundham, v.-c. 28, April 26, 1914. This tiny plant grows in the thick moss on Roundham Heath very sparsely, nothing but the tiny head of flowers shows above the moss. It is confined as far as I see to the dry bank of one of the meres which formed part of the old Fen sea.—F. ROBINSON. "Nothing varietal about this. Small states are frequent on poor soil."—E. S. MARSHALL. "Not a variety, only a condition."—G. C. DRUCE.

Hutchinsia petraea Br. Sparingly scattered over several boulders near Lovers' Leap, Dovedale, Derbyshire, v.-c. 57, April 14, 1914.—CHESTER. Also sent from limestone rocks, The Great Orme, Carnarvon, v.-c. 49, March 11, 1914.—C. WATERFALL.

Reseda lutea L., var. *pulchella* J. Muell. [Ref. No. 1375]. Worms Heath, Surrey, Sept. 6, 1914. This is a slender more refined form of *R. lutea*, abundantly branched, with leaf-segments elongated, flat, linear, minutely callous toothed, racemes narrow and flowers smaller in type. My plant agrees well with the original description of this var. by J. Mueller in his monograph of the *Resedaceae*, and also accords well with the figure in Reichenbach's *Icones* where it is published under the name of *R. gracilis* Tenore. There is no material quite like my plant in the collections at South Kensington.—C. E. BRITTON. The capsules on my specimens are too young to see if they are *villose*: if smooth the plant may be var. *Lecoqii* J. Muell. *R. villosa* of Reichenbach's *Icones* is not identical with *R. gracilis* Tenore, which was recorded from Wandsworth by A. Irvine in *Fl. Surrey*.—G. C. DRUCE.

Reseda lutea L., var. *stricta* (Persoon, as a species). Wytham, Berks, Sept. 1906. I do not think this deserves more than varietal rank. It still persists at Wytham Mill, Berks.—G. C. DRUCE.

Helianthemum Chamæcistus × *polifolium*. [Ref. No. 3350] Root in Purn Hill, Bleadon, N. Somerset, v.-c. 6, where it grows mixed

with both species. Flower garden, West Monkton, May 27, 1914. A very pretty plant.—E. S. MARSHALL.

Helianthemum canum Baumg., var. *vineale* (Pers.). On the Sugar Limestone of Cronkley Fell, Teesdale, v.-c. 65, June 9, 1914. Altitude 2000 feet. Too early for flower.—J. CRYER.

Viola montana L. Wood Walton Fen, Hunts, July 1908. All these were named *montana* by Mrs Gregory in that year. I am not quite sure whether she would not now refer them to *V. stagnina* × *canina*. *V. montana* L. itself is not more than a hybrid. With these specimens were others more closely approaching *canina* and *stagnina*, and again others which appeared to be ternary hybrids.—G. C. DRUCE.

Viola sylvestris Kit. [Ref. No. 25]. Hedge banks, Redhill, Walton, v.-c. 28, April 19, 1914.—F. ROBINSON. “*Viola sylvestris* Lam., emend. Reichb., var. *punctata* Druce. Note the thick, furrowed spur; also the central shoot lengthening and flowering.”—E. S. GREGORY.

Viola sylvestris Lam., emend. Reichb. Roudsea Wood, N. Lancs, April 30, 1914. Rare in N. Lancs, where the var. *punctata* is quite common.—W. H. PEARSALL. “Yes, typical *V. sylvestris*, and the most representative gathering I’ve seen for many years.”—E. S. GREGORY.

Viola sylvestris Kit., var. *punctata* Druce. Sturts’ Copse, Oxon, March 1913. A common form of our calcareous woods.—G. C. DRUCE.

Viola Riviniana Reichb. Hitch Wood, Herts, v.-c. 20, April 13, 1912. Det. E. S. GREGORY.—J. E. LITTLE.

Viola Riviniana Reichb., forma *minor*. Kirkby Moor, v.-c. 69b, May 16, 1914. This was named “floriferous forma *minor*” by Mrs Gregory in 1913.—D. LUMB.

Viola Riviniana Reichb., forma *nemorosa* Neuman. Hitch Wood, Herts, v.-c. 20, May 13, 1914. Mrs Gregory *in lit.* (June 21, 1914) writes:—“I congratulate you on having collected the best set of *Viola Riviniana*, forma *nemorosa*, that I have ever seen. It is strange how near some of the plants are to *V. sylvestris* (type).”—J. E. LITTLE.

Viola Riviniana Reichb., var. *diversa* Greg. On the banks of the Calder, Wakefield, v.-c. 63, May 12, 1914. Mrs Gregory says:—“There is little doubt that they represent my var. *diversa* of *V. Riviniana*.”—J. CRYER.

Viola canina L. [Ref. No. 37.] Sandy heath land by sea, North Dene, Yarmouth, v.-c. 27, May 9, 1914.—F. ROBINSON. "Yes, the variety *pusilla* Bab."—E. S. GREGORY.

Viola canina L., var. *lanceolata* Martin-Donos. Lake Windermere (shingly stones), N. Lanes, May 16, 1914. This is locally abundant, but I can find it only in such situations, either growing among grass on the stones or invading them on its own account.—W. H. PEARSALL. "Not at all like the luxuriant plants from Woodalton Fen, Hunts, so named for me (on the spot) by Mrs Gregory. Perhaps the large-flowered var. *maerantha* Gren. & Godr., from Ferrow, N. Somerset, which seems to me the same as the usual plant of the Scottish Highlands."—E. S. MARSHALL. "Yes, very near akin to the Norfolk plant described on page 82 of *British Violets*."—E. S. GREGORY. "Yes, Mr Pearsall showed it to me *in situ*, and it approaches closely our Oxon plant."—G. C. DRUCE.

Viola canina L. × *V. lactea* Sm. Open downs near the sea, St Agnes, Scorrier, v.-c. 1; (a) with flowers, May 11; (b) with fruit, July 1914. So named by Mrs Gregory from fresh material forwarded by Mr Druce in May. The commonest form of violet on the downs from which specimens were taken, the only others noticed being *V. lactea* Sm. (in small quantity) and a few plants of *V. Riviniana* Reichb.—RILSTONE. "I very much doubt this identification, and would rather name it *V. lactea* × *Riviniana*."—E. S. MARSHALL.

Viola lactea × *Riviniana*. [Ref. No. 3535]. Root from Crowcombe, Heathfield, S. Somerset, v.-c. 5; flower garden, West Monkton, May 18, 1914. Like the Tidenham Chase (W. Glos.) parent, this flowers very freely, but never fruits. A good intermediate between the parents, with which it was found.—E. S. MARSHALL. "Yes."—E. S. GREGORY.

Viola hirta L. Open wood on sandy soil, South Pickenham, v.-c. 1, April 23, 1914.—F. ROBINSON. "*V. hirta* var. *hirsuta*, in the cleistogamous stage. The plants received by me appear to belong to the new form (*luteo-canescens*) of this variety, lately so named by Moss and myself."—E. S. GREGORY.

Viola hirta L. These specimens, with very large and conspicuous flowers, were found growing on the roadside about two miles from North Pickenham going towards Silverdale, v.-c. 60, April 11, 1914. In many of the flowers the hook of the spur was scarcely indicated. Mrs Gregory says:—"The *V. hirta* you send reminds me of one which I found last year near Torquay. The shape and size of the flowers suggest a giant race."—J. CRYER. "Yes, petals unusually broad and indeed I think"—E. S. MARSHALL.

Viola hirta × *odorata*. [Ref. No. 715]. Clayey hedgerow, Edwardstone, W. Suffolk, v.-c. 26, April 16, 1914. A few more sheets of this hybrid from a station about three-quarters of a mile from my Ref. No. 81, sent to Club last year. Rather stunted owing to exposure from hedge-cutting.—G. C. BROWN.

× *Viola multicaulis* Jord. = *V. hirta* × *odorata*. [Ref. No. 13]. Bladon, Oxon, with both parents, April 1914. Some plants were of a very large size.—G. C. DRUCE. "*Viola hirta* × *odorata* = × *multicaulis*."—E. S. GREGORY.

Viola——? [Ref. No. 333]. Garden weed, Dalton, v.-c. 69b, August 13, 1914. These were growing entangled among the *arvatica* and a pale-flowered cultivated pansy. They may be very luxuriant *arvatica*, but the large flowers seem to point to another species or to a possible smireh with the garden pansy.—D. LUMB. "The broad leaved plants in the set are yellow flowered *Lloydii*; the narrow leaved ones approach *Provostii* Boreau. These narrow leaved plants are possibly hybrids, but there is not any satisfactory evidence for this."—E. DRABBLE.

Viola Deseglisei Jord. [Ref. No. 67]. Near Brechin, v.-c. 90, August 16, 1914.—R. & M. CORSTORPHINE. "Yes. Very beautiful examples. The habit as shown in the longer spreading specimens is quite characteristic. In some cases the leaves and stipules are less toothed than usual."—E. DRABBLE.

Viola Deseglisei Jord. [Ref. No. 659]. Field, Layer Marney, N. Essex, v.-c. 19, June 7, 1914. Apparently coming under this, though the leaves are rather broad. The branching habit and thin light green leaves would seem typical. I suppose, if correct, it would be a new county record for v.-c. 19.—G. C. BROWN. "I should say *V. arvensis* Murr., var. *ruralis* Corb."—J. CRYER. "Some of these—the narrow leaved plants—are certainly *Deseglisei*; the broad leaved specimens are probably *Deseglisei* also, but approach *ruralis* somewhat."—E. DRABBLE.

Viola obtusifolia Jord. (small form). [Ref. No. 660]. Field, Layer Marney, N. Essex, v.-c. 19, June 7, 1914. A new county record for v.-c. 19, if correct.—G. C. BROWN. "No, this is *ruralis*."—E. DRABBLE.

Viola obtusifolia Jord. [Ref. No. 1198]. Send, Surrey, June 21, 1914.—C. E. BRITTON. "Yes, *obtusifolia* Jord."—E. DRABBLE.

Viola obtusifolia Jord. [Ref. No. 661.] Field, Raydon, E. Suffolk, June 1, 1914. A new county record for v.-c. 25, if correct.

G. C. BROWN. "Yes, *obtusifolia*, but curiously stout-stemmed, coarse-looking plants."—E. DRABBLE.

Viola arvensis Jord. Garden weed, Dalton, v.-c. 69b, August 13, 1914. These were growing in very stiff, well-manured soil. They were very luxuriant and a tangled mass of stems.—D. LUMB. "The smaller plants with widely spreading peduncles are *arvensis*; and as there seem to be all gradations between these and the larger plants, the latter must be *arvensis*, too, I suppose. But the large plants are much bigger leaved and less zig-zag than any I have previously passed as *arvensis*."—E. DRABBLE.

Viola lutea Huds., with its form or variety *amoena* (Symons). Nos. 1 and 2 on each sheet were gathered at Malham, v.-c. 64, where they grow together. No 3 was gathered in Teesdale, v.-c. 65, where it is very plentiful and the prevailing form. June 1914.—J. CRYER. "Yes, very beautiful specimens. It is interesting to notice the much broader leaves and petals in these plants than in Mr Waterfall's Cumberland specimens. The large Teesdale plant seems to be Mr E. G. Baker's sub-var. *insignis*."—E. DRABBLE.

Viola lutea Huds, b. *amoena* (T. F. Forst.). Moorlands, ascent of Catterpallot, near Melmerby, v.-c. 70, Aug. 3, 1914.—C. WATERFALL. "Yes, *amoena* is simply a blue flowered *lutea*. These are very good specimens, but there is usually an extensive underground development of the branches as in *lutea*."—E. DRABBLE.

Polygala vulgaris L., var. *Ballii* Ostenfeld (Not *P. Ballii* Nyman nomen). Bettyhill, Sutherland, July 1907. Practically identical with Faroic plants sent me by Dr Ostenfeld. He thought these were *P. vulgaris*, var. *grandiflora* Bab. = *P. Babingtonii* Druce, but they differ materially from the Ben Bulbin plant. Nyman, under *P. vulgaris* as a synonym (sine descriptione), gave *P. Ballii*, evidently meaning by this name the Irish plant. Therefore, if we use the name it must be as var. *Ballii* Ostenfeld, i.e., not of Nyman. I found it locally on the Limestone at Ardrahan, Galway, and Inchnadamph, Sutherland W. in 1907. Ostenfeld says it is common in the Faroes.—H. C. DRUCE. "I have carefully compared my specimen with examples from Wye Downs, Kent, and also with specimens from the hills round Grassington, Yorkshire, and I can find no characters which separate it from type *Polygala vulgaris* L."—J. CRYER.

Dianthus prolifer L. Shingle, Pagham, W. Sussex, v.-c. 13, June 3, 1914. See Arnold's *Sussex Flora* 1907, p. 16.—J. E. LITTLE.

Silene latifolia Rendle & Britten, var. *hirsuta* Gray. [Ref. No. 42]. Cultivated ground, Whatfield, W. Suffolk, v.-c. 26, June 1,

1914. Apparently identical with the plant distributed by Mr M.T. Cowan, jun., from Hawthornden, v.-c. 83, in 1911, and named as above by Mr G. C. Druce.—G. C. BROWN.

Silene inflata Sm. Sandscale, Dalton, v.-c. 69b, July 7, 1914. The plants produced very poor capsules and no seeds. The petals were markedly cream-coloured until they were reaching maturity.—D. LUMB. "A remarkable form; I have nothing like it, excepting a plant which I gathered last July on bushy shingle near Seaton, South Devon."—E. S. MARSHALL. "Conf. *S. vesicaria* Schrad., var. *pubescens* DC., sub. var. *parrifolia* Rouy."—J. A. WHELDON.

Silene conica L. Roadside, dry sandy soil, Hilborough, v.-c. 28, June 11, 1914.—F. ROBINSON. Also from sandy land, Cockley Clay, 3 miles S.W. of Swaffham, W. Norfolk, v.-c. 28, June 23, 1914.—J. E. LITTLE.

Silene anglica L., b. *quinquevulnera* L. Hay field, Cromer, v.-c. 27, June 13, 1914.—F. ROBINSON. "Good *S. quinquevulnera* L. This seems to me much nearer to *S. gallica* L. than to *S. anglica* L., of which I cannot reckon it as a variety."—E. S. MARSHALL. "Yes, I had no previous record for the county."—G. C. DRUCE.

Silene Otites Wibel. Dry heath land, Barnham Common, W Suffolk, June 1, 1914.—F. ROBINSON.

Silene nutans L., var. *dubia* (Herbich) Williams Mon. *Silene* in *Journ. Linn. Soc.*, vol. xxxii., p. 171 (1896). Shingle, Lydd, Kent, in great quantity, July 1904. This appears to have been first described by Schur as *S. transsylvanica* in *Oester. Bot. Zeit.* viii. (1858), pp. 22 et 287. Herbich's *dubia* was published in his *Flora Bucovina*, p. 388, (1859). In the *Kew Index* both names are merged into *S. nutans*, but the publication of the latter wrongly cited as ex Rohrbach's *Monograph* of 1868, and the date as usual is suppressed. Dr Williams in his valuable *Monograph* (*l.c.*) put *dubia* as a variety of *S. nutans*, and in the same year Rouy and Foucaud (*Fl. Fr.* iii., p. 144) cites *S. dubia* and *S. transsylvanica* as synonyms of their variety *subverticillaris*, the description of which does not seem to happily fit our Kentish plant, which Mr C. E. Salmon in 1905 first clearly showed was distinct from *S. nutans*. The longer petioled and narrow, lanceolate-acute stem leaves, which are not so strongly viscid as in *S. nutans*, and the narrower and more cylindrical calyx, are marks which he rightly emphasises. If kept as a species, it should stand as *S. transsylvanica* Schur; if a sub-species, the authority is Nyman *Cousp.*; if a variety, as in my *British Plant List*, then as *S. nutans* L., var. *transsylvanica*, comb. nov. A red flowered form was still earlier described as a species by Vest in *Flora* (1821), p. 50, as *S. rubens*.—G. C. DRUCE. "Yes, this

is the more graceful, less hairy, flavescent petalled plant I recorded as *S. dubia* Herb. in *Journ. Bot.* 1905, p. 127, where it is mentioned my brother and I saw it in this station (Dungeness) in 1888."—C. E. SALMON.

Cucubalus baccifer L. Wood, Merton, v.-c. 28, August 6, 1914.—F. ROBINSON. "Yes, a most interesting plant of which we know no existing station in Britain."—G. C. DRUCE.

Cerastium nigrescens Edmonston (= *C. arcticum* Lange). [Ref. No. 2355]. Ben Nevis, August 1903.—G. C. DRUCE.

Cerastium vulgatum L. var. *pentandrum* Syme. Sands of Barry, v.-c. 90, April 26, 1914.—R. & M. CORSTORPINE. "I believe that this is var. *pentandrum* Syme (under *C. triviale* Link), though the sepals are as strongly hyaline-bordered as in *C. semidecandrum* L."—E. S. MARSHALL.

Cerastium semidecandrum L. Sandhills, Askham, v.-c. 69b, March 30, 1914. Is this the typical plant?—D. LUMB. "Yes, a small state."—E. S. MARSHALL. "Correctly named."—C. E. SALMON. "Yes, and a new county record for 69b."—G. C. DRUCE.

Cerastium semidecandrum L. St Ouen's, Jersey, April 1907. Cf. var. *congestum* Gren.—G. C. DRUCE. "This var. is not mentioned by Rouy and Foucaud. The plant seems to come under var. *glandulosum* Koch."—E. S. MARSHALL.

Cerastium tetrandrum Curt. Sandhills, Askham, v.-c. 69b, March 30, 1914. Ironworks, sandhills, and golf links at Askham; limestone quarry at Staunton. Many plants are to be found flowering during the first week in March. Most of the flowers seem abnormally large through their being five-parted. The lower leaves are markedly spatulate and deeply tinged with reddish purple. Mr Druce agrees with me that it is most likely *tetrandrum*, and adds the remark that in all probability much of what is named *pentandrum* is this plant.—D. LUMB. "Doubtless correct, but gathered too young and depauperate."—E. S. MARSHALL. "Right."—C. E. SALMON.

Cerastium—? [Ref. No. 32]. Hedgebanks, Rocklands, v.-c. 28, May 4, 1914.—F. ROBINSON. "This seems to be a robust or shade-grown form of *C. arvense* L. It agrees with the description of the var. *latifolium* Fenzl in Ledeb. *Fl. Ross.* i., p. 412 (1842), which is as follows:—'Foliis caulinis majoribus, praesertim superioribus e basi ovata oblongis v. lanceolatis; ramorum ac fasciculorum anguste lanceolatis v. linearibus; omnibus utrinque pubescentibus, cauliculis almaribus spithamaeis et altioribus, petalorum lobis late ovatis.'

There are specimens like this in the British Museum from one or two English localities, and also from the Continent.”—A. B. JACKSON. “This must be an *arvense* form, and it has the uppermost stem-leaves broad-based, one of the characters, according to Rouy and Foucaud (*Fl. Fr.*) of var. *latifolium* Fenzl, but I have no authentic examples to compare. I have never seen this beautiful luxuriant form in Surrey.”—C. E. SALMON. “Ripe fruit is not available in these examples, but *C. arvense* L., var. *latifolium* Fenzl (*C. grandiflorum* Gilib.) is like this, a tall form with broad leaves and large flowers, but I have seen no example.”—J. A. WHELDON. “This is a rather notable form of *C. arvense* Linn., and appears to agree very well with the description of *C. arvense* L., var. *latifolium* Fenzl, in Rouy and Foucaud *Fl. de France* iii., p. 203. The description given of this var. is as follows:—“Feuilles caulinaires, surtout les supérieures à base large, ovales-oblongues ou sub-lancéolées celles des fascicules et des rameaux étroitement lancéolées, toutes pubescentes ou poilues sur les deux pages; tiges assez élevées; pétales à lobes ovales.”—C. E. BRITTON. “An extraordinary plant, which I think comes under *C. arvense* L. It comes nearest, of the vars. given in Rouy and Foucaud, to their ϵ . *latifolium* Fenzl, but the stems, pedicels, and calyces are densely glandular.”—E. S. MARSHALL.

Stellaria neglecta Weihe. Hedgebank by thicket, near Great Western Station, Malvern Wells, Worcester, v.-c. 37, May 11, 1914.—C. WATERFALL. “Yes, the variation with stalked glands on the inflorescence, which I have called forma *glandulosa*.”—E. S. MARSHALL. “*S. media*, var. *neglecta* Weihe, the plant with hairy pedicels and acutely tubercled seeds.”—G. C. DRUCE.

Arenaria gothica Fr. Origin, Moughton Fell, v.-c. 64, altitude 1600 feet. A new station, where I counted fifty plants. Cultivated in my garden, Shipley, July 1914.—J. CRYER.

Arenaria tenuifolia L. Walls of Abbey ruins, Castleacre, v.-c. 28, May 28, 1914.—F. ROBINSON. “Yes.”—E. S. MARSHALL.

Arenaria tenuifolia L., var. *laxa* (Jord.)? Coarse ballast, Great Northern Railway, Grove Mill, Hitchin, Herts, v.-c. 20, July 1914.—In habit these plants agree with the set from Welbury. I could find no glandular plants among them.—J. E. LITTLE. “Yes, a strong form.”—E. S. MARSHALL. “My plants are almost glabrous, and do not agree with my Lakenhead *laxa*.”—G. C. DRUCE.

Arenaria tenuifolia L., var. *laxa* (Jord.) (Det. C. E. Salmon). Hitchin, Hexton Road, near turning to Welbury, Herts, v.-c. 20, July 31, 1914.—J. E. LITTLE. “Glands very few on my two plants.”—E. S. MARSHALL.

Sagina nodosa (L.) Fenzl, var. *glandulosa* Bess. [Ref. No. 76]. Damp part of over year hay field, Tottington, v.-c. 28, July 23, 1914.—F. ROBINSON. "*S. nodosa*, var. *viscidula* Coss. & Germ."—J. A. WHELDON. "Apparently correct; Rouy and Foucaud make it a sub-variety, perhaps rightly. Corbière seems to be the authority, under *Sagina*."—E. S. MARSHALL. Also [Ref. No. 77] from shore of Lake, Westmere, Tottington, v.-c. 28, July 24, 1914.—F. ROBINSON. "A different and much more leafy form."—E. S. MARSHALL.

Sagina nodosa Fenzl, var. *glandulosa* Bess. [Ref. No. 115]. Avebury Down, N. Wilts, v.-c. 7, August 28, 1914. Has this been tested by cultivation? I have distinctly glandular forms from Guernsey and Dog's Bay, Galway, and plants from Glencar, Sligo, which I thought to be quite glabrous, show one or two glandular hairs under a strong glass. It seems probable that the glandular hairs are developed only on sandy soil or in exposed situations. Similarly var. *moniliformis* Lange, to which these plants might be referred, appears to be a state of poor soil.—W. C. BARRON. "I believe so."—E. S. MARSHALL. "Yes, the Avebury Down plant and Mr Robinson's No. 76 would doubtless develop into the so-called var. *moniliformis*."—G. C. DRUCE.

Sagina ciliata Fr. Sandy cart ruts, Shouldham, W. Norfolk, v.-c. 28, June 24, 1914.—J. E. LITTLE. "The *Sagina* is rather puzzling, and *S. Reuteri* must always nowadays be reckoned with! However, I think you are right in calling your plant *S. ciliata*. I see the awned sepals present, which I believe are never found in *S. Reuteri*. The capsule, when over ripe, does not seem to open ultimately in the form of a cross, so *S. apetala* is ruled out."—C. E. SALMON *in lit.* "Exactly *S. ciliata* Fr., as described by Babington in the *Manual*, which has the outer sepals more acuminate and recurved, and the plant is nearly glabrous. It is according to *S. Reuteri* Lojac, but not of Boissier. This typical *S. ciliata* is very rare, if found at all, in Lancashire, and I believe the restricted plant has a south and easterly range. Dr Moss refers nearly all the plants we call *S. Reuteri* Boiss. to *S. ciliata*, and I believe favours the reduction of *S. ciliata* to the status of a variety under *S. apetala*. Whatever view is taken, I feel sure *ciliata* and *Reuteri* represent two frequently occurring extremes usually readily separable, and I think both are distinct from *S. apetala*."—J. A. WHELDON. "I believe so."—E. S. MARSHALL.

Sagina ciliata Fr., *forma*. [Ref. No. 52]. Cliffs near Arbroath, v.-c. 90, August 15, 1914. Outer sepals have a very short mucro, but all the sepals are obtuse and incurved at the tip like *Reuteri*; also they are much shorter than the capsule. The valves of the capsule are truncate at the tip.—R. & M. CORSTORPHINE. "A difficult plant. Very like *S. Reuteri* in habit, but I see that the outer sepals are mostly

mucronate, which is a character of *S. ciliata*. It seems to be therefore a small glandular var. of the latter.”—E. S. MARSHALL. “I cannot separate this from *S. Reuteri* Boiss. The mucronate outer sepals do not recurve, and are very different in outline from the narrow acuminate ones of typical *ciliata*, as shown in Mr Little’s specimens referred to above.”—J. A. WHELDON. “This interesting *ciliata* form will come, I think, under var. *minor* Rouy and Fouc. (*Fl. Fr.* iii., p. 289, 1896). The whole plant is more or less glandular, but the leaves are scarcely strongly enough ciliate to agree well with Corbière’s description of var. *filicanlis* Jord.”—C. E. SALMON. “Nearest to *S. apetala*, var. *ciliata* Gareke (= *S. ciliata* Fries). Benekin (*Bot. Zeit.* iii., p. 721, 1845) maintained that the restricted *S. apetala* and *S. ciliata* were mere habitat states. His views were combated by Babington (*Bot. Gaz.* i., pp. 174-177, 1849), and supported by Henfrey (*Bot. Gaz.* ii., p. 182, 1850). So far as I can judge, both *S. apetala*, var. *ciliata*, and *S. apetala*, var. *reuteri* H. & J. Groves, have glandular and eglandular forms.”—C. E. MOSS.

Sagina apetala Ard., b. *prostrata* Gibs. St Ippolyts, Hitchin, Herts, v.-c. 20, May 29, 1913. Det. S. H. BICKHAM.—J. E. LITTLE. “Yes.”—E. S. MARSHALL. “Mr Little’s Herts specimens are *apetala*, but are very lax and large for *prostrata* (see *Phyt.* i., p. 178).”—G. C. DRUCE.

Sagina apetala Ard., var. *prostrata* Gibs. With the type, on the mud path of a newly made road near the sea, Penarth, v.-c. 41, July 7, 1913. I suppose this is correct, but it may be *S. Reuteri* Boiss., a plant which I do not know. The relative length of sepal and capsule varies (? entirely according to age) from about 3—4 to 1—2.—H. J. RIDDELSDELL. “Is not this *S. Reuteri* Boiss.? Flowers small; sepals appressed in fruit; pedicels short, or shortish.”—E. S. MARSHALL. “Why not *S. ciliata* Fries, var. *ambigua* Corbière. Most of the peduncles are glabrous. The sepals are not spreading as in *apetala*.”—G. C. DRUCE.

Sagina apetala Ard., var. *barbata* Fenzl. Sand dunes, Ainsdale, S. Lincs, v.-c. 59, July 20, 1914.—J. A. WHELDON. “Correctly named, I believe.”—C. E. SALMON. “Yes, what we regard as type, I think.”—E. S. MARSHALL. “Yes, I look upon this as the type with var. b. *glaberrima* Koch, = *imberbis* Fenzl, as the rarer form.”—G. C. DRUCE.

Sagina——? Cliffs at Boddin, near Arbroath, v.-c. 90, June 9, 1914. This plant does not agree with any of the described forms of *S. maritima* or *S. apetala*. It grows on limestone, associated with *S. maritima* (type) and *Cochlearia grænlandica*; but it is distinguished at a glance from the former by its glaucous-grey colour.

—R. & M. CORSTORPHINE. The Rev. E. S. Marshall, to whom two batches of fresh plants were sent, writes:—"The *Sagina* strikes me as being of special interest. It clearly belongs to *S. maritima* Don. It seems nearest to var. *densa* in habit, but much less crowded; from that it also differs by the capsules exceeding the sepals. Besides this, it has some of the stems and pedicels furnished with gland-tipped hairs, which I never saw before in this species. Like var. *debilis* (Jord.), it is quite prostrate; but that is a slender spreading plant, with long internodes. Also var. *prostrata* Townsend MS. (never described, I fancy), is a plant two or three times as large and clearly different . . . The better examples of the greyish-glandular plant, in more advanced condition, still quite puzzle me. The leaves resemble *maritima* in outline; with, however, a small mucro or apiculus at the top, as a rule. The sepals are as in *maritima*; broader than in *apetala*. *S. maritima* does not appear to be ever grey or glaucous, or at all hairy or glandular. So it seems to be either a new species (at least for Britain), or a new and very marked variety of *maritima*."—E. S. MARSHALL, in *lit.*

"Apparently identical with the plant sent as var. *prostrata* Towns. (Travis and Wheldon, *Report* 1913, p. 459), since identified as *S. maritima*, var. *ciliata* Nordst. We have seen an authentic specimen of Townsend's plant, which differs in being more glabrous and larger in all its parts. It has also a different habit. In comparing R. & M. Corstorphine's plant with that from South Lancashire, it must be noted that the latter grew near docks where coal is constantly loaded. They have therefore an unnaturally dark appearance."—J. A. WHELDON.

"This is very interesting. Clearly, I think, a *maritima* form, which I have never seen before. There is a var. *ciliata* Nordst. in *Hartm. Skand. Fl.* 1879, p. 247, and a var. *glauca* Strobl. in *Oest. Bot. Zeit.* xxxv., 1885, p. 209, but unfortunately I have no examples of either."

—C. E. SALMON. "This is undoubtedly *S. maritima* Don. I have not my specimens available at the moment, but, speaking from memory, I think the Arbroath plant is very like the *S. maritima* from Garston, distributed by Mr Wheldon and me last year, except that the former is more glandular. Our Garston plant has been referred by Dr O. Nordstedt to his var. *ciliata*, and I have no doubt that the Arbroath plant also comes under the same variety, which is probably a northern form."—W. G. TRAVIS. "An interesting plant which Mr and Mrs Corstorphine showed me *in situ* last June. The large capsules and fruiting calyx suggest *S. maritima*; but the habit, the glandular hairs, and the apiculate leaf point to *S. apetala*. Unless a hybrid, the specimens point to the desirability of uniting *S. apetala* and *S. maritima*, two plants which in any case are closely allied. It is, in my opinion, the case that the Jordanian species of *Sagina* are unduly small; on that standard one might easily make a score or two of British species of *Atriplex* and *Salicornia*. However, of the segregates or close allies of *S. apetala*, *S. maritima* is the best; but I would reduce *S. ciliata* and *S. reuteri* to varieties of *S. apetala*. I may add

that the name *S. maritima* (G. Don in *Herb. Brit. fasc. vii.*, No. 155, 1806, cum descr.) is antedated by that of *S. erecta* (Müller in *Fl. Dan. fasc. 15*, p. 2, t. 845, 1782), non L., *S. erecta* L. being *Mænchia erecta*), but *S. erecta* Müller, being stillborn (since at that time *S. erecta* L. was valid), *S. maritima* Don remains the correct name for the species."—C. E. MOSS. "This is certainly not specifically distinct from *S. maritima* Don, though it does not exactly agree with any described variety. It approaches var. *densa* (Jord.), but is certainly not that form. The greyish colour ascribed to it, is probably owing to the reflection of light from the glandular-pubescent surface. The glandular hairs themselves are so minute that they do not seem to furnish a very tangible character; but taken in conjunction with the habit of the plant, the relative lengths of calyx and capsules, there are sufficient grounds to regard this plant as a well-marked var. of *S. maritima*. The apiculate leaves seem to be a varying character in this species."—C. E. BRITTON. "They are most interesting specimens. The text-books usually describe *S. maritima* as glabrous, but Rouy and Foucaud say the sepals are rarely glanduliform. These are clothed with more or less glandular hairs on the leaves, stems, and peduncles. Examination of about 200 specimens from various sources shows that specimens from Afton Bay, Isle of Wight (C. E. Palmer), have a few short glandular hairs practically confined to the peduncles; others from Headon Hill and Alum Bay, Isle of Wight (C. E. Palmer), closely approach the Scottish plant in habit, and in the hairs, which are, however, less plentiful. Specimens extremely like the Scottish plant, gathered by me at Penmon in Anglesey, were sent to the Club, but no report was made on them; a more diffuse form from Stonehaven, Kincardine, is also hairy. Specimens of var. *debilis* which I gathered at Maghera, Co. Wicklow, in 1909, have a few long ciliate hairs, especially on the leaf-sheaths. Other hairy specimens are from Mullion, Cornwall. All my other gatherings are glabrous. This Scottish plant appears to be an analogous condition to the var. *glandulosa* of *Sagina nodosa*. Mr and Mrs Corstorphine may well describe and name it."—G. C. DRUCE.

Sagina procumbens L., var. *apetala* Fenzl. Walton, S. Lanes, v.-c. 59, September 10, 1914. Some flowers contain a rudimentary petal, or even two, but they are mostly absent.—J. A. WHELDON. "Are such variations more than forms?"—E. S. MARSHALL.

Claytonia perfoliata L. Cultivated land, Walton, v.-c. 28, May 18, 1914.—F. ROBINSON.

Montia fontana L. = *M. lamprosperma* Chamisso. [Ref. No. 2358]. Growing on the shingle of a garden path, Glen Brittle, Skye, June 1910, showing that *lamprosperma* has both the land and water form.—G. C. DRUCE.

Malva pusilla Sm. Bank near Corn Mill, Ventongimps, v.-c. 1, August 11, 1914.—F. RILSTONE.

Tilia platyphyllos Scop. Park, Barton Seagrave, Northants, v.-c. 32, July 31 and September 5, 1914. Introduced.—G. CHESTER. "No, this is *Tilia petiolaris*, which is frequent in cultivation, but does not seem to have been found in a wild state. It is considered to be a sport of *Tilia argentea*, the White Lime of South-Eastern Europe and Asia Minor."—A. B. JACKSON.

Tilia ulmifolia Scop. Rockingham Woods, Northants, v.-c. 32, July 30, 1914. Rather frequent in this and other outlying woods, and probably indigenous.—G. CHESTER. "This is the small-leaved lime *Tilia cordata* Miller. The latter name has been rejected on the ground that specimen assumed to be Miller's type, in the British Museum, is *T. platyphyllos*, but as pointed out by Mr A. Henry (Trees of Great Britain vii., p. 1656, 1913), there is no doubt that Miller's description of *T. cordata* in the Dictionary refers to the small-leaved lime and not to *T. platyphyllos*, and his name therefore takes precedence over Scopoli's *ulmifolia*."—A. B. JACKSON.

Geranium phaeum L. Open wood, Watton, v.-c. 28, May 17, 1914.—F. ROBINSON.

Geranium pyrenaicum Burm. Dry hedge bank, Croxton, v.-c. 28, June 1, 1914.—F. ROBINSON.

Geranium rotundifolium L. Dry hedge bank, Thetford, v.-c. 28, June 1, 1914.—F. ROBINSON. "A rare Norfolk plant."—G. C. DRUCE.

Geranium Robertianum L., var. *purpureum* Vill.? Shingle, Pagham, W. Sussex, v.-c. 13, June 13, 1914. "This Geranium is what we always used to call *G. purpureum*, but what it is called now I cannot say. It is a coast-shingle form, and is not, I believe, found inland." C. E. Salmon. *in lit.*, August 16, 1914.—J. E. LITTLE. "Too hairy for the plant of Foster and Villars, but still of the type undoubtedly. It is, however, what is often named *purpureum*. The sepals closely resemble those of Foster's plant. It may be the var. *bricaulte* Horn. in Willk. et Lange's *Prod. Fl. Hisp.* iii., p. 320, but I have seen no specimens of this."—A. BENNETT. "I gathered this here in 1901. Mr Arthur Bennett wrote:—'What we so call; but Pitten and Nicholson years ago denied the name.'"—E. S. MARSHALL. "Yes, the glabrous-carpelled plant under aggregate *purpureum* Vill."—G. C. DRUCE.

Geranium Robertianum L., var. [Ref. No. 117]. Bordeaux angle, Guernsey, August 2, 1914.—W. C. BARTON. "Very different

from the Pagham plant, which has narrow leaflets and sub-glabrous calyces. This is very crowded and compact; leaflets broad, thin; calyces and pedicels with many long, slender, gland-tipped white hairs. I cannot name it."—E. S. MARSHALL. "This is aggregate *purpureum* Vill."—G. C. DRUCE.

Erodium cicutarium L'Hérit., var. *pimpinellifolium* Cav. In great quantity in a cornfield, Wigginton Heath, Oxon, July 29, 1914. Petals, 3 longer and paler; 2 shorter, darker, and spotted. Flowers vary in size. The later flowers do not show spots (? in every case). The spots consist of small very pale areas, which are, except for a narrow rim, filled with close-set very dark crimson splashes and dots, which lie in lines radiating from the very base of the petals, where the veins of the petals begin to diverge. I have never seen the spots described before, and did not know what to expect. The petals are unequal in about the proportion 2:3. The flowers are usually considerably larger than in the common plant, which abounds in such places as sand-dunes and waste ground. The var. has been found in Oxford before.—H. J. RIDDELSDELL. "Just what I understand by that."—E. S. MARSHALL. "This has the facies of Sibthorp's *pimpinellifolium*, but the petals should be spotted; an evanescent character, for I have seen spotted and unspotted flowers on the same plant. Kirscher's *Flora von Stuttgart* has a lengthy disquisition on the biology of this interesting form, which Dillenius was the first to distinguish."—G. C. DRUCE.

Impatiens Noli-tangere L. Woods about Stock Gill Force, Amble-side, v.-e. 69, July 27, 1914.—C. WATERFALL.

Rhamnus catharticus L. On carboniferous limestone, Silverdale, v.-c. 60, altitude 30 feet, May 29, 1912. These specimens were gathered from a shrub eight to nine feet high, growing by the side of the road leading to Silverdale, and almost opposite the end of the Carnforth road. The bush has since been cut down to widen the road. The yellow-green colour and mealy character of the foliage were very striking when first gathered.—J. CRYER.

Acer campestre L., var. *leiocarpon* Wallr. Ashmansworth, N. Hants, v.-c. 12, September 18, 1914. All these specimens have been seen by Mr A. B. Jackson who assents to the naming.—W. C. BARTON.

Medicago Falcata L. Among gorse on dry heath, Barnham Common, v.-c. 28, August 17, 1914.—F. ROBINSON. "Yes."—E. S. MARSHALL. "Nice specimens from, I presume, a native station which is not mentioned in Nicholson's new *Flora of Norfolk*."—C. E. SALMON.

Medicago sylvestris Fr. Roadside, gravelly soil, Bawburgh, v.-e. 27, July 3, 1914.—F. ROBINSON.

Medicago sylvestris Fr., var. *procumbens* Fr. = *M. cyclocarpa* Hy. [Ref. No. 1352]. Between Mickleham and West Humble, Surrey, August 23, 1914. Growing on the border of a field cropped with cerne. I have not been able to see any material quite like my plant the collections at the Natural History Museum, South Kensington. My plant agrees with Fries' description of his variety, and also with the plant called by Rouy *M. sylvestris* Fries, var. *cyclocarpa* Hy. As will be seen, the distinguishing features are the long diffuse stems, narrow leaflets, the dusky yellowish-purple corollas, and the ring-like gumes.—C. E. BRITTON. "I think this a *M. falcata* × *sativa*, nearer *sativa* in flowers. Young pods with many appressed silky hairs."—S. MARSHALL.

Medicago minima Desr. Dry hillside, chalk soil, Hillborough, v.-c. 28, June 11, 1914.—F. ROBINSON.

Medicago lupulina L., var. *Willdenowiana* Koch? Roadside, Mildford, Surrey, v.-c. 17, September 1914.—J. COMBER. "No doubt the hairs on the pods are glandular, but one can hardly call them yellowish."—A. BENNETT. "Yes, fruit glandular. The habit is that of cultivated *M. lupulina*, in my specimens."—E. S. MARSHALL. "Pods with glandular hairs, i.e., var. *Willdenowiana* Koch."—C. E. MARSHALL.

Medicago lupulina L., var. *eriocarpa* Rouy. Formby, S. Lanes, v.-c. 59, July 15, 1914.—W. G. TRAVIS. "Agrees with the description, but Rouy makes it a sub-variety."—E. S. MARSHALL. "Strictly speaking, it is sub-var. *eriocarpa* Rouy. 'Légume pubescent ou velu; plante ordinairement fortement pubescente-soyeuse,' and this plant only approaches these characters."—G. C. DRUCE.

Trifolium scabrum L. Dry hillside, chalk soil, Hillborough, v.-c. 28, June 11, 1914.—F. ROBINSON.

Trifolium subterraneum L. Heath land, near water, by Punchwell, Croxton, v.-c. 28, May 3, 1914.—F. ROBINSON. Also from Meant, v.-c. 34, June 12, 1913. A rare plant in W. Gloster; this is a new locality for it.—H. J. RIDDELSDELL. Also from Honey Heath, Herts, v.-c. 20, May 19, 1913.—J. E. LITTLE.

Trifolium minus Relh., var. *microphyllum* Ser. Sandhills, High Wycombe, S. Lanes, v.-c. 69, July 7, 1914.—W. G. TRAVIS.

Trifolium dubium Sibth., var. *pygmaeum* Soy.-Will. Foot of the hill, Arbroath, August 15, 1914.—R. & M. CORSTORPHINE. "According to Rouy, this variety was described under the name *T. filiforme*, which is the same as *T. minus* Relhan, var. *microphyllum* Seringe, in

DC. *Prodromus*. The Arbroath cliff plant I can only look upon as starved type."—E. S. MARSHALL. "Yes, the correct name for the species is *T. dubium* Sibth. Fl. Ox. 1794."—G. C. DRUCE.

Securigera Securidaca (L.). Garden weed, Dalton, v.-c. 69b, August 9, 1914. If attempts be made to grow this from the seeds supplied, the testa should be pierced before sowing, otherwise most of them will remain like a piece of flint, no matter how wet the soil may be. It is a most interesting plant to watch. The earliest umbels, in this quarter at anyrate, are microscopic in almost every particular. Mr Druce kindly named the plant for me. The faded unpressed pieces are included to show the length of the mature umbel stalks.—D. LUMB. "Yes, the *Bonaveria Securidaca* (L.) Desv. The genus *Bonaveria* Scopoli dates from 1777; that of *Securigera* DC. only from 1805."—G. C. DRUCE. "Yes."—A. THELLUNG.

Lotus siliquosus L. (*Tetragonolobus siliquosus* Roth). Chalk Downs, near Streatley, Berks, May 1914. First found 1911, well established.—Coll. V. C. MURRAY; comm. G. C. DRUCE.

Lotus uliginosus Schk., var. *glabriusculus* Bab. Wet lane, Petit Bot, Guernsey, August 1, 1914. Very similar to a plant distributed last year through the Watson Exchange Club by Mr Standen, and so named by Mr Salmon. Is it var. *glaber* of Bréb., and the same as var. *a. sub-glaber* of Syme E.B.—"sub-glabrous with the leaflets ciliated at the margins?" These specimens grew in the damp hedgerow of a "water lane" and were very different in general appearance from the hairy form growing near by on dryer ground—W. C. BARTON. "Doubtless right. But I think that the amount of hair varies according as the locality is wet or dry."—E. S. MARSHALL. "May pass, I think, but not so extreme as specimens sent me by Mr R. S. Standen from Lindfield, Sussex, in 1911. Rouy (*Fl. Fr.*) segregates *L. uliginosus* into *L. glabriusculus* Bab. and β . *villosus* Lamotte. Our commoner plant is certainly the latter. Rouy remarks that the flowers of *glabriuscula* do not become green (or only slightly so) when dry, whereas those of *villosus* usually show this change. This is borne out in my herbarium specimens and in Mr Barton's example before me."—C. E. SALMON. "Yes, but Bab. in ed. 2 of his *Manual*, put it as a variety of *L. major*, hence if his name for it is used 'Bab.' should be in brackets. Brébisson in his *Fl. Norm.* 87 (1858), under *L. uliginosus* had a var. *glaber* (as in my *List*)."—G. C. DRUCE.

Lotus tenuis Waldst and Kit. Rough pasture, clay washing on chalk, under "Eagle's Nest," Offley Hill, Hitchin, Herts, v.-c. 20, August 10, 1914. *L. tenuis* in N. Herts occurs (1) on heavy boulder clay; (2) on the chalk scarp, in poor soil with a washing of marl or of clay from the caps on the hills. It generally occurs with *L. cornicu-*

us, and these appear to be intermediate forms. At Pagham, W. Sussex, v.-c. 13, it occurs on the sea bank in apparently drier situations, though perhaps moisture soaks up from below.—J. E. LITTLE. "Very characteristic."—E. S. MARSHALL.

Astragalus glycyphyllos L. Hedgebank, Holme Hall, v.-c. 28, August 26, 1914.—F. ROBINSON.

Astragalus danicus Retz. Newmarket Heath, Cambridge, v.-c. June 8, 1913.—W. C. BARTON. Also sent from dry heath, near Lingham, W. Suffolk, June 4, 1914.—F. ROBINSON.

Oxytropis sericea (Lam.) Simonk. Bettyhill, Sutherland, July 27. Growing very plentifully in blown sand on the coast of West Shetland at Bettyhill. It was in splendid flower, and was a conspicuous object in the flora of the district. The name *uralensis* must, however, give way to that of *O. sericea* Simonkai, the trivial of which is earlier than *uralensis*.—G. C. DRUCE.

Vicia lutea L. Beacon Hill, St Osyth, N. Essex, v.-c. 19, July 5, 1914.—G. C. BROWN. Also sent from field near Lower Sydenham, W. Essex, June 1912. Introduced.—Coll. H. B. FOXLEE; comm. J. GROVES.

Vicia Lathyroides L. Maulden, Beds. v. c. 30, April 25, 1914. Many of the roots have come up uninjured from the light sand and with nodules, which I suppose to be *Rhizobia* containing bacteria and enabling the plant to obtain a supply of nitrogen.—J. E. LITTLE.

Lathyrus palustris L. Marsh land, edge of ditch, Woodbastwick, v.-c. 27, July 9, 1914.—F. ROBINSON.

Rubus plicatus Wh. & N., *forma*. Bognor Common, Fittleworth, W. Sussex, v.-c. 13, July 1914.—L. CUMMING. "A very singular and stunted little form. Though strongly recalling *R. fissus* in prickles and stem pieces, it goes better under *R. plicatus*, even its prickles and stem leaves suiting *plicatus* better. Small and slender as the prickles they are really too few in number, too strong, and often too stout and hard for *fissus*; while the basal leaflets of the stem leaves are not only strictly sessile and so hardly differing at all from those of *fissus* in July."—W. M. ROGERS.

Rubus affinis Wh. & N., var. *Briggsianus* Rogers. Near St. Austin's, Pembroke, August 20, 1903. See *Report* 1903, p. 14.—Coll. W. M. ROGERS; comm. G. C. DRUCE.

Rubus imbricatus Hort. Glen Frome, near Stapleton, Gloucestershire, August 20, 1913.—J. W. WHITE.

Rubus sciaphilus Lange. Grwyne Valley, Brecon, August 13, 1903. See *Report* 1903, p. 15.—Coll. AUGUSTIN LEY; comm. G. C. DRUCE.

Rubus thyrsoides Wimm. Wyre Forest, Shropshire, September 15, 1903. See *Report* 1903, p. 15.—Coll. AUGUSTIN LEY; comm. G. C. DRUCE. "Not *R. thyrsoides* Wimm., I feel sure; but a good form of the variable *R. argentatus* P. J. Muell."—W. M. ROGERS.

Rubus robustus P. J. Muell, *forma*. Badby Wood, Northants, v.-c. 32, July 1913 and 1914.—L. CUMMING. "I see no reason for separating this from *R. robustus*, though the long lax pyramidal panicles are somewhat abnormal. It seems best to let the name cover a series of forms, as it does now with us—off type towards my *subinervis*."—W. M. ROGERS.

Rubus silvaticus Wh. & N. Badby Wood, Northants, v.-c. 32, July 1913.—L. CUMMING. "As far as I know, a record for Northants."—W. M. ROGERS.

Rubus leutiginosus Lees. Fittleworth, W. Sussex, v.-c. 13, July 1914.—L. CUMMING.

Rubus macrophyllus Wh. & N., *forma*. Badby Wood, Northants, v.-c. 32, July 1914.—L. CUMMING. "A hairy form towards *Schlechtendalii*."—W. M. ROGERS.

Rubus adenanthus Boul. et Gill. Below Peckforton Castle, Cheshire, August 5, 1903. See *Report* 1903, p. 17. Ex herb. A. H. WOLLEY-DOD; comm. G. C. DRUCE. "Apparently."—W. M. ROGERS.

Rubus anglosaxonicus Gel., var. *vestitifolius* Rogers. Woods at Ross, Herefordshire, September 5, 1903.—Coll. AUGUSTIN LEY; comm. G. C. DRUCE.

Rubus Drejeri G. Jensen. Durdham Down, Bristol, W. Glos., August 1, 1914.—J. W. WHITE. "I agree."—W. M. ROGERS.

Rubus Babingtonii Bell Salter. Common round Fittleworth, W. Sussex, v.-c. 13, July 14, 1914.—L. CUMMING.

Rubus fuscus Wh. & N. Bognor Common, and elsewhere near Fittleworth, W. Sussex, July 1914.—L. CUMMING.

Rubus fuscus Wh. & N., var. *macrostachys* P. J. Muell. Coldborough, Herefordshire, September 8, 1903.—Coll. AUGUSTIN LEY; comm. G. C. DRUCE.

Rubus scaber Wh. & N.? Badby Wood, Northants, v.-c. 32, July 1914.—L. CUMMING. "Apparently *R. scaber*, but, if so, with glandular development on stem abnormally weak. *R. scaber* would be a record for Northants."—W. M. ROGERS.

Rubus glareosus Rogers, nov. sp. Bognor common and other stations in W. Sussex, v.-c. 13, July 1914.—L. CUMMING.

Rubus Marshalli Focke & Rogers. Common near Fittleworth, W. Sussex, v.-c. 13, July 1914.—L. CUMMING.

Rubus Kaltenbachii Metseh. Newent wood, W. Gloucester, September 10, 1903.—Coll. AUGUSTIN LEY; comm. G. C. DRUCE.

Rubus hirtus Waldst. & Kit., var. *flaccidifolius a* and *b*. Badby Wood, Northants, v.-c. 32, July 1914.—L. CUMMING. "There seems no reason for keeping forms *a* and *b* apart; though *b* sheets seem on the whole further away from *flaccidifolius* towards *rotundifolius*. As I have to own (with these packets before me) it may be open to question whether these two varieties can profitably be kept apart. Both varieties are records for Northants."—W. M. ROGERS.

Rubus utkanus Moçino. Woods near Colliston, v.-c. 90, May 28, 1914. See *B.E.C. Report* 1913, p. 316.—R. & M. CORSTORPHINE.

Rubus—? Naturalised in several stretches of wood near Leysfield, Forfar, v.-c. 90, July 3, 1914.—R. & M. CORSTORPHINE. "This reminds me of *R. spectabilis* Pursh, naturalised near Sandling Park, Kent, and locally called (*vide* Dr Cosmo Melvill) 'the woodman's rose.' I have gathered it, but cannot find my specimen."—E. S. MARSHALL.

Potentilla thuringiaca Bernh., var. *Nestleriana* Schinz and Keller. Highway bank near Fricockheim, Forfar, v.-c. 90, July 3, 1914. See *B.E.C. Report* 1910, p. 500.—R. & M. CORSTORPHINE.

Potentilla verna L. Limestone crags near Wynd's Point, Hereford, v.-c. 36, May 11, 1914.—Coll. R. F. TOWNSDROW; comm. C. WATERBURY. Also sent from Carboniferous Limestone, Silverdale, v.-c. 60, about 30 feet, May 30, 1914. Occurs in several stations in and about Silverdale. This year it was seen to great advantage in a high and rocky pasture leading towards Silverdale Moss.—J. W. WHITE.

Potentilla procumbens × *erecta* = *P. suberecta* Zimm. Peat moor near Asheott Station, N. Somerset, August 6, 1914.—J. W. WHITE. "This is a slender heath-form of the hybrid, which I have seen near Bowick station, not far away."—E. S. MARSHALL.

Alchemilla acutidens Bus., var. *alpestriformis* C. E. S. Origin near Lochan-na-Chat, Ben Lawers, 1913. Hort. Reigate, Surrey, Aug. 1914. See *Journ. Bot.* 1914, p. 287. It was noticeable how much smaller these plants kept compared with *A. alpestris* grown alongside in the garden.—C. E. SALMON.

Rosa sempervirens L., b. *Melvini* (Towndrow). Edge of pond, Leigh Linton, Worcester, v.-c. 37, May 7, 1914.—Coll. R. F. TOWNDROW; comm. C. WATERFALL. "So very much off *R. sempervirens*, as I have seen it in N. France, that I incline to think it specifically distinct. Not known elsewhere, I believe."—E. S. MARSHALL.

Rosa canina L., agg. [Ref. No. 4951.] Hanwell, Oxon, Aug. 1910.—G. C. DRUCE. Comes between (l) *andegavensis* Bast. and (p) *verticillacantha* Mérat; that is, some leaflets have most or all of the teeth simple, whilst others have them more or less compound. According to Keller and Christ, *R. hirtella* Rip. is a somewhat similar form, but with oval fruit and sepals glandular on back."—W. BARCLAY.

Rosa dumetorum Thuill., var. *platyphylla* Rau. [Ref. No. 3.] Hedge, Grey Abbey, Co. Down, Sept. 3, 1914. Leaves irregular in size; some very large, very dark green above. Approaching biserrate towards top of leaf. Fruit single; some very large and turbinate.—C. H. WADDELL. "This is a form of *R. dumetorum* Thuill. The (g) *platyphylla* Rau., so far as I can make out, differs from (d) *urbica* chiefly by having leaflets broader in proportion to their length. The present specimen does not show this difference. It had best be set down as a glaucous form of (d) *urbica*, with globose instead of ovoid fruit."—W. BARCLAY. "I do not think this can be *R. platyphylla* Rau., which, according to descriptions, is a plant with much broader leaflets—orbicular or very broadly oval—and fruit tending to a more ovoid form. I should call this *R. sphaerocarpa* Pug."—C. E. BRITTON.

Rosa glauca Vill. [Ref. No. 1]. Grey Abbey, Co. Down, September 3, 1914.—C. H. WADDELL. "Not materially different from No. 2. Serration rather more compound. Both are glaucous forms, and might therefore, according to Baker, come under var. *glaucophylla* Winch."—W. BARCLAY. "Fruit subglobose; sepals deciduous, patent or loosely reflexed; leaflets slightly compound-serrate. It can hardly be any form of *R. glauca*. Is it not a '*canina*' (aggregate), of the *S. sphaerica* Gren., or *R. globularis* Franchet affinity?"—E. S. MARSHALL.

Rosa glauca Vill. [Ref. No. 2]. Grey Abbey, Co. Down, September 3, 1914.—C. H. WADDELL. "This is not a form of *R. glauca* but *R. canina* L. (g) *dumalis* Bechst."—W. BARCLAY.

Rosa Eglantheria L. Peppard, Oxon, July 1906.—G. C. DRUCE.
 "More advanced fruit necessary to say whether *R. comosa* Rip."—
 A. H. WOLLEY-DOD.

Rosa suberecta Woods, var. Westridge Wood and Nibley Knoll,
 W. Gloucester, July 10 and September 29, 1904.—J. W. WHITE.
 "This is doubtless a variation of the *omissa* group of *R. tomentosa*
 Sm. It is certainly not a variety of *R. suberecta* Woods. Nor do I
 see how it can come under *R. suberecta* Ley, as it differs in all the
 characters relying on which that so-called species has been segregated.
 It has not prickles straight or nearly so, but stout and decidedly falcate.
 Its calyx tube is not densely aciculate, the fruit is not globose. The
 petioles have not 'numerous unequal falcate acicles and pricklets,' but
 are mostly quite unarmed. No red colour is perceptible in the younger
 parts, and not more than is common to many species in the older
 ranch. It might as easily be made a variety of *R. Sherardi* Ley and
 more easily a var. of *R. Andrezorii* Ley."—W. BARCLAY. "Flowering
 examples only, showing very little of the armature. I consider this
 to be *R. tomentosa* Sm., and cannot see any likeness to Ley's own
 examples of his species—*R. suberecta* Ley = *R. villosa* L., var. *sub-*
erecta Woods."—C. E. BRITTON.

Rosa tomentosa Sm. [Ref. No. 1368.] Marden Park, Surrey,
 Sept. 6, 1914.—C. E. BRITTON. "Belongs, I think, to the
abruscula group of *R. tomentosa* Sm., differing from var.
abruscula Sm. in its more hairy and somewhat glaucous leaflets,
 its prickles less slender and more hispid styles. The serration of
 the leaves is also less deep and less compound."—W. BARCLAY.

Rosa pimpinellifolia L. × *tomentosa* Sm. [Ref. No. 69 (1).]
 Cuthlic Den, near Arbroath, v.-c. 90, July 27 and September 13, 1914.
 Growing with both parents. The *tomentosa* forms near it belong to
 the groups *subglobosa* Sm. and *omissa* Déségl. Serratures nearly
 simple, fruit broadly ovate or almost globular, with a short neck.—
 R. & M. CORSTORPHINE. "No. 69 (1) has a look of a *mollis* ×
inosissima, to my eye."—E. S. MARSHALL.

Rosa involuta Sm., var. [Ref. No. 66 (3).] Cuthlic Den, near
 Arbroath, v.-c. 90, July 27 and September 13, 1914. Bush
 tall, straggling: petals—large, pink: fruit—long, urceolate,
 with longish neck: leaflets—almost uniserrate, slightly hairy above,
 more so beneath, with a few glands on the midrib.—R. & M.
 CORSTORPHINE. "An interesting hybrid. The second parent can be
 better guessed at on the spot."—E. S. MARSHALL. "These two forms
 are practically the same, except that in the second the fruit is
 oblong, or in some cases turbinate, whereas in the former it is,
 as is more usually the case, globose. Both have the serration

simple, except that here and there a toothlet may be detected. Both have the leaves sparingly hairy and quite eglandular, except that on the midrib an occasional gland may be detected. The main sepals in both have some slender pinnae, and in both the pedicels and fruits are pretty thickly clothed with glands and acicles. Both have glaucous (blue-green) leaves, and their prickles are similar in form. In the second the fruit as I saw it on 29th July, before it had begun to shrivel, was remarkable for its lengthened shape, ovoid prolonged or in some cases obovoid, quite different from any other form which I have seen. The mature fruit is not so striking. At some distance, but in the same locality, was another clump, somewhat similar to the first, but with more double teeth and with leaflets broadly elliptical, rounded at both ends and occasionally almost orbicular. The leaves were strongly tinged with red even at that early part of the season. Still a fourth bush or clump differed in its leaves with composite glandular serration and with numerous subfoliar glands. All four, however, appear to me to be variations of *R. pimpinellifolia* × *tomentosa* Sm. Mr and Mrs Corstorphine are to be congratulated on the discovery of these interesting forms.”—W. BARCLAY.

Rosa involuta Sm., *forma* = *R. spinosissima* L. × *tomentosa* Sm. August 18, 1914. This is the rose described by Major Wolley-Dod in *List of British Roses*, p. 9, under the name of *R. spinosissima* (agg.) × *dumetorum* (agg.) or (*coriifolia*? agg.) f. *Margerisoni* f. nov. The specimens enclosed are from a plant in my garden, sent me about 7 years ago by Mr Margerison, who discovered it in Knipe Wood, Kettlewell, N. Yorks. I formerly sent a moderate supply to the Watson Club, and what I now send should enable all who take an interest in roses to obtain a specimen. To the note published in the 28th Annual Report of the Watson Club I have nothing to add except that I am more convinced than ever that this rose belongs, not to the *hibernica*, but to the *involuta* group.—W. BARCLAY. “I presume that this is identical with the rose described by Wolley-Dod under the cumbersome form of *R. spinosissima* (agg.) × *dumetorum* (agg.) (or *coriifolia*? agg.) f. *Margerisoni*, in his *List of British Roses*. How much more satisfactory would it have been had Wolley-Dod simply described this as × *Rosa Margerisoni*! These excellent specimens afford a better opportunity of studying this rose than the late-gathered specimens contributed by Mr Druce in 1911. That this is a *spinosissima* hybrid is, I believe, uncontroverted: the only point on which opinion is divided is as to the second parent. As to *R. tomentosa* or *R. omissa* entering into the composition of this rose, I am quite unable to believe. The presence of a *tomentosa* form would be revealed by a glandular development, whereas this rose is practically eglandular. The very narrow stipules are against the view of *R. coriifolia* being the second parent, and I think Wolley-Dod’s first alternative *R. spinosissima* × *dumetorum* is the correct solution. The examples have a certain

resemblance to *R. hibernica*, but clearly cannot be ranged under that name, and, scientifically, it is impossible to call this *R. involuta* Sm., as Mr Barclay does, the points of divergence being so great."—C. E. BRITTON. "Nearer to the *spinosissima* parent than these hybrids usually are. At first glance it suggested to me *R. mollis*, var. *coerulea*, as the other parent."—E. S. MARSHALL.

Rosa involuta, var. *Wilsoni* Borrer. Growing on a very restricted area on a bank at the edge of the Menai Strait, near Bangor, N. Carnarvon, v.-c. 49, September 7, 1888.—C. BAILEY.

Pyrus torminalis Ehrh. "Long Cross," near St Newlyn East, W. Cornwall, June 1, 1914, and August 7, 1912 and 1914. Fairly good specimens, I think.—C. C. VIGURS.

Crataegus monogyna Jacq., forma *subtrilobata* Druce. [Ref. No. 151.] Virley, N. Essex, v.-c. 19, May 31, 1914. Teste G. C. Druce, who says *in lit.* "A very interesting form—forma *subtrilobata*."—G. C. BROWN

Crataegus oxyacanthoides Thuill., var. *macrocarpa* Heger. [Ref. No. 70.] Virley, N. Essex, v.-c. 19, May 31, 1914; fruit, September 3, 1914. Teste G. C. Druce. Mr Druce says *in lit.* "The leaves are not quite typical *oxyacanthoides*. The size of the fruit brings it under var. *macrocarpa* Heger, which I have seen in Essex, both North and South."—G. C. BROWN.

Crataegus oxyacanthoides Thuill. (*oxyacantha* L.). Hedgerow in June near Melmerby, Cumberland, v.-c. 70, August 3, 1914.—C. WATERFALL. "Under this, but not quite typical. Several forms have only one style and the fruit is small, but the leaf-veining is correct. I believe it is a new county record for v.-c. 70."—G. C. DRUCE.

Crataegus oxyacantha L., var. Single tree at Wigginton, Oxon, October 19, 1914. I doubt this identification; for though there are two styles, and the fruit is apparently smooth, yet the veins of the leaves are frequently not incurved. The remarkable feature of the tree is the flattened fruit, which is of about the same diameter as the usual *Crataegus* fruit, but very little more than half the length. The leaves packed separately shew the feature. The tree was noticed too late for good specimens to be procurable. It is hoped that next year better and completer specimens may be distributed, and some name may be found for the variety.—H. J. RIDDELSDELL. "Material probably: style solitary; so it appears to be a striking leaf-variety of *monogyna* Jacq."—E. S. MARSHALL. "An interesting looking plant, but the specimen is without flowers, and the fruit is imperfect.

I should like to see more and better specimens, but I expect it is forma *triloba*, unless it be a hybrid with *oxyacanthoides*.”—G. C. DRUCE.

Crataegus punctata Jacq. Planted ground, Dalton-in-Furness, v.-c. 69b, June 15, 1914.—D. LUMB. “In the absence of fruit it is not possible to name this definitely. In any case, being a cultivated tree, it is of no interest to the members.”—A. B. JACKSON. “Yes, similar to the plants so named by Dr Thellung.”—G. C. DRUCE.

Saxifraga aizoides L. Mountain streamlet above Easedale Tarn, Westmoreland, v.-c. 69, July 19, 1914.—C. WATERFALL.

Saxifraga hypnoides L., agg. [Ref. No. 2902.] Ben Bulbin, Sligo, June 1909.—G. C. DRUCE. “Yes, and under the type, I should say.”—E. S. MARSHALL.

Saxifraga stellaris L. Swamps on descent of Red Screes towards Seandale Beek, near Ambleside, Westmoreland, v.-c. 69, July 29, 1914.—C. WATERFALL.

Saxifraga hirsuta L., var. *acutidens* E. S. Marshall. [Ref. No. 3647.] Roots from cliffs above Lough Doon, Connor Hill, S. Kerry, June 1911; flower garden, West Monkton, May 24, 1914. The Linnean type has crenate leaf-toothing; in var. *acutidens* it is serrate. This is the usual Irish form, and varying considerably in the shape of the lamina, and in the amount of hairiness. The leaf-bases are truncate or somewhat cuneate; I believe that a cordate base indicates crossing with *S. Geum*.—E. S. MARSHALL.

Chrysosplenium alternifolium L. Wet places, Via Gelia, Derbyshire, v.-c. 57, April 12, 1914. Intermixed with *oppositifolium*.—G. C. CHESTER.

Tillaea muscosa L. Sandy cart ruts, Shouldham, W. Norfolk, v.-c. 28, June 24, 1913.—J. E. LITTLE.

Sedum Forsterianum Sm., type (Watson's *a. virescens*). [Ref. No. 4034.] Root from Culbone Woods, S. Somerset, v.-c. 5. After several years' cultivation its green foliage is maintained; and it is less robust than the var. *glaucescens*, from the coast near Minthead; garden, West Monkton, June 24, 1914.—E. S. MARSHALL.

Callitriche obtusangula Le Gall. Pools on Upper Chase Road, Malvern, Worcester, v.-c. 37, May 13, 1914.—C. WATERFALL. “I am unable to pass an opinion on such specimens.”—A. BENNETT. “Neither habit nor fruit suggest this, to me; the latter is flat, not obtusely angled. I think it a form of *C. stagnalis* Scop., but more

careful drying would give one a better chance to judge."—E. S. MARSHALL. "Probably *C. stagnalis*."—G. C. DRUCE.

Epilobium roseum Schreb. [Ref. No. 658.] By a small spring in a clayey bank, Halstead, N. Essex, v.-c. 19, August 23, 1914.—G. C. BROWN. "No; certainly a state of *E. obscurum*."—E. S. MARSHALL.

Epilobium alsinifolium Vill. Mountain streamlet, the Red Screes, over Kirkstone Pass, Westmoreland, v.-c. 69, July 29, 1914.—C. WATERFALL. "Yes."—E. S. MARSHALL.

Circaea alpina L., b. *intermedia* Ehrh. Roadside, on way to Tenkin's Crag, Ambleside, Westmoreland, v.-c. 69, July 22, 1914.—C. WATERFALL. "I cannot separate this from the type. *C. intermedia* Ehrh. is a much larger plant."—E. S. MARSHALL.

Astrantia major L., var. *involuta* Koch. Tayside, Mid Perth, July 1905. Quite naturalised on the banks of the Tay below Perth, where very luxuriant plants are to be seen. The variety is described in the *Synopsis Fl. Germ.*, p. 280, 1837, as "involueri foliola umbella squilongiora, ad apicem rarins uno-alterove denticulo, nec vero in omnibus foliolis, neque in singulis regulariter, instructa."—G. C. DRUCE.

Cicuta virosa L. Banks of river, Salhouse, v.-c. 27, July 9, 1914.—E. ROBINSON.

Pimpinella Saxifraga L., var. *dissecta* Druce. Avebury Down, Wiltshire, v.-c. 7, August 5, 1913.—W. C. BARTON. "Towards this, that character not very good, in my one small plant."—E. S. MARSHALL.

Anthriscus vulgaris Bernh. Seedlings. Sandy bank, near Kettering, v.-c. 32, March 22, 1914.—G. CHESTER.

Selinum Carvifolia L. Chippenham Fen, Cambridge, August 1903. Of somewhat uncertain occurrence. That year it was in great confusion, but in other years but few plants were seen. Unless intentionally sown there, it has the appearance of being native.—G. C. DRUCE.

Galium Mollugo L., var. *Bakeri* Syme. Cliff tops, Milford-on-Sea, Hants, August 1914.—J. COMBER. "To me a reduced form of *Mollugo*. The leaves are unlike the var. *Bakeri*."—A. BENNETT. Under that, I think; but some of the leaves broaden out unusually towards."—E. S. MARSHALL. "Surely not *Bakeri* which should have more or less linear-lanceolate leaves, etc. Is not this a reduced state of ordinary *Mollugo (elatum)*, frequently found on sea cliffs?"—C. E. LEMON.

Valerianella dentata Poll. Clears, Reigate, Surrey, June 30, 1914. This, at first sight, was taken for the variety *mixta*, but on closer examination the fruits appeared diseased. Mr Ramsbottom kindly examined the specimens and reported that the whole plant was affected by *Erysiphe Polygoni* DC., a "mildew" that attacks a very large number of species of plants.—C. E. SALMON.

Valerianella rimosa Bast. Wheat field, Cromer, v.-c. 27, June 21, 1914.—F. ROBINSON. "I should name this *V. dentata* Poll., not *V. rimosa*."—C. E. SALMON. "*V. dentata*."—G. C. DRUCE.

Filago minima Fr. Sand dunes, Ainsdale, S. Lancs, v.-e. 59, July 25, 1914.—J. A. WHELDON. Also from sandy roadside, Freshfield, S. Lancs, v.-c. 59, July 1914.—W. G. TRAVIS. "We have been wrong in giving Fries as the authority for this name. Persoon *Syn.* ii., p. 422, 1807, is the earlier publication, Fries' *minima* not appearing till 1822. Mr Travis's specimens approach the var. *supina* Rouy and Camus *Fl. Fr.* viii., p. 176. Mr Wheldon's are nearer the var. *brevifolia* of those authors."—G. C. DRUCE.

Gnaphalium luteo-album L. Sandy land formerly cultivated, Thompson, v.-e. 28, July 23, 1914.—F. ROBINSON. "Nice specimens. The label describes them as occurring on 'land formerly cultivated.' Nicholson (*Fl. Norf.* 1914, p. 97) calls this species 'doubtfully native' in the county, but I think that the coast stations (where the plant occurs on apparently virgin soil) need not be regarded with much suspicion."—C. E. SALMON.

Gnaphalium sylvaticum L. Rough pasture between Shilling Green and Little Hill End, Herts, v.-c. 20, September 9, 1913.—J. E. LITTLE.

Chrysanthemum—? [Ref. No. 628]. On cotton-seed refuse, Hythe Quay, Colechester, v.-e. 19, June 1914. Near *segetum*, but flower somewhat deeper yellow and leaves bright green. Plants all small.—G. C. BROWN. "*Chrysanthemum coronarium* L."—A. THIELLUNG.

Artemisia campestris L. Among gorse on dry heath, Barnham Common, v.-e. 28, August 17, 1914.—F. ROBINSON. "Beautifully prepared specimens. On the Continent this is a variable species, 20 varieties being described in the *Flore de France*."—G. C. DRUCE.

Senecio viscosus L. Railway track, Sandsend, Yorks, v.-c. 62, August 13, 1913.—J. E. LITTLE. "Yes. I have found it near Ware."—G. C. DRUCE.

Senecio vulgaris L., *forma*. [Ref. No. 121] Stiff clay on dyke, Brean Down, N. Somerset, v.-c. 6, April 26, 1914.—W. C. BARTON.

Senecio laetus Forst. Banks of Tweed, Selkirk, v.-c. 79, September 1914. Native of Australia. Growing in this neighbourhood it does not increase by its own fruits, but by rooting all along its old wood. On a plant of two years' growth I counted 70 old stems, and the branches shooting from them each bearing on an average 190 blossoms.—I. M. HAYWARD.

Cirsium lanceolatum Scop. \times *acaule* Weber. Undercliff, Milford-on-Sea, S. Hants, v.-c. 11, August 1914. I send a few more sheets of this plant to supplement those sent last year. A further examination *in situ* convinces me that whatever it may prove to be, it is certainly not the typical caulescent state of *C. acaule*. The phyllaries have patent or sub-patent spinous tips, whereas those of *C. acaule* are mucronate only. The leaf segments are longer, narrower in proportion to their length, and more parallel sided; and the petioles, especially of the lower leaves, more spinous-ciliate. The whole facies of the plant is different—greyer in colour, and considerably rougher and harsher looking. It also flowers at least a week or ten days earlier.—J. COMBER. "See Report 1913, p. 476. I can add nothing to my remarks, except to say that one is better qualified to judge after seeing the plant growing with its supposed parents. Dr Thellung says: 'rarely \times *lanceolatum*.'"—G. C. DRUCE.

Cnicus oleraceus L. Marshy meadow at Limehaugh, E. Perth, August 11, 1914. This thistle appeared first in 1911 in a marshy meadow close by the River Tay, which in very high floods is liable to be inundated. It has appeared every summer since to the number 60 or 70 flowering heads. As the meadow is cut about the end of August, it is doubtful if the plant produces ripe seed so as to give it a chance of becoming thoroughly naturalised. Although not a native of Britain it is common in Central Europe and in Scandinavia. W. BARCLAY. "Being found in South Scandinavia, Denmark, Holland, Belgium, France, and Germany, it should occur as a native of Britain."—E. S. MARSHALL. "Yes, *Cirsium oleraceum* Scop. so naturalised near Selkirk (Hayward)."—G. C. DRUCE.

Centaurea Jacea L., var. *pratensis* Koch. Ditcham Park, Hants, August 25, 1914. A rather short small-flowered plant easily distinguished from the *C. decipens* and *C. nigra* forms growing with it. Heads sometimes rayed.—R. S. ADAMSON. Referred by Dr Thellung to *C. nigra* L. (pappus distinctus), sub-sp. *ennigra* Gugler. Folia uete angusta.

?*Centaurea nigra* L., var. Rough pasture on clay, Ditcham Park, Hants, August 25, 1914. A very distinct small-headed form which grows near *C. Debeauvii* Gren. & Godr.—R. S. ADAMSON. "According to the somewhat artificial key of H. Saintange Savourié, this seems to

come under *C. consimilis* × *nemoralis*, though one of the parents may be *C. Debeauxii*, which occurs in S. England. My examples do not show fruit, which is useful in dealing with these *Centaurea* forms, but they agree with *C. consimilis* in the longly-ciliate, somewhat lax araneuse phyllaries, and with *C. nemoralis* in the deeper-coloured appendages and strongly inflated stem apex."—J. A. WHELDON. "Mr Adamson remarks:—'A very distinct small-headed form, which seems like *C. Debeauxii* G. & G.' I do not think this will do for *C. Debeauxii* G. & G., but I think it must be a *nigra* (including *obscura* Jord. and *nemoralis* Jord.) form, rather than coming under *pratensis* Thuill., in which group Rouy (*Fl. Fr.*) places *C. Debeauxii* as a 'forme' of *C. microptilon* Gren."—C. E. SALMON. "*C. nigra* L. cf. sub-sp. *nemoralis* (Jord.) Gugler, acced. ad sub-sp. *Debeauxii* (G.G.) Gugler." A. THELLUNG.

Centaurea melitensis L. Par, E. Cornwall, v.-c. 2, July 10, 1914. This plant was in good quantity at Par this year. Many plants were small, but there were three fine ones like good *Centaurea nigra*.—C. C. VIGURS. "Yes."—A. THELLUNG.

Centaurea—? [Ref. No. 627.] On cotton-seed refuse with many other aliens, Hythe Quay, Colchester, N. Essex, v.-c. 19, June 16, 1914. Near *C. Calcitrapa* L., but flower bright yellow; no supplementary spines at base of large involueral spines; leaves with broader segments.—G. C. BROWN. "An early state of *C. Calcitrapa* L., is it not?"—E. S. MARSHALL. "This is *C. Calcitrapa* L."—R. S. ADAMSON. "This is *C. pallescens* Del., var. *typica* Gugler and Thellung, forma *hyulolepis* Gugler. See Thellung *Adv. Fl. Montpellier* p. 546, 1912."—A. THELLUNG.

Centaurea aspera L. Hayfield, Tottington, v.-c. 28, July 23, 1914.—F. ROBINSON. "Yes, var. *genuina* Willk."—R. S. ADAMSON. "Recte."—A. THELLUNG.

Carthamus tinctorius L. On rubbish by the canal, Litherland, S. Lancs, v.-c. 59, September 5, 1914.—J. A. WHELDON and W. G. TRAVIS. "Yes."—A. THELLUNG.

Picris Hieracoides L., var. *gracilis* (Jord.). Letcombe Castle, Berks, August 1901. This variety is described by Rouy (*Fl. Fr.*, x., p. 23) as "plus grêle, pauciflore, à pubescence plus ténue, bien moins hispide; feuilles pubescentes, à peine rudes, plus brièvement dentées, calathides ± contractées à la maturité." These characters we might assume to be caused by the habitat—dry chalk downs—on which it grew.—G. C. DRUCE.

Crepis biennis L. Edge of cultivated land, Walton, v.-c. 28, June 9, 1914.—F. ROBINSON. "Yes; not given for 28 in *Top. Bot.* This

lant seems to come under the var. *Bannatica* Rochel. Leaves usually runcinate-pinnapartite or laciniate."—G. C. DRUCE.

Crepis taraxacifolia Thmill. [Ref. No. 46]. Cultivated land, light soil, Hargham, v.-c. 28, May 24, 1914.—F. ROBINSON.

Hieracium Auricula L. [Ref. No. 2832]. Originally from a pasture near Keevil, S Wilts, v.-c. 8. Remote from houses, but only one patch seen. Cultivated at West Monkton, May 27, 1914. Styles yellow.—E. S. MARSHALL. "Correct."—E. F. LINTON.

Hieracium cyathis Ley. [Ref. No. 3975]. Cheddar Gorge, N. Somerset, v.-c. 6, May 30, 1914. Styles yellow. Leaves firm, rather mucous, often blotched. Rev. Augustin Ley pointed out this to me several years ago as being his plant.—E. S. MARSHALL. "Exactly matches specimens in my herbarium gathered by the late Rev. A. Ley in the same Gorge on May 29, 1902."—J. CRYER. "This agrees with my plants from Cheddar, which were named *H. cyathis* for me by Rev. A. Ley."—E. F. LINTON.

Hieracium britannicum F. J. Hanb. Limestone crags, the Red trees, over Kirkstone Pass, Westmoreland, v.-c. 69, July 29, 1914.—WATERFALL. "No, young plants of *H. anglicum* Fr."—J. CRYER. "There is much resemblance to *H. britannicum* in these specimens, but the leaves of that species are rather strongly ciliate and toothed near the base, and the ligules are glabrous above. This plant is no doubt a variety of *H. anglicum* Fr., and probably var. *longibracteatum* J. Hanbury, but the specimens are undersized, having only one bud each."—E. F. LINTON.

Hieracium britannicum F. J. Hanb. Ling Gill. Ribblesdale, alt. 100 feet, v.-c. 64, July 25, 1914.—J. CRYER. "I cannot find anything better to put this to than *H. britannicum*, of which it may be a rock form. I have some exactly like it."—E. F. LINTON. "I think so."—E. S. MARSHALL.

Hieracium sylvaticum Fr. [Ref. No. 66]. Shady bank, West Monkton, v.-c. 27, June 21, 1914.—F. ROBINSON. "No. 988, *L.C.*, ed. is *H. sylvaticum* Gouan. In my opinion, this is not *H. sylvaticum* Gouan, but *H. diaphanoides* Lindeb."—J. CRYER. "*H. sciaphilum* Ehrh., var. *transiens* Ley."—E. F. LINTON.

Hieracium pellucidum Laestad. Hackfall Woods, near Tanfield, v.-c. 64, June 7, 1913. This is a frequent hawkweed on the boniferous Limestone of Yorkshire, being found at Ingleton, Ribblesdale, Ling Gill, Hesledon Glen, Arncliffe, Kettlewell, Malham, and Grassington. The above is a new station for it in the North

Riding.—J. CRYER. “Rightly named.”—E. F. LINTON. Also sent from Wyre Forest, Worcester, September 15, 1903. See *Report* 1903, p. 22.—Coll. AUGUSTIN LEY; comm. G. C. DRUCE.

Hieracium lucidulum Ley. Catterick Glen, W. Yorks, June 25, 1903.—Coll. AUGUSTIN LEY; comm. G. C. DRUCE. “*H. lucidulum* Ley = *H. pellucidum* Laest.”—E. F. LINTON.

Hieracium varicolor Dahlst., stylose form. [Ref. No. 3309]. Originally from limestone, Allt nan Uamh, near Inchnadamph, W. Sutherland, v.-c. 108, July 1908. Flower garden, West Monkton, June 16, 1914. The original plants were so determined by the Rev. E. F. Linton. It comes true from seed. Styles greenish-yellow; heads epilose.—E. S. MARSHALL.

Hieracium serratifrons Almq., var. *caliginosum* Dahlst. [Ref. No. 3986]. Raised from seed collected by Mr W. A. Shoolbred near Inchnadamph, W. Sutherland, v.-c. 108, in 1908. Flower garden, West Monkton, June 8, 1914. Styles yellow; ligule-tips glabrous; heads very glandular, epilose; leaves dull, deepish green, white-dotted and glabrous above, very hairy beneath. Closely resembles plants so named from near Tongue and Kylesku, W. Sutherland.—E. S. MARSHALL. “I agree; the same form as we have so named for Mr Marshall from other places in Sutherlandshire.”—E. F. LINTON.

Hieracium sagittatum Lindeb., var. *subhirtum* F. J. Hanb. Winch Bridge, altitude 900 feet, v.-c. 65, June 6, 1914. Teste Rev. E. F. Linton. A new county record, I believe.—J. CRYER. “Yes; heads larger than in the normal Scottish form.”—E. S. MARSHALL. Also sent from High Force, Teesdale, altitude 1000 feet, v.-c. 65, June 6, 1914. Teste Rev. E. F. Linton.—J. CRYER.

Hieracium—? On the Carboniferous Limestone, Haweswater, Silverdale, v.-c. 60, May 30, 1914. The late Rev. A. Ley named similar specimens for me *H. cymbifolium* Pursh. The Rev. E. F. Linton writes on these specimens:—“I believe this is dwarf *H. expallidiforme* Dahlst., from limestone. It is worth cultivation to test proposed name.”—J. CRYER. “Smaller than any specimen that I have of *H. sanguineum* Ley; but I think that it belongs here.”—E. S. MARSHALL.

Hieracium diaphanoides Lindeb. Festiniog, Merioneth, July 14, 1903. See *Report* 1903, p. 22.—Coll. AUGUSTIN LEY; comm. G. C. DRUCE. “Of the three specimens on my sheet two are *H. vulgatum* Fr.; the third is probably a seedling of *H. diaphanoides*.”—J. CRYER.

Hieracium rigidum Hartm., var. *Friesii* Hartm. Blaenau-Festiniog, Merioneth, July 14, 1903. See *Report* 1903, p. 23.—Coll. AUGUSTIN LEY; comm. G. C. DRUCE.

Hieracium rigidum Hartm., var.? Litton-dale, v.c. 64, August 3, 1914. Mr Linton says:—"Var. *scabrescens* Dahlst. At least such the same as the Dent-dale specimens I so named for Prof. D. Liver, and which W. R. LINTON accepts as that variety."—J. CRYER.

Hieracium boreale Fr. [Ref. No. 113]. Colwyn Bay, Denbigh, v.c. 50, September 1, 1913.—W. C. BARTON. "Right."—E. F. LINTON. "Under the type, I believe; stem less hairy than usual."—E. S. MARSHALL.

Hieracium boreale Fr., var. *virgultorum* Jord. Wyre Forest, Worcester, September 15, 1903. See Report 1903, p. 23.—Coll. AUGUSTIN LEY; comm. G. C. DRUCE.

Hieracium umbellatum L., var. *pauciflorum* Hartm. [Ref. No. 114]. N. of Grand Havre, Guernsey, August 10, 1912. On specimens of this gathering submitted to him Mr Marshall reported:—"Practically identical with my specimen from Inveroran, Argyll (1893), named var. *pauciflorum* Hartm. by Elfstrand in F. J. Hanbury's herbarium." The Rev. E. F. Linton, who has seen the whole gathering, writes:—"I agree with Mr Marshall's identification of your plant with his Inveroran specimen."—W. C. BARTON.

Hieracium umbellatum L. ? var. *litorale* Fr. [Ref. No. 48]. Rocky coast, Cobo, Guernsey, August 16, 1912. Mr Marshall reports on a specimen of this gathering:—"I have exactly the same plant on rocky coast near Cobo Castle, and lane near Vale Castle (W. F. Miller, 1892). It may deserve a special name, but I know of none, perhaps only a state of poor, rocky ground." Mr Linton, who has seen the whole gathering writes:—"Dr M. Elfstrand saw Cobo specimens of a dwarf *H. umbellatum* in F. J. Hanbury's herbarium, I was inclined to accept them as var. *litorale* Fr. Your plant looks more like var. *litorale* than the var. *littoreum* Arv.-Touv. of *Brit. Flor. Fauna*."—W. C. BARTON.

Hieracium umbellatum L., var. *linariifolium* Wallr. [Ref. No. 115]. Locally plentiful among the coast sandhills, Ansdell, W. Cornwall, v.c. 60, August 10, 1914. Styles livid; leaves narrow, with bluish edges. Some of the stronger plants approach var. *coronopifolium* Fr.—E. S. MARSHALL. "I agree."—E. F. LINTON.

Taraxacum erythrospermum And. [Ref. No. 122]. Limestone, Bream Down, N. Somerset, v.c. 6, April 26, 1914.—W. C. BARTON. "Yes; the exposed situation accounts for its compactness."—E. S. MARSHALL.

Taraxacum spectabile Dahlst. [Ref. No. 11419]. Fassaroe, Wick, Cornwall, v.c. 6, April 1914. Growing in the demesne of our member, Mr R. M.

Barrington, with whom I gathered it last April. I suspect it to be allied to *spectabile*, and have sent it to Herr Dahlsted for his confirmation.—G. C. DRUCE. "I hardly think so. Leaf surfaces practically glabrous. No flowers on my two specimens; fruit not yet ripe. The habit is certainly not typical for *T. spectabile*. More like *T. palustre*."—E. S. MARSHALL.

Campanula rotundifolia L., var. *elongata* Hampe. Lough Gill, Sligo, August 17, 1913. Differs from my No. 51 sent last year from the same locality in the absence of the pubescence clothing the lower part of the stem. The height of these plants is remarkable (up to 80 cm.); the lower leaves about 30×7.5 mm., while in the middle of the stem they are about 60×1.5 mm.—W. C. BARTON. "This elongated state often occurs in Yorkshire. It is not worth a varietal name."—J. CRYER. "The variety is unknown to me; if this is it, I should suppose it to be a drawn-up 'state,' due to growing among rank vegetation."—E. S. MARSHALL. "Yes, but I am not certain whether it is more than a condition of growth."—G. C. DRUCE.

Lobelia Dortmanna L. Out of River Brathay, near Brathay Church, N. Lanes, v.-c. 69b, July 24, 1914.—C. WATERFALL.

Calluna vulgaris Hull, *forma*. [Ref. No. 629]. On soil which is inundated every winter. Tiptree Heath, N. Essex, v.-c. 19, August 13, 1914. Plants small, prostrate, cymes ascending; whole plant very pubescent, lighter green than type, which was in full bloom at time of gathering.—G. C. BROWN. "Obviously a 'state,' due to the situation."—E. S. MARSHALL.

Daboecia cantabrica R. & B. Lower slopes of Errisbeg, Roundstone, Galway W., August 13, 1913.—W. C. BARTON.

Limonium vulgare Mill, var. *pyramidale* Druce. Salt marsh, Keyhaven, S. Hants, August 1914.—J. COMBER. "Two specimens on my sheet. One is type; the other may pass as the 'variety.'"—C. E. SALMON. "My specimen is very weak, but may pass."—E. S. MARSHALL.

Limonium binervosum C. E. Salmon. Low place by sea, Hunstanton, v.-c. 28, July 31, 1914.—F. ROBINSON. "Yes, *Statice binervosa* G. E. Sm."—C. E. SALMON.

Limonium recurvum C. E. Salmon. Portland Island, v.-c. 9, July 14, 1914, with *L. binervosum*. Some of it was very much dwarfed. In fair quantity, and (I understand) a fairly safe situation. Some specimens of *Limonium* on the spot seemed to be rather off ordinary *binervosum* towards *recurvum*.—H. J. RIDDELSDELL. "Small and rather untypical, but I think correctly named."—C. E. SALMON.

Primula elatior Jacq. Wood, Great Sampford, N. Essex, v.-c. 19, April 10, 1914.—G. C. BROWN.

Gentiana verna L. Widdy Bank Fell, v.-c. 66, in abundance, altitude 1500 feet, May 1, 1914.—J. CRYER.

Nymphodes peltatum Rendle & Brit. Shallow water, Scoulton Mere, v.-c. 28, July 16, 1914.—F. ROBINSON. "The authority for *Nymphodes peltatum* is Otto Kuntze in his *Rev. Gen. Pl.*"—G. C. DRUCE.

Amsinckia intermedia F. & M. (*vide* Kow). [Ref. No. 128.] Ikenhall, W. Suffolk, v.-c. 26, June 6, 1913.—W. C. BARTON. "Probably, but the allied species are with difficulty distinguished."—THELLUNG.

× *Symphytum caruleum* Petitmengin (*S. officinale* L. a. *ochroleucum peregrinum*). See Bucknall's *Revision*, p. 550. Cultivated at Scoulton, July, August, 1914.—J. W. WHITE.

Symphytum grandiflorum DC. (*S. ibericum* Stev.). Cultivated University Botanic Garden, Bristol, June, July 1914.—J. W. WHITE.

Linaria Elatine Mill. Damp places on edge of cultivated land, Scoulton, v.-c. 28, August 16, 1914.—F. ROBINSON.

Veronica Anagallis L. ? var. *montioides* (Boiss.) Hiern. Damp dunes in sand dunes, Freshfield, S. Lanes, v.-c. 59, July 19, 1914.—G. TRAVIS. "Probably so. I have gathered the same thing at Stenham, East Kent."—E. S. MARSHALL. "Yes, but is it more than a seedling state?"—G. C. DRUCE.

Euphrasia nemorosa Pers. (*vide* J. A. Wheldon). Steep hilly field line side near Broadsands, Churston, S. Devon, v.-c. 3, July 7, 1913.—C. WATERFALL. "No; that is glabrous-leaved, whereas this is decidedly pilose. *E. curta* Wettst., var. *glabrescens* Wettst."—E. S. MARSHALL.

Euphrasia curta Wettst., b. *glabrescens* Wettst. (*vide* J. A. Wheldon). Open, bare hillside near Daddy Hole Plain, Torquay, Devon, v.-c. 3, June 16, 1913.—C. WATERFALL. "In bad cultivation, but correct."—E. S. MARSHALL.

Euphrasia occidentalis Wettst. ? Cliffs above Tilly Whim, Dorset, July 20, 1914.—A. B. JACKSON. "Yes; but plants not well selected."—E. S. MARSHALL.

Euphrasia salisburgensis Funck. Coast of Connemara, Ireland, August 1906.—J. W. WHITE. "Excellent specimens."—E. S. MARSHALL. "Yes, the most typical examples I have yet seen."—G. C. DRUCE.

Euphrasia Kernerii Wettst. Chalk hills near Reigate, Surrey, Sept. 7, 1913.—A. B. JACKSON, C. E. SALMON, J. FRASER. "Yes."—E. S. MARSHALL.

Euphrasia foulaensis Towns. (*vide* E. S. Marshall). [Ref. No. 266]. Short pasture at top of cliffs at seashore, Grim Ness, South Ronaldshay, Orkney, altitude 50 feet, July 15, 1914. Native. Leaves fleshy; cauline 2—6 toothed.—H. H. JOHNSTON.

Euphrasia gracilis Fr. [Ref. No. 118]. Marshy ground, Grande Mare, Guernsey, July 31, 1914. On specimens of this gathering submitted for comment Mr Marshall remarked:—"I think that this may be *E. gracilis* Fr., but am not sure. As a rule, that is a plant of rather dry ground." Mr Bucknall replied:—"E. *gracilis* Fr., I think." Most of the plants were growing in permanently water-logged soil, some in permanent water.—W. C. BARTON.

Bartsia alpina L. In abundance on Widdy Bank, Teesdale, v.-c. 66, altitude 1500 feet, June 6, 1914.—J. CRYER.

Rhinanthus stenophyllus Druce (*Alectorolophus stenophyllus* Sterneck). [Ref. No. 3934]. Meadows near Crianlarich, Mid Perth, v.-c. 88, July 18, 1914.—E. S. MARSHALL.

Melampyrum pratense L., *agg.*, *var.* [Ref. No. 11149]. Millook, Cornwall, June 1914.—G. G. DRUCE. "My largest example is *var. latifolium* Schreb. & Mart., which Dr Moss regards as the type of the species, or near it. The smaller pieces only differ in being depauperate."—E. S. MARSHALL.

Orobanche major L. Near Cheddington, Bucks, August 1904.—G. C. DRUCE.

Utricularia major Schmidel. Pools at Restennet, Forfar, v.-c. 90, August 4, 1914.—R. & M. CORSTORPHINE. "No note as to the veining of the flowers, which is conclusive as to its being *major*. I suppose it must be so named, but the bladders are large, though not so large as in the *F. gigantea* Prahl. I think this is a new record for Forfar county 90, as Mr Marshall's specimens thence were rather doubtful."—A. BENNETT. "Yes, excellent examples showing the 'winter buds' as well as the flowers."—G. C. DRUCE.

Mentha longifolia Huds., b. *nemorosa* (Willd). [Ref. No. 85].
v ditch, Carbrooke Fen, v.-c. 28, August 20, 1914.—F. ROBINSON.
So I should name it. Leaves rather short.”—E. S. MARSHALL.

Mentha rotundifolia × *longifolia* = *villosa* Huds. Roadside near
Moss, Forfar, v.-c. 90, September 7, 1914.—R. & M. CORSTORPHINE.
“I believe this is correctly named.”—C. E. SALMON. “Seems
rather a good intermediate.”—E. S. MARSHALL.

Mentha citrata Ehrh. Origin Northaw, Herts (H. Peirson), Hort.
igate, Surrey, September 1914. This is the plant of Pryor's *Fl.*
arts (1887), p. 336, where it stands as a variety of *M. hirsuta*.
These specimens show the globular heads of *M. aquatica* (*hirsuta*) and,
alst not absolutely glabrous, the whole plant is more so than in Mr
White's "*citrata*" from Priddy Nine Barrows (*Rep.* for 1908, p. 393,
1 Wats. B.E.C. Rep. for 1909-10, p. 250). It will be noted, too,
that the leaves are broader and more cordate than in Mr White's
plant—all points in favour of *citrata*. Ehrhart's original description
extremely terse—"Folia ovata, petiolata, serrata, glabra. Capitula
crusa. Stamina corolla breviora." *Beitr.* vii. (1792), p. 150.—C. E.
SALMON.

Mentha hirsuta L., var. *sub-glabra* Baker. Crombie Den, near
broath, v.-c. 90, September 20, 1914.—R. & M. CORSTORPHINE.
Judging by examples named by Mr Baker I believe he would pass
this as his variety.”—C. E. SALMON. “Probably. I have not seen
Baker's plant. A form, apparently referable to this, found in 1906 at
Lemar by W. A. Shoolbred and myself, had the sweet scent of
citrata.”—E. S. MARSHALL. “Yes, but not extreme.”—G. C.
DRUCE.

Mentha Pulegium L., var. *erecta* Syme. Marshy ground, Limps-
ell Common, Surrey, August 23, 1914.—A. B. JACKSON and J.
MASER. “This agrees much better with Rouy's description of *β.*
varis Briquet than with var. *erecta* Wirtgen, whose name antedates
mine's.”—E. S. MARSHALL. “Yes, but Briquet in his *Labiées*, p. 93,
has the authority for *erecta* as Wirtgen.”—G. C. DRUCE.

Thymus Serpyllum L., var. *Linneanus* G. & G. [Ref. No. 126].
Edge of road, Albeeq, Guernsey, July 31, 1914.—W. C. BARTON.
This, I think, is our assumed type.”—E. S. MARSHALL.

Stachys palustris × *sylvatica*. [Ref. No. 1238]. Green Lane,
Ton parish, Surrey, July 18, 1914.—C. E. BRITTON. “Yes; con-
siderably nearer to *S. palustris*.”—E. S. MARSHALL. “Yes; and very
like the figure of Smith's *ambigua* in *E.B.*, t. 2089.”—C. E. SALMON.
From bank of stream, the Hall Dell, Melmerby, Cumberland,

v.-c. 70, July 31, 1914.—Coll. Rev. W. W. MASON; comm. C. WATERFALL. Also from ditch near Duncan's Cottages, Billingshurst, Sussex, July 14, 1914.—A. WEBSTER. "I believe so; but far closer to *S. palustris*."—E. S. MARSHALL. Also from the banks of the Leeds and Liverpool Canal, Shipley, v.-c. 64—with both parents, August 4, 1914.—J. CRYER. "*S. palustris* × *sylvatica*, much on the *palustris* side."—E. S. MARSHALL. "The specimens from Messrs Britton, Waterfall, Webster, and Cryer, all come under this hybrid."—G. C. DRUCE.

Galeopsis angustifolia Ehrh., var. *canescens* Schultes. [Ref. No. 114]. Avebury Down, N. Wilts, v.-c. 7, August 5, 1914.—W. C. BARTON. "Yes; if Koch's description of this variety is correct. He states that *canescens* has short, dense, patent hairs; *angustifolia*, 'pili omnes adpressi.' The former is surely our more common plant by far."—C. E. SALMON.

Leonurus Cardiacu L. Open wood and roadside, Hargham, v.-c. 28, June 29, 1914.—F. ROBINSON.

Lamium maculatum L. Hedgebank, roadside, Ovington, v.-c. 28, April 26, 1914.—F. ROBINSON.

Lamium purpureum L. Cultivated Dalton, v.-c. 69b, August 7, 1914. See *Report* 1913, p. 491. The following characters are maintained:—The long cotyledons; the variably fissile lower lip of the corolla; the asymmetrical sub-rhomboidal leaves; the absence of any cordate base; the shallow, very irregular toothing; the "dappling" of the leaves; the almost obsolete rugosity; the thin texture; the short leaf-stalks—half inch at most. The plant is a very "shy" seeder; nearly all the seeds produced germinate.—D. LUMB. "A very curious form, worth further study and perhaps a varietal name."—G. C. DRUCE.

Lamium purpureum L., ? var. *decipiens* auct. Denham, Bucks, June 1902.—G. C. DRUCE. "Apparently a true variety of *L. purpureum* rather than its cross with *L. hybridum*."—E. S. MARSHALL.

Ballota ruderalis Koch. Llamwarne, Herefordshire, July 18, 1914.—A. WEBSTER. "No, the teeth of the calyx in *ruderalis* should be from 2—4 mm. long; these are not 2 mm. The calyx in *ruderalis* is more hairy. This is *B. nigra*."—G. C. DRUCE.

Tencrium Scordium L., var. Braunton Burrows, N. Devon, August 1896.—G. C. DRUCE.

Plantago ceratophylla Hoffmg. and Link. Seedlings. Cultivated Walton, S. Lancs, July-September 1914.—J. A. WHELDON.

Plantago Coronopus L., var. [Ref. No. 4050]. Sandstone cliffs, Sidmouth, S. Devon, v.-c. 3, June 8, 1914. Very large (all my gathering came from two plants); biennial.—E. S. MARSHALL.

Plantago Coronopus L., form or var. [Ref. No. 4049]. Sandy ground near the coast, Berrow, N. Somerset, v.-c. 6, June 4, 1914. Apparently biennial; closely appressed to the ground. May be only a peculiar state of the type.—E. S. MARSHALL. "*P. Coronopus* L., var. *transiens* Beguinot."—R. M. CARDEW and E. G. BAKER.

Plantago Lagopus L. [Ref. No. 717.] On cotton-seed refuse, Hythe Quay, Colchester, N. Essex, v.-c. 19, June 1914. Apparently referable to this, though the dark, villous part of the dorsal portion of the sepal is narrower than in that of an old specimen from the Isle of Elba in my herbarium.—G. C. BROWN. "Correct."—E. G. BAKER. "Yes, forma *glabris* (corollae lobis extus glabris nec pilosis)."—A. THELLUNG.

Plantago major L., var. *intermedia* (Gilib.) Barnards Green, near Malvern, Worcester, v.-c. 37, August 17, 1914.—Coll. R. F. TOWNDROW; comm. S. H. BICKHAM. "*Plantago major* L., var. *intermedia* Syme."—R. M. CARDEW and E. G. BAKER. "My single specimen differs from the description of *P. intermedia* in Williams *Prodr. Fl. Brit.*, pp. 354-5. Not very hairy; leaves not coarsely toothed towards the base, &c. But it comes near what is usually so named with us.—E. S. MARSHALL. Also sent from Sands of Barry, v.-c. 90, Aug. 10, 1914.—R. & M. CORSTORPHINE. "The *P. intermedia* of Gilibert is an entirely different plant. It is figured and described by this author in his *Histoire des Plantes d'Europe* in 1806. His figure shows a plant with sessile strongly serrate leaves, reaching 2 in. long, and 1 inch broad. The scapes are hairy, and the spikes dense and short. The whole plant rather suggests a form of *P. media* L."—R. M. CARDEW and E. G. BAKER.

Plantago major L., var. *minima* DC. Malvern Common, Worcester, v.-c. 37, August 17, 1914.—Coll. R. F. TOWNDROW; comm. S. H. BICKHAM. "Does not agree at all well with the description in DC. *Prodromus*, xiii. a., p. 695:—'parvula pollicaris, foliis ovatis integris glabris in petiolum brevem attenuatis, pedunculis folia subaequantibus erectis vel ascendentibus, spicis ovatis vel ovato-capitalis.'" The sepals are rounded-obtuse; otherwise it is much like the plant sent as var. *intermedia* on a reduced scale."—E. S. MARSHALL.

Illecebrum verticillatum L. Pine Wood near Wellington College, June 6, 1914.—A. WEBSTER.

Herniaria ciliata Bab. Lizard, W. Cornwall, v.-c. 1, August 20, 1914.—Coll. E. THURSTON; comm. C. C. VIGURS.

Chenopodium murale L. Trent Meadows, Nottingham, October 7, 1914. This species was growing in fair abundance on waste ground adjacent to the site of the abortive Nottingham Exhibition of 1913. In the same field *Crocus nudiflorus* is abundant, and appears to be on the increase, owing to the erecting of palings for the above purpose around the station. With *C. murale* grew *C. opulifolium*, *C. olidum*, *C. rubrum*, *C. album*, vars., etc., and many interesting casuals, such as *Glaucium luteum*, an unexpected alien inland.—A. R. HORWOOD. "Yes."—G. C. DRUCE. "My specimen is abnormal (probably injured); it may be the sub-var. *microphyllum* Coss. and Germ. = var. *microphyllum* Gürcke, being very small-leaved, but its condition does not admit of certainty."—E. S. MARSHALL. Also sent from Newquay, W. Cornwall, v.-e. 1, December 1913.—C. C. VIGURS. "Yes."—C. E. SALMON, E. S. MARSHALL, and G. C. DRUCE.

Chenopodium ficifolium Sm. Oakfield, Hitchin, Herts, v.-c. 20. With *C. album* and perhaps hybridising, September 9; fruit October 17, 1914.—J. E. LITTLE. "Surely not *C. ficifolium*, but a form of *C. album* L."—J. CRYER. "Yes."—E. S. MARSHALL.

Chenopodium Vulvaria L. Seedlings. Albecq, Guernsey, July 31, 1914.—W. C. BARTON.

Chenopodium hircinum Schrad., var. *subtrilobum* Issler. Wool waste heap, Selkirk, v.-c. 79, October 1913. Teste Dr Murr.—I. M. HAYWARD.

Beta trigyna Waldst and Kit. Waste ground, St Philips, Bristol, June 20, 1914.—J. W. WHITE. "Yes."—G. C. DRUCE.

Salicornia ramosissima Woods. Mud flats, Montrose Basin, v.-c. 90, September 20, 1914.—R. & M. CORSTORPHINE. "I would suggest that this is a small boreal form of *S. herbacea* L., forma *patula* Moss."—E. S. MARSHALL.

Salicornia ramosissima Woods, forma. Mud flats, Montrose Basin, v.-c. 90, September 20, 1914.—R. & M. CORSTORPHINE. "Surely not; spikes too obtuse. I think this to be *S. gracillima* Moss; new for Scotland."—E. S. MARSHALL.

Salicornia dolichostachya Moss. Mud flats, Montrose Basin, v.-c. 90, September 20, 1914.—R. & M. CORSTORPHINE. "Yes, an interesting extension of its range in Great Britain. Sent to me fresh by the collectors last autumn from the same locality. It occurs in Denmark."—C. E. MOSS. "Just like plants gathered (in 1914) near Emsworth, Hants, which Dr Moss confirmed as being this species. Evidently closely allied to *S. stricta*."—C. E. SALMON. "Very characteristic;

new for Scotland, I think. For years a specimen from Sandwich flats, E. Kent, collected by Mr G. Dowker, perplexed me; it is a small form of this species."—E. S. MARSHALL.

Salicornia prostrata Pallas, var. *Smithiana* Moss and Salisbury. Mud flats, Montrose Basin, v.-c. 90, September 20, 1914.—R. & M. CORSTORPINE. "I think so."—E. S. MARSHALL.

Polygonum lapathifolium L., var. Cornfield, Wigginton Heath, Oxon, July 29, 1914. Glands on perianth few, but the nut is that of this species. The variety deserves a name if a name is ever to be given for hairy leaves. Flowers darker than usual.—H. J. RIDDELSDELL. "Too slender, I believe, for any *lapathifolium* form; it may be *P. nodosum* Pers., forma *salicifolium* Moss (*P. incanum* Willd.), though the stems are unspotted, and not swollen at the nodes; or else a hybrid of that with *P. Persicaria*, to which it bears much resemblance. The peduncle-glands are numerous, though shortly stalked."—E. S. MARSHALL. "Under leaves with whitish down approaching var. *incanum*."—G. C. DRUCE.

Polygonum sp. In an elevated sandy cornfield, c. 650 feet, on Wigginton Heath, Oxon, August 17, 1914. Characterised by the remarkably narrow acute leaves and silvery ocreæ.—H. J. RIDDELSDELL. "*P. heterophyllum* Lindm., *sensu lato*—probably a form of *P. rurivagum* Jord."—G. C. DRUCE.

Polygonum—? Waste, stony ground, courtyard of Imperial Institute, September 19, 1914.—A. B. JACKSON.

Polygonum aviculare L., var. *rurivagum* Jord. Weed in field, Grey Abbey, County Down, September 27, 1914.—C. H. WADDELL. "*P. heterophyllum* Lindm. forma; not, I think, *rurivagum* Jord."—G. C. DRUCE.

Rumex salicifolius Wien. Walton, S. Lanes, August 20, 1914.—J. A. WHELDON.

Ulmus scabra Mill. Millwood, Dalton, v.-c. 69b, September 4, 1914. Two year old plants.—D. LUMB.

Ulmus stricta Lindley. The Cornish Elm. Penpoll Quarry, Cranstock, Newquay, W. Cornwall, March 15, 1914. These flowering specimens from the same tree from which foliage was distributed in 1911 may be acceptable. This tree fell into a horizontal position some years ago, so that one can get at the top branches fairly easily. I hope to get fruit from it some year. The Cornish Elm does not fruit as freely as the Dutch, and even when it does the fruit is not easy to get, unless one is a very expert tree climber. I should be inclined to object to

the term "pyramidal" applied to the outline of the Cornish Elm in the *Cambridge Flora*. I should say "cylindrical" would be a better term, though that is hardly correct, the longest branches being usually just below the top, and all the lower branches short and scattered. This is probably the reason why rooks prefer this tree to any other for nesting in.—C. C. VIGURS.

Ulmus glabra Huds. = *U. montana* Stokes. Trevowah, Crantock, Newquay, W. Cornwall, middle of May 1914. These specimens in good fruit are from one of the very few (Davey's *Flora* notwithstanding) trees of this species in the county authoritatively named since the elms became better understood than they used to be. I think this species used to be confused with *U. hollandica*. This particular tree, named by Dr Moss, fruits well.—C. C. VIGURS. "The petioles are rather long for *U. montana*. One would like to see examples with mature leaves."—A. B. JACKSON. "Looks right."—E. S. MARSHALL.

Alnus rotundifolia Mill, var. *incisa*. A fine tree, 40 feet high, planted in the Rectory Close, Wigginton, Oxon, September 1, 1914. Is this form of the alder native to the British Isles? Babington, ed. 9, gives it for Wigtonshire apparently as a native.—H. J. RIDDELSDELL. "The inflorescence is that of *A. glutinosa* Gaertn., var. *microcarpa* Rouy."—E. S. MARSHALL. "This is not the var. *incisa*, which has the leaves small and deeply incised, resembling those of the common hawthorn, but is the cut-leaved alder, *A. glutinosa* var. *laciniata* Willdenow *Berlin Baumz.* 44, 1796, which is frequent in cultivation and often attains a large size, as at Syon House and Woburn. According to DuRoi it occurs wild in the north of France, particularly in Normandy, and in the woods of Montmorency near Paris."—A. B. JACKSON. "In Oxfordshire var. *laciniata* Willd. only occurs as a planted tree, and there are fine examples in "The Parks" at Oxford. Wm. Cobbett is said to have planted a tree at Wolvercote. See *Report* 1909, p. 473. Dr Balfour was the authority for its occurrence in Wigtonshire (? native). Our late member, T. A. Stewart, found a specimen on the Black Mountain, Belfast, but he does not mention it in his *Flora*. It occurs (? planted) at Lakenham Bridge, and is said to be native in Northern France."—G. C. DRUCE.

Salix triandra L. [Ref. No. 225]. Hedge, Earls Colne, N. Essex, v.-c. 19; flowers, April 30; leaves, August 23, 1914. Teste G. C. Druce.—G. C. BROWN. "Rightly named."—E. F. LINTON. "Type (*genuina* Syme) I believe."—E. S. MARSHALL.

Salix triandra L., ♂ *forma*. [Ref. No. 229]. "The Moors," Alphainstone, N. Essex, v.-c. 19, May 1914. See *B.E.C. Report* 1913, p. 496. I send a supply of male flowers to supplement leaf-specimens

(September 21, 1913) sent last year from the same bush. The bush flowered profusely this year.—G. C. BROWN. "No mature leaves: but it looks like var. *Hoffmanniana* Bab."—E. S. MARSHALL.

Salix purpurea L., ♂. [Ref. No. 227.] Earls Colne, N. Essex, v.-c. 19; flowers, April 30; leaves, August 23, 1914.—G. C. BROWN. "Correct."—E. F. LINTON. "Seems to come under the type (*vera* Ritschl)."—E. S. MARSHALL.

Salix Forbyana Sm. Lowland near Brent Knoll, N. Somerset, April and August 1902.—J. W. WHITE. "Rightly named."—E. F. LINTON. "A broad-leaved *S. purpurea* × *viminialis*, which I think answers to this name."—E. S. MARSHALL.

Salix aurita aut *cinerea* × *viminialis*? = *S. ferruginea* G. Anderson? Meadows near Long Ashton, N. Somerset, v.-c. 6, April, May, and August 1913.—J. W. WHITE. "The male specimen is *S. cinerea* × *viminialis*; the female probably *S. aurita* × *viminialis*. The foliage looks rather as if it belonged to the latter, but is wanting in decisive features, and there is nothing to show whether it is from the male or the female bush, or from either. I have remarked before on the objectionable practice of sending male and female specimens on the same sheet, unless, of course, there is no doubt that both belong to the same species. In this case the result of the mixture gives a very unsatisfactory result.—E. F. LINTON. "This I consider to be *S. cinerea* × *viminialis*."—E. S. MARSHALL.

Salix phylicifolia (L.) Sm. [Ref. No. 1822.] (Name confirmed by E. F. Linton). Grassy banks at burnside, altitude 50 feet, Burn of Stennadale, Firth, Mainland, Orkney; flowers, June 3; leaves, August 5, 1914. Native, common. A straggling shrub with sub-erect or erect stems, 1—2 feet high.—H. H. JOHNSTON.

Ceratophyllum submersum L. Pond, Castle Morton, Worcester, v.-c. 37, August 27, 1914. I understand that Dr C. E. Moss prefers to call the *C. submersum* var. *apiculatum* of Dalla Torre and Sarnthem. Coll. R. F. TOWNDROW; comm. S. H. BICKHAM. "This plant is, in my opinion, *C. demersum*, var. *apiculatum* = *C. apiculatum* Cham. I have never gathered *C. submersum* in any inland county, and have only seen British specimens from southern England—Somerset to Norfolk. The var. *apiculatum* is intermediate between *C. demersum* and *C. submersum*, and it is somewhat arbitrary to refer it to one of the species rather than the other, but I prefer to put it to *C. demersum*, simply because this plan enables one to determine the two species in absence of ripe fruit. I agree that in fruit characters the variety is not far from *C. submersum*, and I should not complain if the two species were reduced to one."—C. E. Moss.

Ceratophyllum demersum L. Pond, Little Malvern, Worcester, v.-c. 37, August 25, 1914. Teste C. E. MOSS—*i.e.*, specimens from the same pond were passed. Dr Moss has not seen these individual examples.—Coll. R. F. TOWNDROW; comm. S. H. BICKHAM.

Epipactis palustris Crantz, var. *ericetorum* Asch. & Grabn. Sandhills, Ainsdale, S. Lancs., v.-c. 59, July 5, 1914.—W. G. TRAVIS. "In my opinion, merely a state due to environment."—J. CRYER. "Approaching *Helleborine palustris*, var. *ericetorum* (A. & G.) Druce, but more luxuriant than the specimen I gathered there in 1911, and with narrower leaves."—G. C. DRUCE.

Orchis incarnata L. Damp flats, Sands of Barry, v.-c. 90, June 13, 1914.—R. & M. CORSTORPHINE. "Yes, a small form."—E. S. MARSHALL.

Orchis praetermissa Druce. [Ref. No. 643.] Meadows, Henny, N. Essex, v.-c. 19, July 2, 1914. Flowers varying from pale rose-purple to deep purple; lip almost flat, varying somewhat in markings and shape, but always as broad as long. Many of the bracts are coloured. Despite every care, I was unable to preserve the colour of the flowers.—G. C. BROWN. "In Gibbons Brook, Kent, at Cray, in Mid-West Yorks, and near Silverdale, in Lancashire, I have found every shade of colour in the flowers of different specimens from light flesh colour to 'dark crimson purple,' and apart from the shade of colour I find no distinguishing character whereby they can be separated. In these three stations the plants with different shades of colour bloom at the same time. The sides of the lip in every instance were reflexed, and so they are in this specimen. I should call it *Orchis incarnata* L."—J. CRYER. "As I have not yet seen the description, these specimens are very welcome. For many years I have believed that our *incarnata* included two or more species. As far as one can judge from dried material, this is what Max Schulze (*Orchidaceen Deutschlands und der Schweiz*, tab. 19) figures as *O. incarnata* L.—not the Linnean plant. I have found it in several southern and eastern counties."—E. S. MARSHALL. "The middle lobe of labellum is longer than in the type, and suggests the presence of *maculata*. I should like to see it in the fresh state."—G. C. DRUCE.

Aceras anthropophora Br. Calcareous pastures, near Barnack, Northants, v.-c. 32, May 30, 1914. The stems of most of the specimens gathered had been withered by very late frosts. It is rather curious that the orchis should have been surprisingly abundant this year.—G. CHESTER. Also from chalk downs, Reigate, Surrey, May 31, 1913.—C. E. SALMON.

Ophrys apifera Huds. Clay soil, railway cutting, Saham Toney, v.-c. 28, June 24, 1914.—F. ROBINSON.

Habenaria virescens Druce. Damp wood, Griston, v.-c. 28, June 17, 1914.—F. ROBINSON.

Leucojum vernum L. [Ref. No. 4056]. Discovered by Miss M. A. Hellard, between Bishop's Lydeard and Williton, S. Somerset, v.-c. 5, February 24, 1914. A very welcome novelty for this county. It grows in good quantity over a limited area.—E. S. MARSHALL.

Asparagus officinalis L., *a. altiss* L. Sandhills, Freshfield, v.-c. 59, July 1914.—W. G. TRAVIS.

Allium sphaerocephalum L. St Vincent's Rocks and Durdham Down, Bristol, July 27 and 31, 1911. The larger-headed specimens are from the former locality, and those with smaller heads from the latter. The plant is too scarce for any extensive gathering, and no bulbs have been taken for the Club. The few now sent had been pulled up and thrown aside by scrambling boys, who, in attempting to gather the flowers, had uprooted the plant from the loose thin soil on the rocks.—J. W. WHITE.

Allium sibiricum L. Predannock Downs, Lizard, West Cornwall, v.-c. 1, June 11, 1914.—Coll. E. THURSTON; comm. C. C. VIGURS.

Allium Schenoprasum L. "Chivey Syke," v.-c. 69b, June 8, 1914. I send these few flowers, without bulbs, to confirm Miss Hodgson's old record. A vandal, at one visit, could easily make the plant non-existent here.—D. LUMB.

Allium sativum L., var. *Ophioscorodon* Doell. [Ref. No. 4905]. Ex Mull of Galloway, July 1912.—G. C. DRUCE.

Fritillaria Meleagris L. Damp shady pasture, Ovington, v.-c. 28, April 27, 1914.—F. ROBINSON. "Not given for West Norfolk in *Top. Bot.*"—G. C. DRUCE.

Paris quadrifolia L. Damp wood, Seamere Wood, Hingham, v.-c. 28, March 21, 1914.—F. ROBINSON.

Juncus maritimus Lam., var. *atlanticus* mihi. Salt-marsh, St Mary's, Scilly, September 5, 1914. By the kindness of Mrs Stideford of "Lunnon" I am enabled to distribute another parcel of this interesting rush. My correspondent secured some good stems before the marsh was mown, but has cut them shorter than is perhaps desirable. In my note on this plant (*Journ. Bot.* January 1914, p. 19) I proposed for it the varietal name *atlanticus*, having concluded that the allied form *J. rigidus* Desv. (*Rouy Fl. de France*), described as "*forte, rigide*," could not be identical. That description indeed

seems to fit the type *maritimus* of this country rather than the variation under notice, which has a rather weak slender stem from four to five feet high. Still, as Dr Moss has suggested, it will be well to compare this plant with specimens of *J. rigidus* in the Rouy Herbarium at Paris when an opportunity offers; and until that can be done the name *atlanticus* should be regarded as provisional. Examples in some degree approaching the Scillonian form have been lately forwarded from Poole Harbour, Dorset, by my friend Mrs E. P. Sandwith. The following brief description may suffice to define this variety:—Culmo subtenuis, elato, ad 10—15 dem. producto. Anthela magna ($2\frac{1}{2}$ —4 dem. longa) diffusa, abunde decomposita, *bracteam florem inferiam multo superante*. Cætera ut typi. With reference to the comments of Professor Lindman and Mr Adamson in the *Report* for 1913, p. 499, I would say that no botanist who had seen it growing in masses over a large area could possibly suppose this plant to be a monstrosity; and would ask how any state of luxuriance could so shorten the lower bract, not merely in relation to its own panicle, but in relation to that of a non-luxuriant type.—J. W. WHITE. “I find in my herbarium a specimen of this interesting variety, collected by Mr A. Somerville, in July 1890, in the same station (Mr White confirms the name). This shows that the variation is not merely a ‘state,’ ‘here to-day, gone to-morrow,’ which is interesting in the face of some of the comments on p. 499, *B.E.C. Rep.* 1913.”—C. E. SALMON. “It certainly is a peculiar form. Only one variety is given by Ascherson and Graebner in their *Syn. Flor. Mitt.-Eur.* 1904, p. 456, and that is a very local plant.”—A. BENNETT. “A well-marked variety, in my opinion; contrasting greatly with a slender, narrow-panicled plant found on the Lancashire coast-sands.”—E. S. MARSHALL.

Juncus filiformis L. Derwentwater, Cumberland, August 1902.—G. C. DRUCE.

Juncus bulbosus L., var. *uliginosus* (Fr.) Druce. [Ref. No. 103.] Wet lane, Petit Bo, Guernsey, August 6, 1912.—W. C. BARTON. “So I should name it.”—C. E. SALMON. “This is not var. *uliginosus*, which is a procumbent form seldom “bulbous” and with three stamens. The present plant has six stamens with the anthers only about one-third the length of the filaments. It would apparently come under the var. *Kochii* = *J. nigritellus* Koch non D. Don. This is generally described as having the capsule equal or shorter than the perianth, not much longer, as in the present case. I know this long-pointed form from many woodland districts. On further examination of the plants sent by Mr Barton last year from Roundstone, Co. Galway, it would appear they are the same as this, and not *J. bulbosus* f. *uliginosus*, as previously reported.”—R. S. ADAMSON. “I look upon this simply as a viviparous condition, not a true variety.”—E. S. MARSHALL.

Juncus tenuis Willd. Roadsides, Crianlarich, Mid Perth, v.-c. 88, July 15, 1914.—E. S. MARSHALL.

Juncus bufonius L., var.? Sandy shore, at high watermark, Ballywalter, Co. Down, August 1914. These plants are frequently overflowed by the tide. I suppose the sepals are too sharp for var. *ranarius*.—C. H. WADDELL. "This is apparently the plant described as var. *ranarius* = *J. ranarius*, but the original description of *J. ranarius* Song. et Perrier says that the perianth is shorter than the capsule and the inner obtuse, while in this plant the perianth segments are all acute and exceed the capsule. A specimen in Camb. Univ. Herbarium, issued by Perrier, of *J. ranarius* is a very different plant, that so far I have not seen in this country. The present plant would come under *J. ranarius* sensu Asch. and Graebner *Syo. Mitt. Fl.* ii., 2, 1904, p. 432, or *J. insulamus* Viv. in Rouy *Fl. Fr.* xiii., 1912, p. 252, which Buchenau treats as the same as *J. bufonius* var. *fasciculatus* Koch. The oldest varietal name would seem to be var. *congestus* Wahlb. (1820), but I have not seen the description."—R. S. ADAMSON. "I have just the same thing from Starcross, S. Devon (October 1888); and New Romney, E. Kent (July 1891). Much paler than var. *fasciculatus* Koch, the individual flowers being as a rule fully twice as long. My only sheet labelled *J. ranarius* Nees, from Southport, S. Lancs, is too dwarf and poor to give much help, but I suspect that all these gatherings may belong to it."—E. S. MARSHALL. "This is what I called *fasciculatus*."—G. C. DRUCE.

Juncoides Fosteri Sm. Thicket near Colwall, Herefordshire, v.-c. 36, May 9, 1914.—C. WATERFALL. "Right."—E. S. MARSHALL. Also from Harefield, Middlesex, v.-c. 21, May 4, 1913.—W. C. BARTON.

Luzula multiflora DC., var. *congesta* (Lej.). Tiptree Heath, N. Essex, v.-c. 19, May 5, 1914.—G. C. BROWN.

Sparganium neglectum Beeby. By the Dane Stream, Milford-on-Sea, S. Hants, v.-c. 11, August 1914.—J. COMBER. "Probably correct, but less 'gradually attenuated' than in the original specimens of Mr Beeby."—A. BENNETT. "The specimen before me is useless, having no good fruit: I received a better one through the Watson Exchange Club. From the very numerous fruits, many of them somewhat angular (or 'shouldered') at the broadish base, I would name it *S. erectum*, var. *microcarpum*."—E. S. MARSHALL.

Sparganium minimum Fr. Borough Fen, Northants, August 1910. A new county record. Here over a small area it was plentiful.—G. C. DRUCE.

Damasonium Alisma Mill. Hook, N. Hants, August 1910.—G. C. DRUCE.

Schenchzeria palustris L. [Ref. No. 3941]. Bog near Rannoch Station, Mid Perth, v.-c. 88, July 17, 1914; fruiting freely. I afterwards found it in another swamp not far off, in leaf only.—E. S. MARSHALL.

Potamogeton Zizii Koch. Crooked drain, near Ely, Cambridge, June 2, 1884.—H. and J. GROVES. "Is *P. praelongus* Wulfen."—A. BENNETT.

Potamogeton decipiens Nolte. Canal, Market Harboro, Leicestershire, v.-c. 55, July 19, 1914.—G. CHESTER. "Yes, very fair example of Nolte's plant."—A. BENNETT.

re/ *Potamogeton Lintoni* Fryer. Canal, Renishaw, Derby, October 1911. A supposed hybrid of *crispus* and *Friesii*. It grew in considerable quantity and with some amount of variability in the Renishaw Canal, to which place I went in order to show Dr Glück \times *Apium Moorei* *in situ*.—G. C. DRUCE. "Yes. *P. crispus* \times *Friesii* Fryer. This was gathered near Sheen in Surrey in 1912, C. E. Salmon sp."—A. BENNETT.

Potamogeton acutifolius Link. Water course near Wareham, Dorset, June 30, 1914.—J. W. WHITE. "Yes; the smaller form of the species."—A. BENNETT. "Yes, from a well-known locality, in which I have gathered it."—E. S. MARSHALL. Also from deep pool, Staines, Middlesex, July 19, 1879, and July 29, 1882.—H. GROVES.

Potamogeton trichoides Cham. and Schlecht. Ditch near Horsey, E. Norfolk, July 10, 1912.—J. GROVES. "I suppose must be so named. It differs from the typical specimens in the Berlin Herbarium by the leaves being mostly three-veined and the fruit not so broad, and the projecting pit being in the circumference of the fruit, not outside it. It differs from the usual British plant by not being tuberculate on the dorsal margin, this being the var. *Trimmeri* of Dr Caspary."—A. BENNETT. "Evidently later-flowering than most of our species; no fruit present the second week in July."—E. S. MARSHALL.

Potamogeton marinus L. Coldisham Loch, Berwick, August 1906. In great quantity, preferring the shelter of *Castalia*. I use the older and, I believe, the correct Linnean name in preference to that of Nolte.—G. C. DRUCE. "Yes, characteristic examples of Nolte's *P. filiformis*."—A. BENNETT.

Naias flexilis R. & S. Esthwaite Water, v.-c. 69b, August 14, 1914. The dominant species in a remarkable association (see *Hydrilla verticillata*). Although the species fruits freely it is so abundant that it must have been established here for some considerable time.—W. H. PEARSALL. “An excellent addition to the English flora. Mr Pearsall sent me the first specimens found, asking if it was not *Naias*, and with these specimens a scrap of what I at once saw could only be *Hydrilla verticillata* Caspary, which was an addition to the flora of the British Isles. Taking the Irish, Scottish, and English specimens of the *Naias*, they seem to accord with the American plant, and, so far as I have seen, specimens show no approach to the var. *microcarpa* Nilsson from Lake Ruigsjön in Scania, Sweden. Of this I possess original specimens from Herr Nilsson. This is a smaller plant than ours—4-10 cm. to 1-50 dm. high, with fruit only 2—2.25 mm. long. In Europe *Naias* occurs in Finland; Russia, in Lithuania, Olentz, and Borussia; Germany, in Pomerania, Marchin! (Pasteiner-See, &c.); Sweden, Upland! (formerly) and Scania!; N. America, from Labrador to New England States across to Oregon. This shows what may be expected when our English Lakes are investigated as the Scottish ones have been by Mr W. West.”—A. BENNETT.

Hydrilla verticillata Casp. Esthwaite Water, v.-c. 69b, July 31, 1914. New to Britain. Grows in slightly coloured water at about 8 feet, and is invisible from the surface. Associated with it are *Naias flexilis*, *Pot. pusillus*, *Pot. Sturrockii*, and *Cullitriche autumnalis*—the first named being dominant. *Elodea canadensis*, though abundant elsewhere in the lake, is not included in this interesting linear-leaved association. The plant is uniformly pale green in colour, extremely slender and brittle. The branching is mainly below, the long resultant erect shoots being nearly simple. The internodes are $\frac{3}{8}$ inch to $\frac{3}{4}$ inch (rarely 1 inch) in length and therefore much more distinct than those of *Elodea*. The leaves are most often in whorls of 5, but 3's and 4's are frequent, and near the base of the shoots whorls of 3 shorter and broader leaves are common. The leaves are narrowly linear, pellucid, usually just over $\frac{1}{2}$ inch long, patent, acute, and minutely serrulate. The teeth are few, small, very acute, antrorse, extra marginal, more distant below, and best seen near the apex. I am informed that the leaves are more nearly entire than those of other European specimens of this species at Kew. I was unable to find flowers, but winter buds were prominently shown on specimens gathered later in the season.—W. H. PEARSALL. “*Hydrilla verticillata*, var. *gracilis*.”—A. J. WILDMOTT *in lit.* “I refer it to var. *pomeranica* (Reichb.). See *B.E.C. Report* 1914, p. 22.”—G. C. DRUCE.

Eriocaulon septangulare With. Craigga More, Galway W., August 14, 1913.—W. C. BARTON.

Eleocharis uniglumis Schultes. Slacks in dunes, Freshfield, S. Lincs, v.-c. 59, July 19, 1914.—W. G. TRAVIS.

Eleocharis multicaulis Sm. Name confirmed by Arthur Bennett. [Ref. No. 227.] Marsh 30 feet above sea level, Valley Burn, Rackwick, Hoy, Orkney, June 23 and September 9, 1914. Native. Common in several small marshes.—H. H. JOHNSTON.

Scirpis filiformis Savi, var. *monostachys* Hook. Freshfield, S. Lincs, v.-c. 59, July 17, 1914.—W. G. TRAVIS. Also sent from damp ground, sea cliffs, Milford-on-Sea, S. Hants, v.-c. 11, August 1914.—J. COMBER. "Yes."—E. S. MARSHALL.

Scirpus fluitans L. Near Yarnton, Oxon, June 1914. Sent in order to put on record a curious instance of plant occurrence. *S. fluitans* is one of our rarest species, being only known from two localities, neither of which has recently yielded it. The place where I found it last year was well known to me in the eighties, as it was then a shallow piece of water, rich in *Charas*. Since 1900 the water level of one area has sunk, and vegetation—*Carex*, *Sparganium*, *Iris*, &c., have asserted themselves. In the dry period when I visited it there was but little water, but the surface of the wet ground was covered with masses of this *Scirpus*, which must have been brought, probably by aquatic birds, and finding a congenial home, with little competition, was thus enabled to make in a few years this remarkable increase.—G. C. DRUCE.

Eriophorum angustifolium Roth, var. *alpinum* Gaudin = var. *minus* Koch = *E. gracile* Smith, non Roth. [Ref. No. 3943]. Plentiful in bogs, north-east corrie of Ben Chalum, Mid Perth, v.-c. 88, from 2300 to 2500 feet, July 20, 1914.—E. S. MARSHALL. "Yes, and as usual with Mr Marshall's gatherings beautifully preserved; strictly speaking I suppose the spikes should be pedunculate."—G. C. DRUCE.

Carex vesicaria L. Marshy places, Naseby reservoir, Northants, v.-c. 32, June 20, 1914. Spikelets appear to be much more closely sessile than usual.—G. CHESTER. "Spikelets appear more closely sessile than usual. Yes, this is so, but it varies greatly in this, the other extreme (f. *pendulina*) has the lowest spikes drooping with stalks three inches long."—A. BENNETT. "Very fine. In Scotland and Ireland it usually has similar short, stout, sub-sessile female spikelets."—E. S. MARSHALL.

× *Carex csomadensis* Simonkai in *Enum. Pl. Transs.* 556, 1887, = *C. riparia* × *vesicaria*. [Ref. No. 4919]. Marshy meadow, Grendon Underwood, Bucks, July 1911. In considerable abundance.

Some specimens shaded off to *vesicaria*; others approached *riparia*. It is evidently a rare hybrid.—G. C. DRUCE.

Carex strigosa Huds. Penn Wood, Bucks, June 1904.—G. C. DRUCE.

Carex capillaris L. On the Sugar-loaf Limestone of Cronkley Fell, v.-c. 65, altitude 2000 feet, June 9, 1914. Growing in close association with *Thalictrum alpinum* L., *Helianthemum canum* Baumg., var. *vineale* (Pers.) and *Viola Riviniana* Reichb., forma *minor* Murb.—J. CRYER.

Carex binervis Sm. Near the Duddon Estuary, 1912. Coll. D. LUMB, ex G. C. DRUCE.

Carex distans L. (Non *C. distans* v. *maritima* auct. = *C. neglecta* Degl.). Wet meadows in Parish of Tredington, Worcestershire (an inland station), July 1903. See *Report* 1903, p. 28.—Coll. F. TOWNSEND; comm. G. C. DRUCE.

Carex fulva Host. [Ref. No. 641.] Chippenham Fen, Cambridge, v.-c. 29, June 14, 1914.—G. C. BROWN.

Carex Oederi Retz., var. *elatior* Anderson *Cyp. Scand.* 25, 1849. Wicken Fen, Cambridgeshire, July 1904. L. H. Bailey's unfortunate attempt to displace *C. Oederi* Retz., and use it for a form of *C. flava* caused much confusion among British botanists, the effects of which have not yet ceased. The fact is *C. Oederi* has almost as close relation with *extensa* as it has with *flava*, and is a good species distinct from both. The more usual state is a very small plant especially fond of the gravelly margins of pools and lochs, but in our calcareous fen areas this robust plant occurs.—G. C. DRUCE.

Carex polygama Schkuhr (*C. Buxbaumii* Wahl.). Arisaig, Westernness, July 1903. Very local. The only known locality, since it appears to have become extinct at Harbour Island, Lough Neagh, where I vainly sought for it on two occasions in 1903.—G. C. DRUCE.

Carex salina Wahl. Wick, Caitness, July 1907.—G. C. DRUCE.

Carex gracilis Curt. [Ref. No. 640]. Chippenham Fen, Cambridge, v.-c. 29, June 14, 1914. One large tuft—specimen rather gone over, but characteristic.—G. C. BROWN. "A slender form. I did not see this on the Fen when with the late Mr Fryer, but we saw good *C. stricta* Good. *C. gracilis* is a local species in Cambridgeshire."—A. BENNETT. "Yes."—E. S. MARSHALL. "My specimen is an im-

perfect one, but from the early falling of the fruits (June 14) and the amount of filamentous material on the leaf sheaths—I would suggest comparing it with *C. elata*.”—G. C. DRUCE.

Carex gracilis Curt., var. *gracilescens* Almq.? Naseby reservoir, Northants, v.-c. 32, June 20, 1914. Differs much from type, but hardly sure if it can come under *gracilescens*.—G. CHESTER. “Agrees very closely with the Cambridgeshire specimens so named for me by Dr Almquist.”—A. BENNETT. “I believe so.”—E. S. MARSHALL. “Yes, a characteristic plant of the reservoir and a frequent form in Northamptonshire, where Mr Chester has been doing excellent work.”—G. C. DRUCE.

Carex muricata L. Meadow, Malvern Wells, Worcester, v.-c. 37, June 26, 1914.—Coll. R. F. TOWNDROW; comm. S. H. BICKHAM. “I put this under *C. Pairaei* F. Schultz, of which I have seen an authentic specimen at the British Museum. I have recently gathered it in Surrey, Berks, and Middlesex. It appears to be a plant of somewhat moister situations than *C. contigua* Hoppe (*C. muricata* auct.). It seems to be widely distributed in Britain, for I have seen specimens from at least seventeen English and Scotch, and one Irish county.”—A. B. JACKSON. “Is, I suppose, the segregate plant apart from *Pairaei*.”—A. BENNETT. “Yes, the true Linnæan plant = *C. Pairaei* F. Schultz.”—E. S. MARSHALL.

Carex contigua Hoppe × *divulsa* Good.? [Ref. No. 4060.] Growing with the supposed parents on a grassy roadside near West Monkton, S. Somerset, v.-c. 5, June 20, 1914. Intermediate in characters. More advanced material could not be obtained, as all the herbage had been mown a week later. I believe that the suggested origin is right; if so, it appears to be a new hybrid for Britain.—E. S. MARSHALL. “I do not feel I can pass an opinion on these hybrids; the finder is so much better prepared to do so, seeing them *in situ*.”—A. BENNETT.

Carex divulsa × *vulpina*. Ditchside, Bransford, Worcester, v.-c. 37, June 15 and 22, 1914. The specimens are from the same locality as those sent last year. See *Report* 1913, p. 506.—Coll. R. F. TOWNDROW; comm. S. H. BICKHAM. “If so, it would seem that *divulsa* is the dominant plant in it.”—A. BENNETT. “I am by no means convinced that this is a hybrid. Does it ripen its fruit?”—G. C. DRUCE. Also sent from roadside ditch, Leigh Sinton, Worcester, v.-c. 37, July 28, 1914. These specimens are from a new locality to those of this plant sent last year.—Coll. R. F. TOWNDROW; comm. S. H. BICKHAM. “This was sent to me fresh; a good intermediate.”—E. S. MARSHALL. “Mihi valde dubia forsitan mera forma (abnormis) *C. divulsa*.”—A. THELLUNG.

Carex paniculata L. [Ref. No. 75.] Marsh by river, Mundford, v.-c. 28, June 18, 1914.—F. ROBINSON.

Carex paradoxa Willd. [Ref. No. 72.] Shady marsh land, Hockham, v.-c. 28, July 11, 1914.—F. ROBINSON. "Yes, characteristic specimens. It was growing with *Deyeuxia neglecta* Kunth = *Calamagrostis stricta* Nutt. A new record for Norfolk, of a rare British species."—A. BENNETT. "Correct; fruit fully ripe."—E. S. MARSHALL. "Yes, not given in *Top. Bot.* for West Norfolk."—G. C. DRUCE.

Carex chordorrhiza Ehrh. Marsh near the Tubeg of Mudal, Sutherland, July 1907.—G. C. DRUCE.

Spartina alterniflora Lois. Hill Head, near Titchfield, Hampshire, September 13, 1914. These specimens came from its most easterly recorded station on Southampton Water, where it is apparently having a hard struggle for existence with *S. Townsendi*. Dr F. H. Arnold's Sussex station, further east, "Thorney, not far from Pilsley, September 18, 1900" (*Suss. Fl.*, ed. 2, 1907, p. 124) has never, I believe, been confirmed. Mr Standen and I failed to see it there this year. Most of the dried specimens of *S. alterniflora* that I have seen appear to have a narrower leaf than in *S. Townsendi*, but this, I think, is due to their becoming more decidedly involute than those of *Townsendi* when being dried. Although some care was taken to try and avoid this, members will see I have not been wholly successful.—C. E. SALMON. "Right. If *S. Townsendi* is really a hybrid between this and *S. stricta*, it is an exception to the general rule, being so much stouter and brighter green than either."—E. S. MARSHALL.

Phalaris minor Retz. Cultivated ground, Paradis, Guernsey, August 2, 1914.—W. C. BARTON.

Phalaris canariensis L. Waste ground, Bumpas Lane, Zealand Road, Chester, v.-c. 58, September 28, 1914.—C. WATERFALL.

Alopecurus bulbosus Gouan. [Ref. No. 35.] Thick marsh near sea, by Burgli Castle, Yarmouth, v.-c. 27, May 11, 1914.—F. ROBINSON. "Correct."—E. S. MARSHALL.

Agrostis alba L., var *stolonifera* L. Side of ditch, Keyhaven, S. Hants, v.-c. 11, August 1914.—J. COMBER.—"Very good."—E. S. MARSHALL. "Var. *prorepens* Koch, the Linnean *stolonifera* is doubtful and may be = *verticillata* Vill."—G. C. DRUCE.

Calamagrostis canescens Druce (*lanceolata* Roth). Damp wood, Thompson, v.-c. 28, July 4, 1914.—F. ROBINSON. Also from Mow Fen,

Shouldham, W. Norfolk, v.-c. 28, June 24, 1914.—J. E. LITTLE. “Yes (*C. canescens* Druce).”—E. S. MARSHALL.

Deyeuxia neglecta Kunth. [Ref. No. 7541.] Near Loch Watton, Caithness, July 1907.—G. C. DRUCE. Also from [Ref. No. 71] shady marshland, Shropham Hundreds, Norfolk, v.-c. 28, July 11, 1914.—F. ROBINSON. Also from [Ref. No. 37] Loch Scarmclett, Caithness, July 1907. These are typical plants which are locally plentiful there.—G. C. DRUCE.

Deyeuxia neglecta Kunth, var. *scotica*. [Ref. No. 36.] Loch Watton, Caithness, July 1907. This has more acuminate glumes and is the plant which was recorded as *strigosa* by Mr Arthur Bennett in *Journ. Bot.* 1885, p. 253. I went to visit Dick's locality for the plant which was called *lapponica* in Smiles' *Life of Robert Dick*, and found only this form growing there. Afterwards I saw it near Loch Scarmclett. It really approaches *strigosa* in appearance, but does not agree with it in the length of the callus hairs, which are of the length of the floret in *strigosa*, which has also a broader and laxer panicle. *D. strigosa*, Prof Hackel thinks, is probably a hybrid of *epigeios* and *neglecta*, and he is quite confident in rejecting these as *strigosa*. It is sufficiently distinct from normal *neglecta* to warrant a varietal name, var. *scotica*, characterised as “Panicles larger and more diffuse than type, glumes longer, and more longly acuminate.—G. C. DRUCE.

Gastridium ventricosum Sch. & Th. Copyhold, Sussex, September 1902. Once again the name must be changed in order to comply with the *Actes*. The trivial *lendigerum* dates from *Sp. Pl.*, ed. ii., 1762 or 1763, but prior to that it was published as *Agrostis ventricosa* by Gouan, and must stand as *G. ventricosum* (Gouan) Thellung.—G. C. DRUCE.

Apera Spica-venti Beauv. By River Orwell, Freston, v.-c. 25, July 13, 1913.—G. C. BROWN.

Apera interrupta Beauv. [Ref. No. 79.] Oatfield, Tottington, v.-c. 28, July 31, 1914.—F. ROBINSON. “*Apera Spica-venti* Beauv.—J. CRYER and W. G. TRAVIS. “This is *A. Spica-venti* Beauv., var. *purpurea* Rouy, distinguished not only by its purplish tint, but by the outer and inner glumes being longer and more acuminate. Compare Mr G. C. Brown's *Apera Spica-venti* Beauv., from Freston, v.-c. 25, which has paler, shorter glumes (especially the inner), and is the sub-var. *virescens* Rouy.”—C. E. BRITTON. “Surely this is *A. Spica-venti*. Panicle large, broad, brownish, not interrupted.”—E. S. MARSHALL. Also from sandy wayside, near Barnack, Northants, v.-c. 32, July 5, 1914.—G. CHESTER. “I am afraid only adventitious in Northants, and of course so in South Lancs.”—G. C. DRUCE. Also

from sandy roadside, Freshfield, v.-c. 59, July 5, 1914.—J. A. WHELDON and W. G. TRAVIS. Also from sandy land, Cockley Cley, Swaffham, W. Norfolk, v.-c. 28, June 23, 1914.—J. E. LITTLE. "Fine and characteristic."—E. S. MARSHALL.

Corynephorus canescens Beauv. The Denes, Great Yarmouth, E. Norfolk, v.-c. 27, 1913.—Coll. Dr F. LONG; comm. G. C. BROWN. Also from North Denes, Great Yarmouth, v.-c. 27, August 13, 1914.—F. ROBINSON. "Yes, the var. *maritimus* Godron *Fl. Fr.* iii., p. 502. The common British plant."—G. C. DRUCE.

Aira caryophyllea L., *forma*. Petit Bo Cliffs, Guernsey, April 1907. On ground where gorse had been burned the previous year. Growing in prostrate tufts, much resembling *Aira praecox*.—G. C. DRUCE. "Only in bud; too young to afford grounds for a valid opinion."—E. S. MARSHALL.

Deschampsia flexuosa L., b. *montana* Hook. [Ref. No. 67]. Heath land amongst *Calluna*, Thompson, v.-c. 28, July 4, 1914.—F. ROBINSON. "No; only type. Var. *montana* is quite alpine."—E. S. MARSHALL. "A heath form. In the true *montana* the panicle is closed in fruit and the glumes are rich purple."—G. C. DRUCE.

Arrhenatherum elatius M. and K., var. *biaristatum* Druce. Near Lydd, Kent, July 1914, and the first species to grow on the shingle beds—that is, it approaches more closely to the sea than any other plant.—G. C. DRUCE.

Koeleria gracilis Pers. [Ref. No. 77]. Newmarket Heath, v.-c. 29, June 8, 1913. Is this type? It seems to be intermediate between *gracilis* and *britannica* in some respects.—W. C. BARTON. "Material too meagre; but I think it rightly named."—E. S. MARSHALL.

Koeleria——? [Ref. No. 112]. Sandy coast, Deal, East Kent, v.-c. 15, July 29, 1913.—W. C. BARTON. "A small form of *K. albescens* DC.; new for Kent, I think."—E. S. MARSHALL. "I wish the lower leaves on my specimen had been better shown. The plant suggests *K. albescens* DC. In that species the radical leaves and the leaves of the off-shoots are not flat as in *gracilis*, but enrolled-subulate. On the whole, I think it is very likely to be *albescens*; if so, a new county record."—G. C. DRUCE.

Koeleria vulesiana Asch. and Graebn. Uphill and Brean Down, N. Somerset, July 8, 1913. This grass seems to have recovered ground; there was a great quantity of it at Uphill, and a limited quantity on Brean Down, but only a small proportion was in flower.—H. J. RIDDELSDELL.

Poa bulbosa L. [Ref. No. 36]. Loose sand by sea, South Denes, Yarmouth, v.-c. 27, May 9, 1914.—F. ROBINSON.

Glyceria festuciformis Heyn., var. *hibernica*. Strangford Lough, Co. Down, August 1909. In considerable quantity. Not quite the continental species, differing in several points, especially in the less acuminate glumes.—G. C. DRUCE.

Festuca rigida Kunth, *forma* or *var.*? [Ref. No. 120]. Quarry Wood, Berks, v.-c. 22, June 22, 1913. A pretty form, growing on a bank under beech trees. Is it a usual shade form, or more than that?—W. C. BARTON. "Very curious; probably a starved state of dry woodlands."—E. S. MARSHALL.

Festuca dumetorum L., *forma planifolia* Hackel, *in lit.* comb. nov. [Ref. No. 4727.] Skegness, Lincoln, July 1911. Growing with the type. The occurrence of this flat-leaved form necessitates an alteration in description given in my edition of *Hayward's Pocket Book*, in which the leaves (of the type *dumetorum*) are described as "filiform"; it should read "filiform or flat, acute." Although there treated as a variety of *F. rubra* (for the sake of uniformity) *dumetorum* is a good species, and is so kept by Rouy *Fl. Fr.* xiv., p. 202, who, however, puts under it as a race, *F. arenaria* Osb., which we place under *F. rubra*.—G. C. DRUCE.

Festuca ambigua Le Gall.? Blown sand, Pagham, W. Sussex, v.-c. 13, June 15, 1914.—J. E. LITTLE. "*Festuca Myuros* L."—J. CRYER. "Certainly; just like the blown sand Deal to Sandwich plants."—E. S. MARSHALL. "Is *F. ambigua* Le Gall., the *F. Danthonii* A. & G., var. *ambigua* mihi, of my *List*. I found the type plentifully in Greece in 1914."—G. C. DRUCE.

Festuca Myuros L. [Ref. No. 644.] Berechurch, N. Essex, v.-c. 19, May 31, 1914.—G. C. BROWN. "Not *F. Myuros* L., but *F. bromoides* L. (*F. sciuroides* Roth)."—C. E. BRITTON and E. S. MARSHALL. "Not *Myuros*, but *F. bromoides* L., which is, oddly enough, only given sub-specific rank by Rouy. The fruits of the two plants are quite distinct."—G. C. DRUCE.

Bromus maximus Desf. [Ref. No. 42.] Sandhills by sea, North Denes, Great Yarmouth, v.-c. 27, May 10, 1914.—F. ROBINSON. "Hackel, and Rouy (*Fl. Fr.*) use the name *B. villosus* Forsk. for this, but *B. rigens* L. is older, but perhaps less well defined."—G. C. DRUCE.

Bromus tectorum L. [Ref. No. 52.] Roadside, light soil, three miles out of Thetford on London Road, West Suffolk, June 4, 1914.—F. ROBINSON. "Yes."—G. C. DRUCE.

Bromus erectus Huds., var. *glabrifolius* Borbas. Railway side, Seascale, v. c. 70, June 5, 1914. I am not sure that the varietal name is correctly applied to these plants.—D. LUMB. "Yes."—G. C. DRUCE.

Bromus unioloides H. B. K. Waste ground, Hythe Quay, Colchester, v. c. 19, June 2, 1913.—G. C. BROWN. "Yes."—G. C. DRUCE.

Bromus secalinus L., var. *hirtus* A. & G. Iver, Bucks, July 1903.—G. C. DRUCE.

Bromus sp. Mud wall top, Wigginton village, Oxon, June 23, 1914. Closely related to *B. racemosus*, but the compact panicle apparently separates it from that species.—H. J. RIDDELSDELL "A curious, capitate form of *B. hordeaceus* L.; less hairy than the type, thus approaching var. *leptostachys* (*glabratus*)."—E. S. MARSHALL. "*B. hordeaceus* L., forma *congestus*."—G. C. DRUCE.

Bromus arvensis L. In sainfoin, Purwell, Hitchin, Herts, v. c. 20, July 16, 1914. In the early state the palea is about 5 mm. shorter than the flowering glume. Later, in fruit, it equals or slightly exceeds it.—J. E. LITTLE. Also [Ref. No. 89] from farm roadway, Holme Hall, v. c. 28, August 27, 1914.—F. ROBINSON. "Yes; Rony puts it in the genus *Serrafalcus*, which also contains *secalinus*, *commutatus*, *racemosus*, *hordeaceus* (*mollis*) and my *Bromus interruptus* = *Serrafalcus interruptus* mihi = *S. pseudo-velutinus* Groves."—G. C. DRUCE.

Agropyron pungens R. & S. Shoreham, Sussex, June 1891.—G. C. DRUCE.

Agropyron pungens R. & S., forma *cristatum*. Teste Hackel. [Ref. No. 50]. Albee and Vazon Bay, Guernsey, August 16, 1912. This form occurs in some quantity on the shingle inside the sea wall between Albee and Vazon Bay. The plants seem to bear the same relation to the type as *Lolium perenne*, var. *cristatum* Doell. to type. Of this I sent some specimens last year, and have since noted some normal plants of *Lolium perenne* developing this *cristatum* form of spike, apparently as a result of damage through being trodden upon. However, these Guernsey plants are not in any sense damaged, though they very probably are starved. The type was plentiful thirty yards further inland.—W. C. BARTON. "Yes, Prof. Hackel so named similar specimens which I collected in the same locality in 1906."—G. C. DRUCE.

Agropyron junceum × *repens* Beauv. Keyhaven, S. Hants, v. c. 11, August 1914.—J. COMBER. "Not in the least like any of my

specimens of this hybrid, mostly certified by Hackel. Why not *A. pungens*?"—E. S. MARSHALL. "I think only luxuriant *pungens*."—G. C. DRUCE.

Hordeum violaceum Boissier. Selkirk, v.-c. 79, October 1913. Alien, Asia Minor. Det. A. Hackel. In this later gathering of 25th October, the beautiful blue shade is not so apparent as in my August specimens, owing possibly to the want of sunshine.—I. M. HAYWARD. "Yes, a beautiful grass, which, through Miss Hayward's generosity, was figured in our last *Report*."—G. C. DRUCE.

Athyrium Filix-femina Roth, var. *incisum* Newm. [Ref. No. 4804]. Four Slips Copse, Northants, August 1903.—G. C. DRUCE. "Yes."—F. W. STANSFIELD.

Polystichum angulare Presl, ? var. *Braunii* Spenner. Hedgebank near Newquay, Cardiganshire, May 14, 1914.—J. W. WHITE. "The more slender of these fronds is typical *angulare*. The denser one has some resemblance to *Braunii*, but in my opinion is a setose form of *angulare* going very slightly in the direction of *aculeatum*. The true *Braunii* of the U.S. America is very easily distinguished in the young growing (spring) state by both surfaces as well as rachis being thickly clothed with fine linear scales which are shed when the frond reaches maturity. I shall be pleased to send Mr White a fresh frond of true *Braunii* later in the season if he cares for it. I am sceptical of *Braunii* as a British fern. It seems to me to have affinities with *P. setosum*, although quite distinct from it."—F. W. STANSFIELD. "I have never seen this; but Mr White's plant differs greatly from ordinary *P. angulare*, which abounds in my parish, and agrees fairly well with the descriptions of Koch and Rouy. *Aspidium Braunii* Spenner is retained as a full species by Nyman, under the earlier, but preoccupied name *A. angulare* Kit.; Rouy makes it a sub-species."—E. S. MARSHALL.

Dryopteris cristata A. Gray. Scoulton, Norfolk, August 1904.—G. C. DRUCE. "Yes."—F. W. STANSFIELD.

Lastrea glandulosa Newm. Ankerbury Bog, v.-c. 34, June 2, 1913. Stipes usually thickly glandular; fronds glandular beneath but not very thickly. The scales are not as dark as those of *dilatata*; the fronds may be described as broadly lanceolate: at any rate they are not those of true *dilatata*. In a very wet piece of wood below a bog on Ankerbury Hill, Lydbrook, W. Glos. Whether this is the place first made famous by Mr Purchas's discoveries or not, I am uncertain; the houses now come within a hundred yards of it, and the bog has shrunk. A number of circumstances make me doubt whether the name is correct; and I have never seen an authenticated

specimen of Newman's *glandulosa*.—H. J. RIDDELSDELL.—“*L. glandulosa* Newm. is described by Newman as having concolorous scales, while those of this specimen are maculated. *Glandulosa* and *collina* Newm. are both forms intermediate between *dilatata* (*aristata*) and *spinulosa*. There are many such intermediate forms, and they are by no means well defined. I should call this specimen *L. collina* Newm., as having somewhat of the habit of *spinulosa* with the bicolorous scales of *dilatata*.”—F. W. STANSFIELD.

Dryopteris rigida Underw. Hutton Roof, Westmoreland, August 1909.—G. C. DRUCE. “I agree. It was very abundant forty years ago in the station.”—F. W. STANSFIELD.

Hymenophyllum tunbridgense Sm. Rocky wood in W. Glos., June 1, 1914. Coll. H. H. KNIGHT. A few scraps just to establish the record. I believe I recorded it somewhere in 1911, when Mr Knight first showed me the plant. He tells me now that the fern is in fair quantity on rock faces, in very dark parts of the wood. Some of the sheets bear fruit.—H. J. RIDDELSDELL. “Yes.”—F. W. STANSFIELD.

Nitella opaca Agardh. Looe Pool, Cornwall, July 1904.—G. C. DRUCE.

Nitella hyalina Agardh. Carminow Creek, Looe Pool, Helston, W. Cornwall, August 28, 1914. I think this is the right plant, though they are smaller than other specimens I have.—Coll. E. THURSTON; comm. C. C. VIGURS.

Tolypella glomerata Leonh. Marcham, Berks, June 1891.—G. C. DRUCE.

CORRECTIONS IN DISTRIBUTOR'S REPORT FOR 1913.

Page 444. *Ranunculus Flammula* L. In second line, for “Kirbistry” read “Kirbister.”

Page 471. *Hedera Helix* L., var. *borealis* Druce. In fifth line omit “Lieutenant,” and in sixth line, for “Bethsdale” read “Berriedale.”



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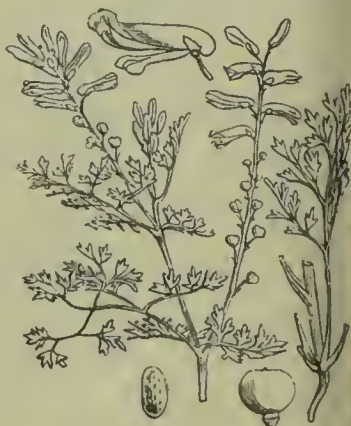
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29 JUNE 1915

PRIVATE AND CONFIDENTIAL.

The Botanical Society and Exchange Club of the British Isles.



The Botanical Society of London was founded in 1836, its president being Dr J. E. Gray, F.R.S., author of "The Natural arrangement of British Plants." It had a paid curator and secretary (not a botanist), had rooms in Bedford Street, where it formed a library and herbarium, and held monthly meetings. Shortly afterwards Mr H. C. Watson initiated the first annual distribution of plants, and he compiled the London Catalogue of plants in 1844. In 1857 the subscriptions providing for the herbarium and library were sold, but Mr J. Gilbert Baker continued the annual distribution of plants under the title of the Thirsk Natural History Society Botanical Exchange Club to 1860. Mr W. Foggitt performed the duties of curator from 1861 to 1866, when the Thirsk Natural History Society was dissolved, probably owing to Mr Baker's removal to Kew. At any rate, under the name of the London Botanical Exchange Club, it was carried on by him and Dr Trimen in 1866 and 1867, Mr J. Boswell Syme taking in as curator in 1868. The name was again changed in 1869 to the Botanical Exchange Club, and as such it continued in 1879, having secretaries and curators. Then in 1879 the name was again varied to the Botanical Exchange Club of the British Isles, and Mr Charles Bailey became its sole officer from 1879 till

1902. There was no committee, no rules, no restrictions, no balance-sheet was ever printed and no meetings held. It never paid its way. Notwithstanding the efficiency with which Mr Bailey performed his duties, and his great generosity in financing the Club, yet, for reasons I have never been able to ascertain, a rival club was started with the aid of some of its members about 1883. The subscriptions were either not paid at all or most unpunctually. In 1895, the Secretary issued a circular giving detailed information of the receipts and expenditure from 1879 to 1893, which showed an enormous deficit. Little result, however, ensued; and in 1902, Mr Bailey, having onerous duties placed on him which demanded all his energy, determined to relinquish his office. At that time the members were divided in opinion and views; some wished the Club should merge into or be absorbed by the junior Club, some desired it should lapse, while others were anxious to continue it; and I was sounded to see if I could help. Therefore to prevent it from lapsing or being absorbed, I placed myself at Mr Bailey's disposal, since with him I felt that the Club had done and could be made to do great service to critical British botany. At this time its numbers had decreased, its financial condition was deplorable, and it had cost Mr Bailey £200 in excess of receipts. In a circular issued by Mr Bailey in September 1903, this was fully explained. The average receipts for the last eight years were shown to be only £7 10s. The average numbers of subscriptions for the immediately preceding four years had sunk to 22. As Mr Bailey pointed out, "it was impossible to obtain a general meeting of the members," and in his circular he frankly said that while he had been perfectly willing to help the Club financially in the interests of critical British botany, his successor ought not to be called upon to undertake a similar obligation. He asked the members to give replies to the questions: Did they wish the Club to be continued? Whom did they wish to *undertake its management*? Would the Exchange members be willing to pay 2s 6d each more yearly? What improvements in its working could be suggested? The replies resulted in my being chosen by

practically a unanimous vote to *manage its affairs*, without a fellow officer or committee, subject to no restrictions and to no rules, and as one of the members said, "we want you to direct and inspire the distributing duties and to work the scientific side of the Club's sphere."

Mr Bailey not only gave me ready assistance and advice, but most generously offered to make up any deficit which might arise during the next two years.

Acting upon the suggestions of some members, I first tried to see if an amalgamation of the two Clubs could be brought about, and I offered to give way if necessary. The task cost me much time, labour and expense; but the difficulties proved to be insuperable. An officer of the other Club, who had been most helpful, wrote, "I am vexed you should have had so much trouble for nothing." So I took up my duties with subscriptions amounting to £7 10s kindly handed over by Mr Bailey to produce the first Report. We then had about 36 members on our books; of these, 12 have died; 3 have been made corresponding members; and 9 are non-contributing. In deference to the wishes of several of our members, including Mr W. H. Beeby, who wrote saying "the Club should be open to Botanists who have never contributed and do not intend to contribute specimens . . . the name does not matter." I tried, and not without some measure of success (certainly not for want of effort) to bring in new blood, and in other ways to widen our bounds so as to avoid suspicion of a clique; and as much for my own guidance as for the members' information, a yearly statement of expense and receipts was published. In order to bring in new members, I introduced in the first Report some notes on British plants, which proved acceptable, and these have gradually grown into the present Annual Report. It was quite evident our receipts were inadequate, and that our supply of members was very limited, because so many botanists refused to join a Club whose sole function was to exchange plants. Therefore in 1908, after consultation with some members, one of whom assisted in drafting the proposal, I published a policy for widening its bounds so as to make it a Society as well as a Club, and I asked the members to let me have their views on the subject.

Considerable correspondence came in, mostly in favour of the scheme, one member only being distinctly adverse, and I was subsequently informed that his views had been modified. Therefore without altering its constitution, but merely to remove an obstacle which prevented some botanists from joining us, the name Society then first appeared on the cover of our Reports and has done so ever since without the slightest objection being conveyed to me by any member.

The Exchange members have for the last three years had their own Report exactly on the same lines as in 1879-1902, only as the number of plants sent has more than doubled, so, too, the pagination has almost doubled, a larger number of foreign critics having assisted so as to make the Report of an international character. In addition, members have had a copy of the Secretary's Report. The cost of working for twelve years has resulted, according to the balance-sheet, of about £2 a year of a deficit, or about 2s a head. More than half this deficit was caused during the Distribution of 1910, when the cost of corrections and distribution were abnormal, and the adverse balance rose from £1 4s 1d to £12 2s 9d. It should be borne in mind that the balance sheet only shows actual payments, and takes no account of subscriptions in arrear (which are always more than they should be), nor of the sales of the Report, &c., which have since the last statement come in to the extent of £10, thus showing an annual loss of £1, which, as one has to budget in the dark, gives one nothing to apologise for. Were every subscription paid, the loss would be quite trifling. There is another asset which I should have preferred to leave unnoticed—that is the printing of the Supplement, which contained a paper on Nomenclature. As this gave a large number of new combinations rendered necessary by the Vienna Actes, it was looked upon as an advantage for our Report to have them published in it, since in the full citation of these names our Report would be brought before botanical authorities. At the same time, I did not like the expense of it to fall upon the members. A donation was promised by a friend, but the cheque had not come to hand in time for insertion in the 1913 Report. The inclusion of this paper brought us fresh

subscribers, and complimentary letters from foreign universities and authorities. Again I have been comparing the membership roll of 1915 with the receipts of 1913—a very different thing. In these strenuous times, like other bodies, we must practice economy and condense our Reports. Much trouble and expense would be saved if members would send in a cheque for three or four years' subscription at a time, thus the saving in postage and time would be quite considerable. Again if Exchange members who only require one copy of the Distributor's Report and do not want the Secretary's Report were to say so, an appreciable saving would be the result. I do not press this; I only point out a way of saving. I wish the members to have all they have been accustomed to receive, and, if possible, in an enhanced degree.

At the beginning of last year, before the war, I sent out a circular suggesting a Conference in Oxford in July, for the purpose of discussion, reading of papers, and excursions in conjunction with the Members of the Society for Preservation of National Areas and the Ashmolean Natural History Society of Oxfordshire. A chairman for the meeting, a well-known British systematist and Fellow of the Royal Society, had been approached. The response was, however, so very small that the project had to be given up. At the same time, I asked for donations towards a fund for printing a general index to our Reports from 1858 onwards, which I have prepared, and for publishing a general history of our Society and Club. Little interest was shown in either suggestion, however, the response being only a single donation of 10s, which is inserted in the last balance sheet.

The beginning of a new volume of our Report seemed a convenient time, and it seemed to be entirely in the interest of our body as a whole, to act upon a suggestion, that in order to make the name more accurate and euphonious we should put the word Society before Exchange Club. Had our proposed meeting been held, this would have been discussed. In the circumstances I thought it well to make the alteration. This was done without the slightest intention of lessening the privileges of the members, indeed it was in order to be able to give fuller reports on the plants sent in to the

Exchange Club, and in spite of the fact that, personally, having been so long a member (now one of the oldest), I had a strong sentimental affection for the old name. This I propose to retain, however, by inserting on the title page the words "Conveniently abbreviated 'Rep. B.E.C.' for citation." In June last I received six or seven letters objecting to the alteration of the name, &c. As one of them demanded an impossibility, namely, an instant return to the original name (which was not the original title), and as a very considerable proportion of the members had joined the Society as well as the Exchange Club, I deemed it advisable to send out a circular in July, in which ten questions were asked. The list of members given in our last report had 201 names, but of these 2 were dead, 3 at the front, 8 are firms or institutions, 13 had resigned or lapsed through non-payment of subscriptions, and 4 were duplicated. In answer to the first question, 157 say they are satisfied with the present management; 4 say not altogether or not in every particular; 4 say no. 133 prefer The Botanical Society and Exchange Club of the British Isles; 7 the Botanical Exchange Club and Society of the British Isles; 15 the Botanical Exchange Club; 1 the British Botanical Exchange Society, and 6 are indifferent. 167 wish me to continue as Secretary. 154 wish my Report to appear as heretofore; 4 say no; 13 give no reply. Question 7 is only answered by 140 members, 83 of whom ask for the Secretary's Report, 2 for the Distributor's Report, and 55 for both. Question 8.—80 leave the separation of the accounts to the Secretary's discretion; 9 wish them to be separate; 29 do not. Question 9.—138 only fill up the answer; 91 would join a separate Society; 7 the Exchange Club; 33 both. 129 wish to defer meetings or excursions till after the war, and 6 wish to defer all Botanical activity till the conclusion of the war.

The voting of the 76 members is as follows:—32 prefer the Botanical Society and Exchange Club of the British Isles; 5 the Botanical Exchange Club and Society of the British Isles; 17 (and presumably the 6 others who did not fill up the forms) = 19 the Botanical Exchange Club; 1 The Botanical Exchange Society. Of the contributors to the last Distribution, those who prefer the name Botanical Exchange Club and Society sent 145 plants

the Botanical Exchange Club, 1260 plants; and The Botanical Society and Exchange Club, 5975 plants.

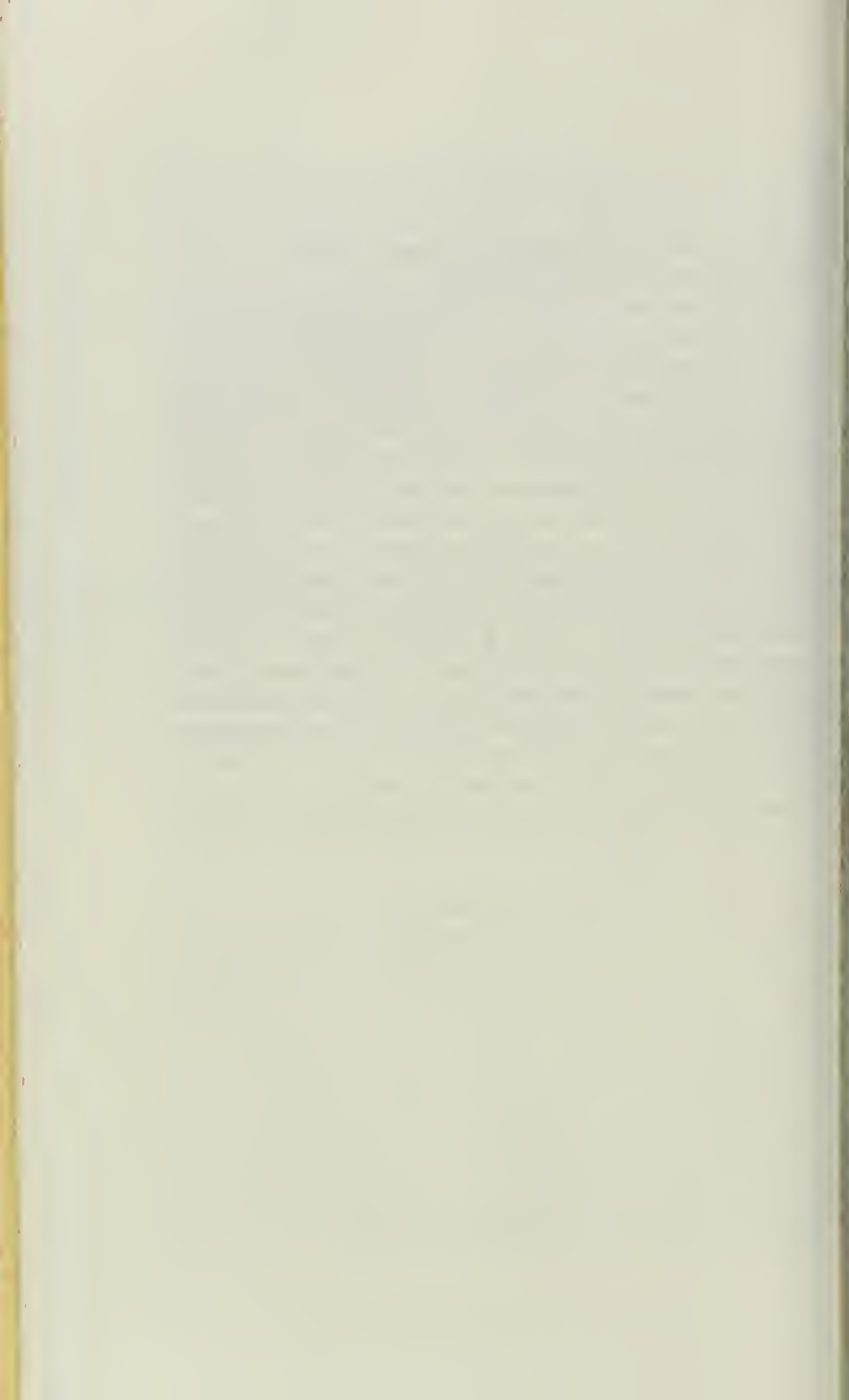
Nothing was more opposed to my desire than that any discussion should have arisen at the present time, and I much regretted the necessity of ascertaining the feelings of the members on the above points. I am greatly indebted to the members who have replied and who in so many instances have expressed very kindly feelings towards me. I can assure them that the interests of our body are paramount with me, and that as long as strength is given me I shall not be unmindful of their confidence. I have tried as far as possible to oblige each individual member, and although perhaps the pace has been somewhat forced, it has been done with the desire to serve the interests of, and to assist British Botanists. I have worked very hard to increase our membership, and the increase has never been greater than since the appearance of our last Report. The membership has grown from 30 in 1892 to 200 in 1915, and only 4 have been reduced by members other than myself. Had it not been for the war, we should probably have had 250 members.

Thanking you for the very generous support you have given me.

I am,

Yours very sincerely,

G. CLARIDGE DRUCE.



THE BOTANICAL EXCHANGE CLUB OF THE BRITISH ISLES.

As indicated by the Secretary and Treasurer in his private and confidential document dated June 29th last, there has recently been a certain amount of criticism of his policy. The Secretary and Treasurer asks several questions of members; and the questions refer to some of the points which have been criticised. However, as many members are only recently joined, and cannot therefore be expected to be familiar with what may be termed the politics of the Club, the present circular is issued with the object of enabling them to form a judgment on the main points in dispute.

It should be stated that the actions of the Secretary and Treasurer have aroused a very bitter feeling among some of the members, who do not hesitate to say that he has used the present time of national stress to further his own purposes so far as those concern the Club. I hasten to say that I do not sympathise with that view. However, the fact is plain that a serious rupture of the Club is threatened. An open rupture at present, or a division in the future of British field-botanists into two opposing camps is on no ground to be desired, and ought to be avoided at all costs. Believing that such a rupture at present would be both unwise and unseemly, I am issuing this circular, though I realise that coming between two opposing parties I am not likely to please the extremists of either side.

There are, on the one side, many of the older members of the Club, who look back to the early and peaceable days when its few members gathered harmoniously together for a common object; and, on the other, there is our enthusiastic and energetic Secretary and Treasurer whose vigorous conduct of the Club's affairs has resulted in a greatly increased membership and in a considerably augmented annual publication.

My own connection with the Club, through the Herbarium at Cambridge, is only of a few years' standing. I cannot count myself as one of the older members; nor am I one of the newest members on whose behalf the Secretary and Treasurer has presumably initiated his policy of "going thorough." I know that many of the older members are filled with discontent by the actions of the Secretary and Treasurer, and particularly so means he adopts at a time like the present to secure his own way for the Club. I know too that many of the older members believe that the

newer members as a whole support the policy of the Secretary and Treasurer, though I am bound to say that I am unable to confirm that opinion.

The Club came into existence in 1879. It has no formal Constitution, no President, no Vice-Presidents, no Council or Committee of Management, no central body of any kind to appoint or dismiss its officials, no Auditor: it holds no meetings. Hence it is very difficult to deal suitably or adequately with a crisis among its members. Its only officials are a *Secretary & Treasurer* and an *Editor & Distributor*. The present Secretary and Treasurer has held the office since 1903: the Editor and Distributor holds office for one year, and is chosen from among the members by the Secretary and Distributor. Anyone with any knowledge of affairs will at once realise that such a method of government possesses all the advantages and all the drawbacks of an autocracy. So long as the policy of the ruler has the sympathy of all, or practically all, of his subjects, things go well; but when there is a considerable amount of active or passive disloyalty, trouble arises; and the trouble can only be removed by a change of government or the elimination of the malcontents.

In the early days of the Club, the members were few in number. Even in 1903, when the Club had been in existence for a quarter of a century, there were only 36 subscribing members. The original members consisted of British field-botanists who were animated by the common desire to study British plants by means of the exchange of dried specimens and by notes on the specimens. The specimens were sent to the Editor and Distributor, who, by means of a marked "List of Desiderata," issued the specimens to the members who in his judgment most desired them. The recipients were at liberty to write notes about the specimens; and special notes were also supplied by the more distinguished members who acted as Referees. Various particulars concerning the specimens were published in a modest annual Report, along with such of the notes as were thought by the Editor and Distributor to be worthy of publication. The Secretary and Treasurer had very little to do beyond collecting the small annual levy or subscription and appointing an Editor and Distributor for each year. Naturally, in those days the Club paid its way.

In recent years, the whole aspect of the Club has been changed. The almost ceaseless activity and the almost boundless enthusiasm of the Secretary and Treasurer have resulted in an enormous increase in membership; and this official has, in his recent document, very naturally pointed with pride to the fact that during his tenure of office, the roll has grown from "36 subscribing members" to "over 200," the actual number now being, according to the current Report, 201.

It may seem ungracious to mention the fact that several of the older members have viewed the recent great influx of new members with a

certain amount of misgiving; and indeed they think that many of the new-comers have been induced to join the Club more for benevolent than for botanical reasons. It is, however, necessary to state that such an opinion is held, in order that the present crisis may be understood. Still, there was nothing to prevent the Secretary thus increasing the size of the membership-roll; and it is not suggested that the new members have the intention of acting the part of the newly-hatched cuckoo!

The new members, by virtue of their mere numbers, have the power of settling the present controversy; and they will no doubt accept their responsibility seriously, and take due regard of the opinions of those who have, for a great many years, been the active workers of the Club.

About the year 1907, the size of the Club's annual Reports began to increase considerably in bulk, a fact to which the Secretary and Treasurer quite legitimately draws attention in his recent document. The increase in size was partly due to the greater number of specimens exchanged, partly to the more lengthy character of the notes on the specimens, and partly to an innovation, introduced by the Secretary and Treasurer, of prefacing the annual Report with notes on British plants in general and on current botanical literature. The prefatory notes, it should be said, did not necessarily relate to the plants distributed by the members, but were rather such as usually appear in publications like *The Journal of Botany*.

Although technically it would appear to be the case that the notes by the Secretary and Treasurer should have been submitted to the Editor and Distributor before their publication, it is very doubtful if such a course was pursued. So long, however, as the notes were kept within bounds, they served a useful enough purpose; and the desire to interfere with them or stop them altogether cannot fairly be said to have been general. It is, of course, easy to be wise after the event; and had it been clearly foreseen that the notes by the Secretary and Treasurer would ultimately expand into a special and really unsanctioned "Report by the Secretary," no doubt the various Editors and Distributors would have exercised their legal and undoubted editorial rights. The Secretary and Treasurer, however, kept his notes and his "Report by the Secretary" in his own hands, editing them himself. It would seem therefore that whatever position the Secretary and Treasurer has as editor is entirely self-assumed, and that whatever work he does in that capacity is entirely self-imposed.

Notwithstanding the usefulness of the "Report by the Secretary" from some points of view, it is undoubtedly the case that it gives great offence to some members. All will acknowledge that the "Report by the Secretary" has certain acceptable features; but several members feel that in this matter the Secretary and Treasurer is using the annual publication of the Club in what is really an illegitimate manner. It is not desirable to state here all the objections which have

been made to the "Report by the Secretary"; but the following facts do really seem to be incontestable. Practically the whole of the "Report by the Secretary" is written by the Secretary and Treasurer himself, and edited by him, although he has been neither authorised to issue such a Report nor has he been appointed editor of the Club's Report or of any part of it. The Secretary and Treasurer now publishes long articles as well as notes in a "Supplement" in the "Report by the Secretary." The articles are practically all written by himself: the members in general are not asked to contribute; and not a single article by any member of the Club other than the Secretary and Treasurer has ever appeared in the "Supplements." Both in his notes and articles, the Secretary and Treasurer expresses his well-known iconoclastic views on nomenclature. Those views have not received the sanction of the Club; but appearing in what purports to be and what in a sense is the Club's official publication, they are innocently accepted by many of the members. Thus considerable irritation is produced in the minds of many other members who are less disposed to reject accepted and familiar names of common plants. In the "Report by the Secretary," the Secretary and Treasurer persistently booms his own *List of British Plants*, though this again contains many features which many of the members consider highly objectionable. The pages of the Club's Report are utilised by him to print what he terms "Additions" to the British plant list, but which are largely the names of alien plants numbered according to his own *List*. One of the articles written by himself proposed about 135 new names of non-British plants, each now name to be affixed by the word "Druce." Many members think that such an article had little or nothing to do with the objects of the Club, and ought not to have appeared in the annual publication of an organisation which exists for the study of British plants. The previous history of the article in question as well as of some other articles which have appeared in the "Supplements" of the "Reports by the Secretary" was naturally not stated, though it is well-known to many of the more influential members. It may, however, be stated that many members think that the articles which the Secretary and Treasurer publishes in the Club's Reports should be submitted to an independent referee before the members of the Club are debited with the cost of their publication. In his private and confidential document of June 29th last, the Secretary and Treasurer states that "the cost of the Secretary's Report is not paid for by the Exchange Members." Does this mean that the Secretary and Treasurer in some way allocates the money paid to the Club by what he affects to regard as members of "the Society" to his "Report by the Secretary"? As is shown later on, the Secretary's Society is a mirage; and all members are members of the Club, the only organisation which exists for them to join and to which they can subscribe. Some of the articles which the Secretary and Treasurer publishes in the Reports appear in other publications also, and thus secure a notoriety which some of the members think is not deserved. In his notes and articles, the Secretary

and Treasurer does not hesitate to criticise, and sometimes to criticise rather harshly, other botanists, both British and foreign; but the botanists criticised have no opportunity of defending themselves in the Club's publications, if they consider, as they sometimes do, that they have been criticised unfairly or even seriously (though of course unintentionally) misrepresented. The only member of the Club who appears to have any chance of publishing articles in the "Report by the Secretary" is the Secretary and Treasurer himself. The Secretary and Treasurer writes the articles, adjudicates upon their fitness for publication in the Club's annual Report, edits them, sends them to the printer, sees them through the press, and virtually publishes them: all the other members have to do is to pay for them. The Reports "by the Secretary" too are not well arranged, are difficult to consult, and are not indexed; and special items are difficult to find, even though some of them appear twice over.

The finances of the Club do not justify the present size and cost of the Reports. The Secretary and Treasurer has been unable to present a favourable balance-sheet since 1907. The Club ended that year with a balance to the good of £2 16s. 3d. In 1910, this satisfactory balance had been converted into a deficit of £12 2s. 9d.; and in the latest published balance-sheet (that for 1913), the deficit had grown to £21 10s. 1d. It seems clear, from a study of the yearly balance-sheets that this deficit is very largely due to expenses incurred by the printing of the recent ambitious Reports, especially the "Report by the Secretary"; and under the circumstances the printing of articles which appear elsewhere and the printing of long and involved lists of alien plants are regarded by many members as highly extravagant.

At the present time, when the need for economy is urgent, the limitation of the size of the Club's Reports is imperative.

Large as is the deficit for 1913, it would indeed have been larger still but for certain donations; and whilst the generosity of the donors is fully acknowledged, it should be pointed out that the Club is not composed of financially poor people who are in need of monetary aid to enable them to carry on their botanical work, but of members who are willing and quite able to pay an annual subscription more than sufficient to defray all the legitimate expenses of the Club. If therefore the hat is again taken round to any of the members, it will be well for them to enquire if the appeal made to them has or has not the sanction of the Club *qua* Club.

Another matter to which some members attach great importance is the different titles under which the annual Reports have been issued during the regime of the present Secretary and Treasurer. The Report for 1909 and those for all preceding years were issued under the correct title *The Botanical Exchange Club of the British Isles*. The Report for 1910 appeared with the title changed to that of "*The Botanical Exchange Club and Society of the British Isles*." The Secretary and Treasurer

appears to have had no sanction for his action in thus changing the title; and he did not even consult the Editor and Distributor for the year with regard to the alteration. However, from most points of view, the matter was a small one; and few members were agitated by it, nor by the fact that the Reports for 1911, 1912, and 1913 continued to appear under what was really a wrong title. The Secretary and Treasurer, however, not content with once changing the title of the Club's publication, must needs do it again. It is evident that name-changing may become a habit. In the current "Report by the Secretary" we find a third title; that is, a second wrong one, namely, "*The Botanical Society and Exchange Club of the British Isles*"; and the Secretary's policy is further unfolded in the left paginal headlines—"The Botanical Society of the British Isles." Now, apart from the undemocratic nature of the proceeding of the Secretary and Treasurer in changing the title of the Club's publication whenever he feels inclined, it is certain that the changes will cause a good deal of bibliographical confusion in the future.

It is important to notice that all the changed titles contain the word "Society"; and it seems to be the case that the Secretary and Treasurer is endeavouring to evolve a Society out of the existing Club. Some members, I know, object on principle to the translation of the Club into a Society. For my own part, I feel that the new circumstances demand some such change as the Secretary and Treasurer seems to be endeavouring to bring about; but it is to me quite obvious that the Club cannot be converted into a Society without the full consent of the members. At present, there is no Society; and the Secretary and Treasurer, in treating such a Society as a *fait accompli*, is, not to put too fine a point upon it, guilty of an amiable exaggeration. The four-page leaflet of regulations issued with the last Report begins with the words "The objects of the Society are . . .". The questions (in particular, question 9a) set by the Secretary and Treasurer in his document dated June 29th last, assume the existence of a Society. A paragraph in that document begins with the words "The Society is for members who . . ."; and the members of the Club are allocated as (a) members of the imaginary Society and (b) members of the Botanical Exchange Club. The fact is that all the members, be they new or old, are members of the Exchange Club; and the "Society" is no more than an illusion produced by a wave of the Secretary's wand. In my judgment the formation of a Society with a Committee of Management and with other annually elected officials is the best solution of the present trouble; but such a Society must be formed in the normal and legitimate manner. The Secretary's chimaera merely produces irritation, and performs no real service.

A matter which the newer members must find it very difficult to understand is the following. How is it that the Secretary and Treasurer has been permitted to take so much upon himself when his actions have caused so much resentment in the minds of some of the members? It must be remembered that the Club, having no Committee of Management, leaves its entire conduct in the hands of its only permanent official,

Secretary and Treasurer; and if his actions are unpopular, the only method of protest is for members themselves, who are scattered all over the country, to write to the Secretary and Treasurer and express their dissatisfaction by letter. Now this is precisely what many members have hesitated to do. They rightly realised the almost unlimited amount of work and the almost excessive energy which the Secretary and Treasurer was putting into his conduct of the affairs of the Club, and naturally did not wish to be thought ungenerous in their direct expression of opinions to him. Still, as I and many others can testify, they did not hesitate to criticise, and to criticise severely, the actions of the Secretary and Treasurer, when discussing the matter among themselves. For some years past, one has heard the remark after the issue of each successive "Report by the Secretary," that this kind of thing must be stopped! But each and all feared to bell the cat. It is true that one or two of the members did protest in writing to the Secretary and Treasurer; but the protests were so few that this official may reasonably be excused for not realising the depth and strength of the current of feeling which was running against him. It is also the case that a certain amount of criticism found its way into the notices of the Club's publications in *The Journal of Botany*; and many members seemed to hope that the protests thus vicariously made would induce the Secretary and Treasurer to retrace his steps. The Secretary and Treasurer, for his part, doubtless thought that he was fully justified in ignoring criticisms made by a non-member.

However, the feelings aroused by the issue in May last of the current "Report by the Secretary" were stronger than ever; and several—perhaps about six or seven—of the members wrote more or less simultaneously to the Secretary expressing their views regarding his conduct of the business of the Club. Several other members excused themselves from writing, but stated that they would sign a joint protest. Joint action, however, was difficult to organise, especially at the present time; and it was thought that if half a dozen or so of the older and more influential members wrote personally to the Secretary and Treasurer, and in a frank but friendly manner expressed their views, some effect would be produced. Accordingly, the letters of protest were dispatched about last Midsummer. They dealt with the points raised in the present circular, and with the inopportuneness of the time which the Secretary and Treasurer had chosen to push his policy several steps forward. The only apparent effect which the letters produced was the immediate issue of the document dated June 29th last, a document which convinced everybody concerned that the formal protests to the Secretary had been of no avail.

I cannot forbear to add how, though I wrote to the Secretary and Treasurer in a thoroughly friendly way and with the sole desire of preventing a threatened open rupture at a singularly inopportune moment, my own protest was received by him. "I am very sorry," he

replied, "at this time of stress and anxiety you should raise or support contentious matters." Thus, in spite of letters from leading members of the Club, whose opinions should have carried weight, pointing out how they regarded his actions, the Secretary and Treasurer still fails to realise that many members of the Club consider his Report of May last with its accompanying leaflet as a definite pushing forward of an undemocratic, objectionable, and unjustifiable policy at a time when everyone was loth to raise controversial subjects.

No doubt the Secretary and Treasurer regarded all the innovations he was introducing as highly desirable ones, especially having regard to the greatly increased number of members. The complaint of many of the older members is that the innovations were of such a revolutionary nature that they ought not to have been introduced merely on his own responsibility, especially when it is remembered that the increased membership, great as it is, has not kept pace with the increased expenditure consequent on the present voluminous nature of the Reports.

Having stated, as fairly as I am able, having due regard to the actual facts, the chief points at issue, it remains to discuss what, considering all the circumstances, should be done.

One solution of the difficulty would be for those members who do not approve of the policy of the Secretary and Treasurer and who do not approve of his methods of furthering that policy at a time like the present, to resign their membership of the Club. The older members, however, cannot be expected to favour that solution, nor would the newer members desire them to do so. The older members should certainly face the new situation that the Club now contains 201 members; and the newer members will naturally bear in mind that they have been admitted into an organisation of long standing, and will not desire to revolutionise that organisation in an illegitimate manner.

Another solution would be for the Secretary and Treasurer wholly to renounce his policy; but this seems to me as unreasonable as the first plan. The Secretary and Treasurer has, at least indirectly, given ample notice of his intentions: his policy has taken many years to develop; and if members have for years been irritated by his policy, and yet have lacked sufficient moral courage to make a formal protest, they should be prepared to pay some penalty for their supineness.

A third solution, and the one I favoured, was rendered impracticable at present by the outbreak of war. It had been my intention, as some members knew, to call the Club together, and ask it to convert itself into a Society with annually elected officers and with a Committee of Management. I was prepared to place before the Club a considered scheme which, if it had been accepted, would, in my judgment, have solved the difficulties. However, no one wishes to attend meetings of that kind or to form betanical societies at the present time; and I prefer therefore to postpone any consideration of my scheme until a more convenient season.

The question therefore remains what in the meantime must be done. In my opinion, there is only one possible plan, and that is to suspend all the activities of the Club for the period of the war. At the end of the war, a meeting of the Club should be called; and at that meeting I would submit my scheme for acceptance or rejection, as the case might be. The meeting would also naturally consider any alternative plan which any other member might desire to bring forward.

I appeal to every member of the Club to send me a postcard stating categorically whether or not he agrees with the suggestion that under the present circumstances the Club should be suspended during the war. If a goodly number of members agree with my suggestion, an effort will be made to induce the Secretary and Treasurer to accept it.

Supposing, however, that the response to my request is insufficient, and supposing that in spite of a considerable measure of support, I find it impossible to carry out the suggestion, my own course is clear. I shall sever my connection with the Club. It will be for other members who go with me to decide for themselves whether or not they will follow my example. Should a considerable number of members do so, it will be virtually as if the first of the above plans has been put into effect; but, at all events, those who resign will feel they have done their duty constitutionally and can rectify the present anomalous position of the Club; and they will have no further responsibility.

I am answering the questions put by the Secretary as follows:—
 (1) No. (2, 3, 4, 6, 7, 8, 9) There is no Society. (5) No. (10) Owing to the state of unrest in the Club, I am of opinion that the whole of its activities should be suspended for the period of the war; and if this is done I now give notice that I shall sever my connection with the Club at the end of the present year.

As the addresses of members are not now printed in the Club's Annual Report, I have been unable to send this circular to several of them; but if any such members come to know of the existence of the Club, they may have a copy on application to me.

C. E. MOSS.

TANY SCHOOL,
 CAMBRIDGE,

August 27th, 1915.



THE BOTANICAL SOCIETY
AND EXCHANGE CLUB
OF THE BRITISH ISLES.

REPORT FOR 1915
(WITH BALANCE-SHEET FOR 1914)

BY THE

SECRETARY,

G. CLARIDGE DRUCE,

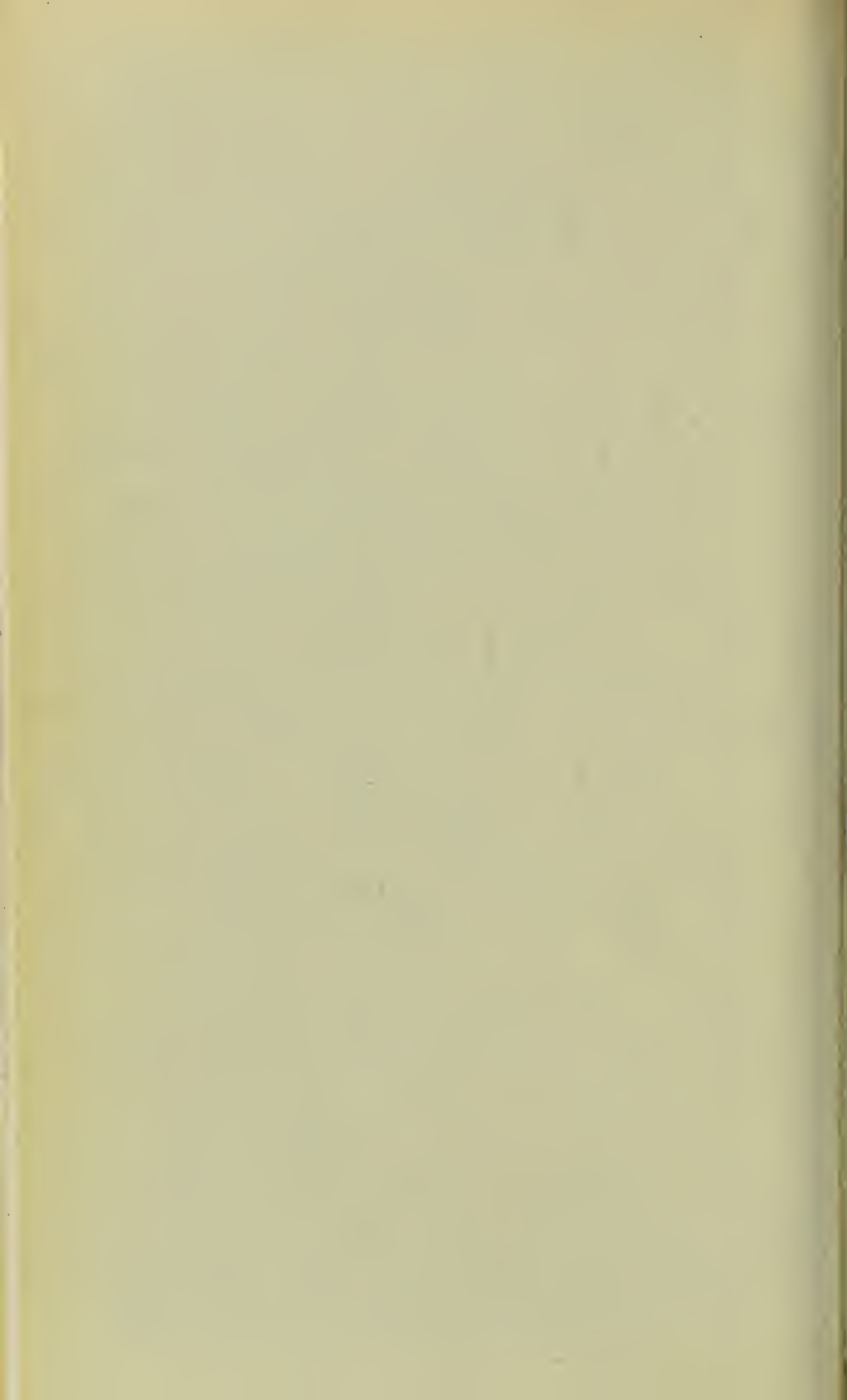
PRESIDENT OF THE ASHMOLEAN NATURAL HISTORY SOCIETY OF
OXFORDSHIRE.

VOL. IV. PART III.

PUBLISHED BY
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April 1916.

PRICE 5s.



THE BOTANICAL SOCIETY AND EXCHANGE CLUB OF THE BRITISH ISLES.

(VOL. IV. PART III).

REPORT FOR 1915

BY THE

SECRETARY,

G. CLARIDGE DRUCE,

to whom, at YARDLEY LODGE, 9 CRICK ROAD, OXFORD, the Subscription,
7s 6d per annum, and Non-Contributing Members' Subscription of 5s per
annum, should be paid on and after January 1, 1916.

Parcels for 1916 should be sent post paid, on or before 11th December 1916,
to D. LUMB, ESQ., and W. H. PEARSALL, ESQ., DALTON-IN-FURNESS.

The Distributor's Report on Plants sent in for 1915 will appear in due course.



PRINTED BY T. BUNCLE & CO., ARBROATH.

April 1916.

3 MAY 1916

THE
BOTANICAL SOCIETY & EXCHANGE CLUB
OF THE BRITISH ISLES.

THE REPORT OF THE TREASURER & SECRETARY,
G. CLARIDGE DRUCE, YARDLEY LODGE, OXFORD,
FOR 1915.

BALANCE SHEET FOR 1914.

By Subscriptions received, £51 16 0	Balance from 1913, - - £21 10 1
Sale of Reports, - - 6 2 0	Printing Reports, &c., 49 5 0
Advertisement, - - 2 10 0	Expenses of Distribution, 2 19 8
Donation (£10)—	Stationery, Postages, Inci-
For Secretary's Supple-	dental Expenses, - - 10 17 9
ment in 1913 Report, - 8 15 0	
For Special Posts 1915, - 1 5 0	
Miss I. M. Hayward for	
Printing Block, - - 1 10 0	
Balance due to Treasurer, 12 14 6	
£84 12 6	£84 12 6

Audited and found correct, December 23, 1915.—F. TWISING.

Balance due to the Treasurer, £12 14s 6d, to whom all subscrip-
tions should be paid to the address given above on the first of January
in each year (so that the *trouble and expense of applying for them may
be avoided*); of 7s 6d for each member who contributes and receives
specimens; of 5s for each non-contributing or corresponding member
who receives the *Reports* only, but who may send specimens for identi-
fication, or as records of interesting plants, or as notes for the *Report*.
Payment in advance for two or more years is much preferred.
Members joining in 1916 pay 10s (or 12s 6d Exchange), which in-
cludes *Reports* for 1915.

Members may have a complete set of the *Reports* for the years
1879-1900 for 20s; 1901-9, 20s, post free; odd copies 1s each; from
1901-9, 2s each post free; 1910, 4s; 1911, 5s; 1913, 7s 6d; 1914, 7s.

Spare copies not required by members are valued. Early copies of the Thirsk Botanical Exchange Club are specially desired, as also that of this Club for 1912.

The donations shown in the above statement include one from Miss I. M. Hayward, which is kindly given (as on previous occasions) to defray the cost of printing the photographic blocks of certain alien plants. The blocks, which have been also kindly lent by her, are to appear shortly in her work on the Alien Flora of Tweedside. The donation of ten pounds was given me by a friend (not a member), who wished to remain anonymous, to be used "in any way you like," and £8 15s is devoted to paying the cost of printing my *Supplement* containing *Notes on Nomenclature* (the cheque did not arrive in time to include in last year's balance sheet), and the balance, £1 5s, goes towards the cost of postage incurred by the recent circular. It may be well to add that a member has paid for the cost of printing the explanatory note of seven pages which was sent with the last Report. Therefore its cost is not shown in the balance sheet.

A few particulars, additional to those given in my printed note, may be mentioned. Since 1902 the non-payment of subscriptions has amounted to over £14—*i.e.* more than enough to cover the adverse balance. During my thirteen years' management the first pleasant task was to induce members to send in their photographs and signatures; these were placed in an album and presented to Mr Charles Bailey as a slight memento of the service he had rendered to the Club. It is an open secret that he means to give to Manchester University his British collection of 70,800 sheets, in addition to his herbarium of European and Mediterranean plants, estimated at 188,000 sheets. The lower cryptogams contained in this herbarium have not yet been computed.

Our members and friends in the same period have contributed nearly £70 for benevolent purposes. With the assistance of another member I was enabled to secure for a well-known botanical worker, then in advanced age, a pension of £40 a year, which soothed his declining years; and an appeal, which was strongly supported by us, led to another well-known botanist, who has also gone to his rest, receiving a substantial sum from the Royal Bounty.

We have also supplied our Reports to the honorary and corresponding members. In 1908 each member received a copy of my *British Plant List*, and in 1912 all the members had a reprint of twenty-two

pages describing the floristic results of the International Phyto-geographical Excursion in the British Isles. The annual pagination of our Report 1903-1914 averages 150 pages, which contrasts most favourably with that supplied in any similar publication. During the last three years 22,584 plants have been distributed.

In these years we have to acknowledge donations from Messrs C. Bailey, R. H. Corstorphine, J. Cryer, C. P. Hurst, W. Sanderson, the Hon. Mrs Maud Glyn, Miss Grenfell, Rev. E. S. Marshall, Hon. N. Charles Rothschild, Dr Shadwell, Professors E. Hackel and F. E. Weiss, D.Sc.

We have recently lost through death Mr R. M. Barrington, Prof. T. L. Bullock, Mrs Coker Beck, Mr F. Hamilton Davey, and Dr Vachell. In the last list of members the names of Rev. A. Gregor, the Hull Museum (Mr T. Shepherd), Harvard University, and Plymouth Museum (Mr T. Hodgson) were duplicated. Four members have lapsed through non-payment of subscriptions. The resignations in 1915 include Mr J. Backhouse, Rev. W. Bunt, Dr Caldecott, the Botanical Department, Cambridge University; Sir F. Crisp, Bart.; Mr W. B. Crump, Miss B. Reid, Mr R. Stapledon, Mr A. G. Tansley, and Mr C. West.

Since the last Report was printed, the new members include:—Mrs Atherley, The Ashmolean Natural History Society of Oxfordshire, Mr E. Gilbert Baker, Rev. W. M. Bell, Mr F. A. Bellamy, M.A., Rev. E. B. Brackenbury, Miss Bourne, Mr Cedric Bucknall, Mr R. F. Burton, Miss H. Butler, Lady Octavia Bentinck, Miss Chamberlain, Mr A. H. Church, D.Sc., Dr H. Clarke, Mr Creed, Sir R. Curtis, Bart., Miss Drummond, Mr H. A. Evans, M.A., Miss Fry, Mr T. H. Green, Mr D. A. Haggart, the Right Hon. L. Harcourt, M.P., Mr H. F. Hayllar, Prof. Augustine Henry, Mr J. Jack, F.L.S., Prof. T. J. Jenkins, Mr J. Lamb, Countess de Baillet Latour, Dr McLachlan, Rev. T. A. Martyn, Mr C. Nicholson, Mrs Howard Pease, Miss Post, Lieut. H. Porter, Rev. R. Quirk, Mr H. N. Ridley, F.R.S., Mr J. F. Rayner, Mr W. L. B. Ridge, Mr W. Robinson, V.M.H., Mrs Sandwich, Mr A. Soper, Rev. T. Stephenson, Mr W. H. St Quentin, Miss Talbot, Sir Everard im Thurn, Miss Todd, Mr A. W. Trethewy, Mr G. Creswell Turner, Miss Vachell, Rev. Canon J. Vaughan, Mr A. S. Wade, Mr J. S. Whyte, Prof. G. S. West.

We have to offer our thanks to Mr R. H. Corstorphine for so ably acting as Distributor in 1915, and editing the Report for 1914. This

Report contains many items of great interest. Such as are new records are dealt with in the subsequent pages. The specimens sent in numbered 6537 from thirty-four contributing members. These on the whole were excellently prepared. They included beautiful examples from Mr W. H. Pearsall, the discoverer of *Hydrilla verticillata* var. *pomeranica*, and also of *Naias flexilis*, the latter new to England. Mr F. Robinson sent excellent specimens of *Cucubalus baccifer*, which was extinct in its old habitat, and also of *Deyeuxia neglecta* from an unexpected locality, which greatly increased its known range in England, both notable additions to the Norfolk flora. *Arabis alpina* from Skye, where it was discovered some years ago by the late Mr Hart, was distributed for the first time in Britain.

Owing to the War the publication of the Report was delayed till November.

It is with much regret that I have to say that so far I have been unable to elicit any reply from M. Isodore Maranne as to our Erophilas, and I am afraid his silence is due to the War.

Following the usual plan, I have prepared a Review of the salient features of British Systematic Botany for the year, with other matter which may interest those studying British Botany. This being my own compilation in no way assumes that it carries with it any but purely personal authority, but all rights in its publication are reserved. New county records, new localities, or other particulars are always gladly received. Plants sent to be named should always be accompanied by full details of their occurrence, *e.g.*—"No. 4. Grass, limestone cliff, Cheddar, Somerset." If a duplicate is retained with a similar number it saves the trouble of returning specimens. Should the specimens be required, return postage must be enclosed, with a direction label. Any information that I am able to give on British Botany is entirely at the service of the members.

It is a matter of satisfaction to know that all our members are impressed with the importance of avoiding reckless or careless gathering of plants which endanger any local species, and that they are anxious to do all that is possible to protect them from injury. Will they suggest to their Botanical friends the desirability of becoming members? With a roll of 250 the financial strain will be entirely removed.

THE UNIVERSITIES OF LOUVAIN AND WARSAW.

Since the Botanical Library and Herbarium at Louvain have been burnt by the Germans, and as Professor Chmielevsky of Warsaw has sent me an especial appeal to replace his specimens, books, microscopical material, &c., which are now in the hands of the enemy, and the University has been removed to Rostov-on-the-Don, I think our members would be glad to render such assistance as lies within their power. I would suggest that members having duplicate plants should send in two specimens poisoned and mounted on thin cartridge paper, 15 in. \times 10 in., with their label attached. These will be stamped with the B.E.C. stamp, and I will undertake to store them till opportunity offers to send them to Louvain and Warsaw as the offering of their British confrères. Reprints, journals, and botanical works would also be gladly received. Each should have the name of the donor on it, with an intimation as to which University it is to be sent.

PLANT NOTES, ETC., FOR 1915.

(Mostly New Plants to the British Isles.)

18 (2). *RANUNCULUS ACONITIFOLIUS* L. Alien, Europe. As the "flore pleno" form, in the Den of Craigston, Turriff, Banff, 94, Prof. TRAIL, in *Scot. Nat.* 246, 1885.

68 (2). *ACONITUM INTERMEDIUM* DC. Syst. i., 374. Alien, Europe. Garden outcast, Windermere, L. Lancs., 69 b, G. C. DRUCE and W. H. PEARSALL.

73 (3). *BERBERIS DARWINII* Hook. Ic. t. 672. Alien, Chili. Near Ulverston, PETTY, in *Naturalist* 83, 1892.

73 (4). *BERBERIS BUXIFOLIA* Lam. Illust. t. 283, f. 3. Alien, Magellan. Near Usan, Forfar, 90, 1914, R. & M. CORSTORPHINE. There it fruits freely.

80. *PAPAVER RHOEAS* L., var. *CONICUM* Legr. Stat. Bot. Forez, ex Rouy and Fouc. *Fl. Fr.* i., 154, 1893. Plateau stigmatifère aigu, conique. The stigmatic rays are velvety black and very prominent. Hunsbury Hill, Northants., 32, 1914. Fedde (*Bull. Herb. Boiss.* 2, v., 169, 1905) named this var. *omphalophorum*, and (in *Pflanz.*) described it "capsula non stipitata, discus subpyramidatus umbilicatus." He cites No. 769, Bourgeau's *Canary Plants*, with which our plant agrees in fruit characters, although it is freer from hairs. G. C. DRUCE.

171. *COCHLEARIA ANGLICA* × *OFFICINALIS* = × *C. BRIGGSII* mihi. Growing with both parents at Mariston, near Plymouth, Devon, and differing from *anglica* in the broader and more deeply toothed leaves, and smaller, often abortive, capsules. See *Rep. B.E.C.* 9, 10, 1872-4; 8-10, 1875. Dr Boswell, reporting on them, says in several instances they were so intermediate that he felt "at a loss which name ought to be applied." G. C. DRUCE.

185 b. *SISYMBRIUM ORIENTALE* L., var. *SUBILASTATUM* (Willd.) Thell. Par, Cornwall, 1, 1914, C. C. VIGURS. Det. A. THELLUNG.

- 193 (2). *SISYMBRIUM TURCZANIWOWII* Sonder, in Harvey and Sond. *Fl. Capensis* i., 26. Alien, S. Africa. Tweedside, Selkirk, 79, 1914, Miss I. M. HAYWARD. Det. A. THELLUNG.
- 195 (2). *ERYSIMUM AURIGERANUM* Timb. Massif Llaurenti, 155. Alien, France. Blaby, Leicester, 55, 1904, W. A. VICE. Differs from *cheiranthoides* in the emarginate bilobed stigma.
- 247 (5). *LEPIDIUM BONARIENSE* L., var. *STUCKERTIANUM* Thell. in Fedde *Repert.* xiii., 302, 1914. Alien, Argentina. Tweedside, Selkirk, 1914, Miss I. M. HAYWARD. Det. A. THELLUNG.
- 247 (6). *LEPIDIUM OXYTRICHUM* Sprague, in *Kew Bulletin* 123, 1915. Replaces *L. papillosum* F. v. Muell., in *Rep. B.E.C.* 152, 1912.
- 247 (7). *LEPIDIUM LINOIDES* Thunb., var. *IBERIOIDES* (Desv.). Alien, S. Africa. St Helena, Ascension, Mauritsius. Galashiels, Selkirk, 1915, Miss I. M. HAYWARD. Det. A. THELLUNG.
- 247 (10). *LEPIDIUM PSEUDO-DIDYMUM* Thell., nov. forma *GLOMERATUM* Thell. "Racemis densissimis abbreviatis 1-2 to 2½ cm. longis, pedicellis silicula subbrevioribus (septo subaequilongis), foliorum segmentis ½ mm. tantum latis." A. THELLUNG, 1915. Tweedside, Selkirk, 79, Miss I. M. HAYWARD.
- 247 (15). *LEPIDIUM AFRICANUM* (Burm.) DC. Syst. ii., 552, var. *CAPENSE* (Thunb. Prod. Fl. Cap. 107) Thell. Galashiels, Selkirk, 1915. Miss I. M. HAYWARD. Det. A. THELLUNG.
- 252 c. *IBERIS AMARA* L., var. *ARVATICA* (Jord.) Gren. Rev. Pl. Mt. Jura, 42. Cornfield above Watlington, Oxon., 1915, G. C. DRUCE.
- 270 (2). *RAPISTRUM TENUIFOLIUM* (Sibth. and Sm.) Benth. and Hook. f. = *DIDESMUS TENUIFOLIUS* DC. Alien, E. Europe. Near Welwyn Tunnel, Herts., 20, J. E. LITTLE. Det. A. THELLUNG.
284. *RESEDA LUTEA* L., var. *PULCHELLA* J. Muell. Mon. 91 (see Rouy and Fouc. *Fl. Fr.* ii., 248). Worms Heath, Surrey, 17, C. E. BRITTON, in *Rep. B.E.C.* 121, 1914. This is the *R. gracilis* Reichb. Ic. Fl. Germ. et. Helv. ii., 22, t. 4445: but not the *R. gracilis* Tenore, which A. Irvine recorded from Wandsworth in *Fl. Surrey*, 313.

var. c. LONGIFOLIA Tenore Sylloge Fl. Neap. 232 (see *Rep. B.E.C.* 454, 1913). Grosmond, York, 62, 1913, J. E. LITTLE, and agreed to by Dr THELLUNG. Rouy and Fouc. *l.c.*, put this as a sub-var. of the var. *stricta* J. Muell.

336 c. *SILENE CUCUBALUS* Wib., vel. *S. INFLATA* Sm., vel. *S. VENOSA* Aschers., vel. *S. LATIFOLIA* R. & B., var. c. *RUBRA* (DC. under *inflata*). Plant large, diffuse; lower leaves obovate, upper ovate, glabrous, darkish green; inflorescence large, many flowered; flowers rose-purple; calyx large, 17 × 14 mm., strongly veined. On the shingly border of Loch Tay, near Fearnan, Mid-Perth, 88, where it has been known to Mr D. A. Haggart for some years. The sub-var. of the var. *Tenoreana*, which Le Grand named *carneiflora*, has narrow linear-lanceolate or sublinear leaves. G. C. DRUCE.

354 b. *SILENE NUTANS* L., var. *DUBIA* (Herbich). The older name is *S. transsylvanica* Schur, i.e. *S. nutans* L., var. *transsylvanica* (Schur) comb. nov. This is the *S. dubia* Herbich, distributed in 1914, from the shingle near Lydd, Kent. G. C. DRUCE.

357. *CUCUBALUS BACCIFER* L. The very interesting discovery of this plant in Norfolk by our member, Mr F. Robinson, of which specimens were distributed in 1915, and commented on in the Distributor's *Report*, deserves a more detailed notice, since even the reference to it in Syme's *English Botany* is incomplete. It was first mentioned as a British plant in How's *Phytologia*, p. 5, 1650, from "sylvis udis," and in the Dillenian edition of Ray's *Synopsis*, 267, 1724, as "*Cucubalus Plinii* Lugd. 1429. In sepibus Insulae Monae collegit & mecum communicavit D. Foulkes de Lhanbeder prope Ruthin: Dr Richardson." This record has never been confirmed, either by the Rev. H. Davies (*Welsh Botany*, 1813) or by Mr J. E. Griffith (*Fl. Anglesey and Carnarvon*, 21), the latter saying "he has carefully searched the locality, in which it was stated to be growing, for several years, but in vain." This statement is somewhat cryptic, since no precise locality is mentioned by Dr Richardson, and from a letter published in the *Correspondence of Linnaeus*, ii. 171, 1821, Mr Foulkes afterwards stated he only received an account of it "from one who pretended to know plants very well," but that he could never find it. It was, however, discovered "on the banks of the ditch on the left-hand side of the road from Blackwall

the Ferry House, Isle of Dogs, rather nearer the latter than the rocks," by Mr G. Luxford, A.L.S., who, in a note read before the Innean Society, November 21, 1837, said, "if not truly indigenous, is at least perfectly naturalised." T. Westcombe found it there in considerable quantity in 1852 (see *Phyt.* iv., 605, and *Fl. Middlesex*, p. 10). Syme (*l.c.*), who collected it in 1853, thought it was certainly introduced. Mr F. Robinson kindly showed me the plant last September in the locality in West Norfolk where he has seen it growing for the last eight or nine years, but he says it shifts its ground from year to year. There it grows in ditches and in a wood containing larch and oak, and has the appearance of being indigenous. Its distribution on the Continent, where it is very widely spread, is in favour of its being native here, since it affects similar habitats, and is of a somewhat sporadic nature. In the young state *Cucubalus* is called *Stellaria aquatica*, but the fleshy fruit, unique in its order, affords a ready means of recognition when the plant is mature in September. Mr Robinson tells me he first found it about eight or nine years ago on the border of a wood, and a year or two afterwards covered a hedge within a quarter of a mile of the same place. Last summer he found it in two or three places in the immediate neighbourhood, growing in an open wood, through and amongst brambles. Its origin was unknown to the gardeners or gamekeepers on the estate. He never found it growing twice from the same root.

. C. DRUCE.

412. SPERGULARIA MEDIA Presl, vel. S. MARGINATA Kit., forma ROBUSTA. Plant with strong perennial root stock. Sea cliffs, Arbroath, Forfar. G. C. DRUCE.

414. SPERGULARIA ATHENIENSIS Heldr. and Sart. In *Rep. B.E.C.* vol. 2, 1872-4, Mr T. Archer Briggs records for St Germans Beacon, Cornwall, 2, "a glandular hairy form of *rubra*, or something between that species and *rupestris*," which suggests the desirability of searching this locality to see if this plant may not be *atheniensis*.

. C. DRUCE.

416 c. POLYCARPON TETRAPHYLLUM L., var. DENSUM Rouy and Duc. *Fl. Fr.* iii., 312. "Plante plus courte, d'un vert glaucescent ou de, plus densément feuillée; fleurs moins nombreuses mais disséminées en cymes courtes, denses: feuilles ordinairement plus larges,

ovales, membraneuses." When in the Channel Isles in 1906 and 1907 I collected several forms of *Polycarpon*. One which I gathered at Bel Royale, on the Quenvais, and at St Ouen's, at L'Ancrese, Guernsey, and in Alderney, differed very much from the more common form. I hoped it was *alsinoides*, but I never saw the open flower. Mr Hunnybun, who was in Guernsey in 1913, in answer to my request kindly examined it in the fresh state, and noticed it had only three stamens, a character which Rouy and Foucaud (*l.c.*) do not mention, and he sent me specimens, remarking "you might well make the query, one might watch for days without the chance of seeing a flower open." These specimens convinced me they were not *alsinoides*, which in colour, habit, and foliage they resembled. They agree with the description cited above, except that the leaves are not notably broader, they are more fleshy than in the type, but like that are tetraphyllous. It is interesting to learn from Mr Hunnybun that this is the form which Mr Bowles Barratt sent him from the Chesil Bank, Dorset. I have, however, seen the type from that county. It is somewhat remarkable that it is the plant in the Dillenian Herbarium which represents *Alsine maritima supina*, *foliis Chamaesices* = *Frankenia pulverulenta*, but we have no other evidence, that I am aware of, of either *Polycarpon* or *Frankenia* (Dickson's spec. in his *Fasciculi*, xix, n. 4, labelled "Seashore, Sussex," was doubtless of garden origin) being a Sussex plant.

G. C. DRUCE.

437 d. *HYPERICUM HUMIFUSUM* L., var. *AMBIGUUM* Gillot, in *Rev. Bot.* x., 53, 1892. Lands End, Cornwall, 1; Hadley Wood, Herts., 20; Chilworth, Surrey, 17, H. W. PUGSLEY, in *Journ. Bot.* 169, 1915. The var. *Liottardii*, recorded by Dr Drabble, Mr Pugsley says, requires confirmation.

460. *WISSADULA SPICIFLORA* (DC.) comb. nov. *Sida spiciflora* DC. Prod. i., 468, 1824, vice *W. spicata* Presl *Rel. Haenke*, ii., 117, 1835. Alien, Amer. On the site of the Exhibition of 1862. W. T. DYER, in *The Key*, 1892.

462 (2). *TILIA PETIOLARIS* DC. Alien, Europe. Barton Sea-grave, Northants., 32, in *Rep. B.E.C.* 133, 1914, G. CHESTER. Det. A. B. JACKSON.

471 (2). *LINUM JIMENEZII* Pau, in *Bot. Soc. Arag.* ii., 70. Alien, Spain. Esparto grass casual, Midlothian, 1915, J. FRASER, in *lit.*

488. *GERANIUM ROBERTIANUM* with tri-lobed petals. About the middle of May 1913, I noticed in a lane at Ottery St Mary, Devon, a specimen of *Geranium Robertianum* bearing a flower with tri-lobed petals. This species was abundant in the hedge adjacent, yet no other specimen with lobed petals could be found. Repeated visits during the next two years failed to find a second example. Since the original plant was not uprooted, unless it has been otherwise exterminated, it should still be there. As I am shortly returning to Japan, and therefore shall not have another opportunity of visiting the same spot in the near future, and also since I have not met with any specimen of this kind anywhere else, I venture to record its occurrence, and to call the attention of field botanists to this curious form. The flower had a long slender and hairy peduncle, of a reddish colour, and was in no way different from typical *G. Robertianum*, except for the lobing of the petals. Four of the petals were distinctly tri-lobed, while the fifth had a lobe produced only on one side of the organ, thus showing a transition to the normal type. On the same peduncle there was a flower-bud. Its dissection has revealed the fact that this bud was going to become a flower exactly the same as the other, since four of the young petals were more or less tri-lobed, while the remaining one had a notch on one side only. Unfortunately at the time of the discovery no close examination was made as to the character of the other flowers on the same plant. There was, however, no other flower with lobed petals in evidence. Since there were at least two flowers (one was in the immature condition) of the same nature present on the same plant, it might be presumed that the others were of a similar kind. Even if this abnormality were limited to these two particular flowers, if one or both of them were fertilised and set seeds, offsprings possessing this character might have been produced. At any rate it would be well worth while to look for some more examples of *Geranium Robertianum* bearing flowers of this type, and to make some careful observations whether this character is well established or an unstable one. Through the kindness of Mr G. C. Druce, I have found that the only approach to this form of *G. Robertianum* on record is sub.-var. *crenatum* Rouy and Fouc. *Fl. Fr.* 35, 1897. These authors, however, do not give any proper descrip-

tion of this form, and simply say "petals erenulated." From this short description it is difficult to decide if our form corresponds with that referred to by the French authors. The lobing in our example, however, suggests that the British form ought to be treated as distinct. If the characteristic of this form was found to be stable, our plant may then be called var. *trilobatum*. H. TAKEDA.

Gen. 118 (2). MONSONIA L. *Mant.* i., 14, 1767.

499 (20). MONSONIA BREVIROSTRATA R. Knuth, in *Eng. Jahrb.* xl., 67, 1907. Alien, S. Africa. Tweedside, Selkirk, 1915, Miss I. M. HAYWARD. Det. A. THELLUNG.

517. EUONYMUS EUROPAEUS L., forma REPENS. Sand dunes, near Seaseale, L. Lancs., 69 b, August 1915, shown me by Mr D. LUMB. Specimens rooting from the lower branches. G. C. DRUCE.

539. ULEX MINOR Roth (*U. NANUS* Forst.), var. LONGISPINOSUS (Rouy and Fouc. *Fl. Fr.* iv., 244, as a var. of the race *U. nanus*), comb. nov. Spines 12-18 mm. as against 8-12 in the type. Bedwyn Brailes, N. Wilts., 7, C. P. HURST; near Early and Wokingham, Berks., 22; Harefield, Middlesex, etc., 21, 1892, G. C. DRUCE. (Rouy cites Baenitz *Hb. Europ.* 1877, from England.) The habit of this plant is erect, 2 feet high, with strong spines, but the flowers are small and paler than *Gallii*, for which it is often mistaken. G. C. DRUCE.

540 (2). CYTISUS MONSPESSULANUS L. Alien, Europe. On a heath far from houses, between Hyde and Wareham, Dorset, 9, 1915, Mrs DRUMMOND, vide sp.

597 b. MELILOTUS INDICA All., var. PARVULUS Rouy and Fouc. *Fl. Fr.* v., 56. "Plante très grêle, de 8-15 cm.; folioles des feuilles inférieures obovales cunéiformes, celles des feuilles supérieures oblongues-allongées, grappes florifères lâches, pauciflores, une fois plus longues que la feuille, . . . fleurs très petites, d'un jaune pâle ou blanchâtres; légumes très petits." Near Winchester, 1915, JOSHUA LAMB, vide sp.

648. LOTUS TENUIS Kit. I have for some time felt that we have under this name more than one form, therefore I thought members might perhaps assist by examining the specimens in their collection in

order to see if they can be separated. The one figured in *English Botany* t. 2615, *L. decumbens* Forster, is identified by M. Rouy in *Fl. Fr.* as *L. pedunculatus* Cavan. *Icones* 2, 52, t. 164. The other is *L. tenuis* Kit. in Willd. *Enum. Hort. Berol.*, 797. I have appended his description of the two forms.

L. PEDUNCULATUS.

Plant 4.8 dm., glabrous or glabrescent.

Stems many, much branched, decumbent at base, ascending in the upper part, with long internodes.

Leaflets oblong-lanceolate or lanceolate, pointed, attenuate at base and at top. Stipules elliptic-lanceolate, truncate at base.

Peduncle elongate, slender, 6-10 times longer than leaf.

Flowers 2-5. Calyx with triangular teeth, somewhat attenuate-subulate, equalling tube.

Wings oblong, rounded at top, curved on the lower margin, but not entirely covering the keel.

L. TENUIS.

Plant 2.4 dm., glabrous or glabrescent.

Stems many, slender, branched, ascending or erect.

Leaflets and stipules linear-lanceolate or linear, pointed, often thin, attenuate at base.

Peduncle filiform, elongate, 5-6 times longer than leaf.

Flowers 1-4. Calyx with triangular teeth, abruptly subulate, shorter than tube.

Wings narrow-oblong, truncate at top, not curved, and not entirely covering the keel.

Smith's description (*Eng. Fl.* iii., 314) is (abbreviated) as follows:—
 Heads of few flowers, 3-6. Stems decumbent, nearly solid, widely spreading, a foot or more in length. Flower stalk axillary, 4 or 5 times the length of the leaves. Calyx teeth lanceolate, tapering, spreading, shorter than the tube, with wide rounded interstices. Smith says he can find nothing like this species except *L. pedunculatus* Cav., the plate and description of which are not very discriminative, but its stem is said to be erect, 3 feet high, and every part of the plant is smooth. If one compares the figure (*Syme E.B.* iii., t. 369, copied from *E.B. Supplement*, 2615) it will be found that the length of the peduncle is about 50 mm.; of the leaflet 10-12 mm., *i.e.* about five times longer. The calyx teeth are distinctly shorter than the tube, and this is the case in the greater number of my sheets of *L. tenuis*. I have two small plants, one from Brixham, S. Devon, and another from Lymington, S. Hants., which agree pretty well

with Rouy's description of *tenuis*, except that the plants are not erect. G. C. DRUCE.

650. LOTUS ANGUSTISSIMUS L. × HISPIDUS Desf. = × L. DAVYAE Druce. Growing with both species at Start Point, S. Devon, and sent by Lady Davy, who noticed its intermediate characters. The foliage is more hairy than *angustissimus*; the calyx teeth are slightly longer than the tube; the peduncles, instead of being longer than the leaves as in *hispidus*, or shorter as in the other species, are variable in length, and they are 1-2 flowered. The pod is about 20 mm. in length, resembling that of *angustissimus* in shape, whereas that of *hispidus* is broader and about 10 mm. long. The seeds are somewhat larger than in *angustissimus*, but smaller and rounder than *hispidus*. It is characterised by having the foliage of *hispidus*, but the pod of *angustissimus*. Pilosus, pedunculi 1-2 flori, folio longiores vel breviores. Legumen ut in *L. angustissimo*, circiter 20 mm. Semina magnit. intermedia. G. C. DRUCE.

655. ASTRAGALUS DANICUS Retz., sub.-var. PARVIFOLIUS mihi. Leaflets small, 2-4 × 1-2 mm. Carnoustie sands, and on the cliffs near Arbroath, Forfar. The type is common and luxuriant on the Sands of Barry, Forfar. The fruits vary from intensely hairy to nearly glabrous. G. C. DRUCE.

667 (2). SCORPIURUS VERMICULATUS L. Alien, Europe, S. Tyne-side, WINCH, ex HOGG, in *Brit. Assoc.*, 1866.

723 (2). LATHYRUS HIEROSOLYMITANUS Boiss. Diagn. Ser. I., ix., 127. Alien, Syria, &c. Ware, Herts., 20, 1915, Miss TROWER and G. C. DRUCE.

787. RUBUS HEREFORDENSIS Sudre Mon. Rubi, 64 (R. PUBESCENS Rogers, p.p.). *Set of British Rubi*, No. 33, 1904. Hereford, A. LEY.

796 (2). RUBUS DUBERNIENSIS Sudre and Ley, 31 (ORTHOCLADOS × GRATUS). Hereford, A. LEY.

800. RUBUS CORNAVIENSIS Sudre, *l.c.*, 103 (LEUCOTRICHUS × PYRAMIDALIS). Pennsylvania, Cheshire, A. H. WOLLEY-DOD.

805. RUBUS WOLLEY-DODII Sudre, *l.c.* 106. Edge Park, Cheshire, A. H. WOLLEY-DOD (the *Rubus criniger* Rogers, pro. min. part).

818 (2). *RUBUS SEMINFESTUS* Sudre, *l.c.* 150 (*INFESTUS* × *SCHLEICHERI*). Burton Wood, A. H. WOLLEY-DOD.

842 (2). *RUBUS HIRSUTISSIMUS* Sudre and Ley, *l.c.*, 51. Hereford, A. LEY.

865 (2). *RUBUS SCHLEICHERI* Wehic. Yorks., SUDRE, *l.c.*, 198.

876 (2). *RUBUS IMBRICATIFORMIS* Sudre, *l.c.*, 240 (*IMBRICATUS* × *CAESIUS*) = *R. TUBERCULATUS* J. W. White. ?Somerset.

876 (3). *RUBUS SEMIALTERNIFLORUS* Sudre, *l.c.*, 240 (*ALTERNIFLORUS* × *CAESIUS*). Chester, A. H. WOLLEY-DOD.

ROSA EGLANTERIA HUDSON.

A. Petala rosea, saturate rosea, vel rosea-purpurea.

1. Pedicelli obvii glanduloso-hispidi.

a. Foliola glandulis subfoliaribus instructa.

i. Armatura dimorpha, aculeorum uncinatorum basi dilatata multorum et aciculorum leviter curvatorum vel rectorum staccorum plerumque pauciorum minorum immixte composita.

var. *UMBELLATA* F.N.W. (= *R. UMBELLATA* Leets), f. *ECHINOCARPA* F.N.W. (= *R. ECHINOCARPA* Ripart). Aculei majores falcati, minores recti. Petioli tomentosi undique stipitato-glandulosi sub aculeati. Foliola ovalia, supra glabra vel leviter puberula glandulis sparsis obducta, subtus pubescentia densius glandulosa stipulae necolatae, auriculis acutis erectis. Flores solitarii vel corymbosi. Bracteae ovales cuspidatae. Pedicelli aculeis longis et aciculis brevibus intermixtis armati; aculei aciculis $2\frac{1}{2}$ -3 plo. longiores. Styli obvii hispidi. Fructus glandulis stipitatis et setis aciculosis dense echinatus. On Box Hill, Surrey, last year, the sepals were spreading it on 21st September. F. N. WILLIAMS.

937. *ROSA EGLANTERIA* L., var. *CORSTORPHINAE* mihi. Bush tall, em prickles distant, long based, uncinata, of the flowering shoots crowded, nearly straight, 2-3 mm. long, of the peduncles crowded, straight, slender. Leaves broadly ovate, densely glandular above and below, biserrate. Flowers in dense umbellate clusters, 8-10, dark rose-red, fragrant, very showy. Elata. Aculei sparsi pallidi e basi dilatata uncinati. Aculeoli crebri, 2-3 mm., leviter curvati vel recti, tenues. Foliola late ovata utrinque dense glandulosa. Flores

grate odori, saturate rosei, 8-10, in umbellam compactam aggregati. Near Dumnald, Forfar, in plenty. Shown me by Mrs Corstorphine. In *Top. Bot.*, curiously enough, *Eglanteria* is not given as a native of the northern counties. In Forfarshire and Eastern Perth it is one of the commonest roses, and is probably as native as *villosa* or *tomentosa*. This handsome and very distinct-looking plant is quite new to me. I saw nothing in the vicinity which could suggest a hybrid origin, but the bushes were remarkably constant. Major Wolley-Dod, too, says he has seen nothing like it. If a hybrid, it is almost certainly *R. Eglanteria* × *gallica*, the armature recalling that of the latter species. G. C. DRUCE.

966. CRATAEGUS OXYACANTHA L., vel C. MONOGYNA Jacq., var. vel forma SUBCRISTATA mihi. Differs from the type by its small 8-10 × 5 mm. narrow one-styled fruit, in which the calyx lobes, instead of being recurved more or less, and closely applied to the fruit, are spreading or erect. The leaves are mostly tri-lobed, but the veins turn outwards, not as in *oxyacanthoides* inwards. Racemes many fruited, dark dull purplish red. Folia plurimum triloba, venis extrinsecus curvatis. Sepala patenti-reflexa vel recta, corymbis multifloris. Pomum 8-10 × 5 mm., rutilans. Yardley Gobion, Northants., September 1915, G. C. DRUCE.

CRATAEGUS MONOGYNA Jacq., var. HETEROPHYLLA mihi. Lower leaves and those on the fruiting branches narrow, tapering from the base, and almost entire for three-fourths of their length, but cut in the upper part into 3-5 usually shallow lobes. Leaves of the upper part of the flowering branches and of young shoots like those of normal *monogyna*, 5-7 lobed, with recurved veins, the veins of the centre lobe sometimes slightly incurved, the lateral ones slightly recurved. Fruits of medium size, one-styled, often more or less bent, few, on long stalks. Folia inferiora et ramorum fructiferorum angusta, basin versus attenuata, quoad partem quartam superiorem 3-5 loba, ceterum subintegra. Folia juniorum termitum et parte superiore ramorum floriferorum 5-7 loba, venis recurvatis. Stylus post anthesin plusminus flexus. Poma pauca mediocria, longe pedicellata. It is possible that the plant may be a hybrid with *oxyacanthoides*, but it seems constantly one-styled, the fruits are fertile, and the upper leaves are distinctly those of *monogyna*. Yardley Gobion, Northants.,

in some quantity. There is a fine bush of an allied form among the large collection of thorns in the Oxford parks, planted by W. H. Baxter, but the original label is lacking. September 1915. G. C. DRUCE.

CRATAGEUS MONOGYNA Jacq., var. URCEOLATA Hobkirk, in *Nat* iii., 19, 1867. Fruit twice as long as broad, leaves deeply divided, and not so generally serrated as type. Thirsk, York, J. G. BAKER.

CRATAEGUS MONOGYNA Jacq., var. PTERIDIFOLIA (Loudon Arb. et Fruct. iii., 831, 1838). *C. oxyacantha* L., var. *pteridifolia* Loudon, *C. pterifolia* Lodd. Cat., *C. pectinata* Hort. Like *laciniata*, but leaves longer in proportion to their breadth, and more elegantly cut. There are only small plants of this very elegant and most interesting variety in the Fulham Nursery, at Messrs Loddiges, and in one or two other collections. This differs from *laciniata* in having an extra pair of leaf lobes, and in the more oblong shape of the leaf. Woodstock, Oxon.; Humberstone, Leicester, A. R. HORWOOD.

967. CRATÆGUS OXYACANTHOIDES Thuill. (*C. OXYACANTHA* auct. Sinec.), var. MICROPHYLLA mihi. Leaves small, 15-20 × 5-15 mm., roundish-oval, with three shallow roundly-crenate lobes. Ripe fruit roundish, about 8 mm. Folia 15-20 × 5-15 mm., ovali-subrotunda, trierenato-loba. Pomum 8-10 mm., superne rotundatum. By the Tove, Yardley Gobion, Northants., with bushes of the type growing close by. G. C. DRUCE.

CRATAEGUS OXYACANTHOIDES Thuill., var. MAJUS Hobkirk, *l.c.*, 1867. "Foliis amplis, serratis, utriusque pubescentibus. Hampstead Heath, Middlesex. J. B. SYME, 1864." Leaves two or three times larger than type, more elongated and somewhat hairy. Probably a hybrid.

HAWTHORN.

The English name Hawthorn is first mentioned in some early glossaries. The following quotations to illustrate its use are selected (in order of date) from the Oxford English Dictionary, v., 133, 1898: 700, *Epinal Glossary*, 19, "*Alba spina*, haeguthorn"; 725, *Corpus Glossary*, 114, "*Alba spina*, heagothorn"; 800, *Erfurt Glossary*, 19, "*Alba spina*, hagudorn"; 950, *Lindisfarne Gospels*, Matthew vii., 16, "Huether somnigas . . . of hagathornum fic-beamas" (Do men gather

grapes of thorns, or figs of thistles?); circ. 1000 (Cockayne), *Saxon Leechdoms*, ii., 54, "Hægthornes blostman"; Robert of Gloucester, *Legends of the English Saints* (1297), "onder an haythorn tree"; circ. 1300, *Guy of Warwick*, "Thiderward sir Guj him droush, And loked under an hawe-thorn boush"; circ. 1400, *Vocabulary*, ed. by Wülcker, 572/45, "*cinus*, an haythorne and an hawe"; 1450, *Merlin*, 681, "A bussh . . . of white hawthorne full of floures"; 1573, *Tusser*, *Husbandrie*, xxxv., 76 (ed. 1878), "The box and bay, Haithorne and prim, for clothes trim." In England hawthorn hedges seem to have been in use since the time of the Romans; and the alternative English name of "White-thorn" is a translation of the Latin *Alba spina*. F. N. WILLIAMS, in *lit.*

972 (3). *COTONEASTER FRIGIDA* Wallich Cat. 657. Alien, Himalaya. In Buddon and Quarry wood, near Gallows Lane, Willesley, Leicester, 1915, A. R. HORWOOD.

1010 (2). *SEDUM ALTISSIMUM* Poir. Enc. iv., 634. Alien, S. Europe. With Esparto grass, Midlothian, 1915, J. FRASER, in *lit.*

1047. *EPILOBIUM HIRSUTUM* × *PALUSTRE* (Fide E. S. Marshall). Edge of pool near Helsby Station, Cheshire, C. WATERFALL, vide sp. We congratulate our member upon adding such an interesting plant to the British Flora.

1077 (3). *MESEMBRYANTHEMUM CRYSTALLINUM* L. Alien, Greece.
1077 (4). *M. FALCATUM* L. Alien, S. Africa. 1077 (5). *M. GLOMERATUM* L. Alien, S. Africa. Tyneside, WINCH, ex HOGG, in *Brit. Assoc.*, 1866.

1156 (2). *TORDYLIUM SYRIACUM* L. Alien, Orient. Tyneside, WINCH, ex HOGG, in *Brit. Assoc.*, 1866.

Gen. 250 (2). *CUMINUM* [TOURN.] L.

1157 (10). *CUMINUM CYMINUM* L. Alien, Asia. Tyneside, WINCH, ex HOGG, in *Brit. Assoc.*, 1866.

1186 (2). *LONICERA CAERULEA* L. Alien, Europe. Gurnley Wood, Leicester, A. R. HORWOOD.

1195. *GALIUM SAXATILE* L., var. *ALPESTRE* Meyer. A narrow-leaved plant. Ben Vorlich, Dumbarton, E. S. MARSHALL, in *Journ.*

Bot., 159, 1915 — *G. hercynicum* Weig., var. *alpestre* (Meyer) mihi.
See *Rep. B.E.C.*, 416, 1893.

Gen. 276 (2). *AGERATUM* L. 1753.

1240 (10). *AGERATUM HOUSTONIANUM* Miller Gard. Dict., 2, 1768. Alien, Mexico. Near Melrose, Roxburgh, 1914, Miss I. M. HAYWARD.

1242 (2). *GRINDELIA* (*cf.*) *DECUMBENS* Greene. Alien, America, N. and W. Birkenhead, Cheshire, A. DALLMAN. Det. A. THELLUNG.

Gen. 285 (5). *AMELLUS* L.

1248 (10). *AMELLUS STRIGOSUS* Less., var. *THUNBERGII* Harvey. Alien, S. Africa. Galashiels, Selkirk, 1914, Miss I. M. HAYWARD.

1254 (2). *ASTER PUNICEUS* L. Alien, N. America. Banks of the Tay, Perth, BOSWELL SYME, in *Rep. B.E.C.*, 1869; on an island at the junction of the Till and Tweed, Berwick, 1914, Miss I. M. HAYWARD.

1257 (3). *ASTER NOVI-ANGLIÆ* L. Alien, N. America. Dryburgh, Roxburgh, 1914, Miss I. M. HAYWARD. Det. A. THELLUNG.

1257 (4). *ASTER ERICOIDES* L. Alien, N. America. Botley, Oxon., G. C. DRUCE; Dryburgh, Roxburgh, 1915, Miss I. M. HAYWARD.

1258 c. *ASTER TRIPOLIUM* L., var. *GLABER* Bolzon, in *Bull. Bot. Soc. Ital.*, 35, 1903. The involueral scales are, in this variety, quite glabrous. New Bedford, by the Gault Hole, Sutton, Cambridge, 1881, A. FRYER; Heacham Salt Marsh, W. Norfolk, in *Ill. Druce*; near Veryan, E. Cornwall, E. THURSTON, ex C. C. VIGURS, not quite typical; Malden, Essex. G. C. DRUCE.

Gen. 283 (3). *CHRYSOCOMA* L. 1753.

1259 (30). *CHRYSOCOMA COMA-AUREA* L. Alien, S. Africa. Galashiels, Selkirk, 1914, Miss I. M. HAYWARD. Det. A. THELLUNG.

Gen. 284 (5). *MICROPUS* L.

1263 (20). *MICROPUS ERECTUS* L. Alien, S. Europe. Esparto grass casual, Midlothian, 1915, J. FRASER, in *lit.*

1270. *GNAPHALIUM SYLVATICUM* L., var. *SPADICEUM* (Gilib. Fl. Litan. i., 180, as a species) comb. nov. This antedates my variety *alpestre*, and appears to be identical with the var. *nigrescens* Grenier Fl. Chaine Jurass. 427. It is often mistaken for *G. norvegicum*. Even Babington fell into the error. Glen Shee, E. Perth; Glen Dole, Forfar, G. C. DRUCE. Dr THELLUNG names it var. *alpestre* Brügg.

1278 (4). *GNAPHALIUM* (*cf.*) *PARVULUM* Harvey Fl. Capensis iii., 262. Alien, S. Africa. Tweedside, Selkirk, 1913, Miss I. M. HAYWARD. Det. A. THELLUNG.

1278 (11). *HELICHRYSUM ODORATISSIMUM* (L.) Less. Syn. Comp. 301. Alien, S. Africa. Tweedside, Selkirk, 1914, Miss I. M. HAYWARD. Det. A. THELLUNG.

1284 (2). *INULA GRAVEOLENS* L. Alien, Europe. Galashiels, Selkirk, 1914, Miss I. M. HAYWARD. Det. A. THELLUNG.

1312 *b.* *GALINSOGA PARVIFLORA* Cav., var. *ADENOPIORA* Thell. in *Allg. Bot. Zeitschrift*, 9, 1915. Pedunculis involucrisque (praeter pilos simplices rariores) glandulis stipitatis dense obsitis, interdum solum glandulosis (pilis simplicibus deficientibus). Kew, Surrey. In the type the peduncle is eglandular. G. C. DRUCE.

1336 (2). *SANTOLINA ROSMARINIFOLIA* L. Alien, S. Europe. Esparto grass casual, Midlothian, 1915, J. FRASER, in *lit.*

1346 (2). *ANTIEMIS MURICATA* Guss. Alien, Sicily. Cotton-waste refuse. Colchester, G. C. BROWN.

1356 (8). *CHRYSANTHEMUM ITALICUM* L. Mant. Alien, Italy. Tyneside, WINCH, ex HOGG, in *Brit. Assoc.*, 1866.

1363 (4). *MATRICARIA GRANDIFLORA* (Thunb.) Fenzl, and 1363 (5), *M. GLOBIFERA* (Fenzl) Thunb. Alien, S. Africa. Tweedside, Selkirk, 1914, Miss I. M. HAYWARD. Det. A. THELLUNG.

1364 (5). *COTULA SORORIA* DC. Prod. vi., 79. Alien, S. Africa. Gala, Selkirk, 1914, plentiful, Miss I. M. HAYWARD. Det. A. THELLUNG.

1365 (8). *COTULA PUSILLA* Thunb. Prod. Fl. Cap. 162, and 1365 (9), C. ZEYHERI Fenzl, ex Harv. and Sond. *Fl. Capensis*, iii., 180. Aliens, Cape. Galashiels, Selkirk, 1913, Miss I. M. HAYWARD. Det., with some doubt, A. THELLUNG.

1365 (10). *COTULA MACROGLOSSA* Bolus. Alien, S. Africa. Galashiels, Selkirk, Miss I. M. HAYWARD.

1365 (11). *SOLIVA ANTHEMIFOLIA* (Juss.) R. Br. Trans. Linn. Soc., xii, 102, 1817. Alien, Mexico, S. America, (?) Australia, adv. Galashiels, Selkirk, 1914, Miss I. M. HAYWARD. Det. A. THELLUNG.

1383 (3). *ARTEMISIA AFRA* Jacquin Hort. Schonb., iv., 34. Alien, Cape. Tweedside, Selkirk, 1915, Miss I. M. HAYWARD. Det. A. THELLUNG.

1389 (6). *ERECHTITES ARGUTUS* DC. Prod., vi., 296. Alien, New Zealand. Galashiels, Selkirk, Miss I. M. HAYWARD. Det., with some doubt, A. THELLUNG.

1394. *SENECIO JACOBAEA* L., var. *CONDENSATA* mihi. Plant shorter, leaves much narrower, segments broader than type. Inflorescence very compact and rounded. 3-4 dem. Folia angusta segmentis quam in typo latioribus. Anthemia compacta rotundata. Pl. vulgaris, 5-8 dem., foliorum segmentis obovata-oblongis inciso-dentatis, et calathiis in corymbum compositum laxum dispositis. Dunes and sea cliffs, Arbroath, Forfar, &c., G. C. DRUCE.

1408 (8). *SENECIO LYRATUS* L. f. Suppl., 369 (*CINERARIA LYRATA* DC.). Alien, S. Africa. Galashiels, Selkirk, 1915, Miss I. M. HAYWARD.

Gen. 331 (2). *BERKHEYA* Ehrh. Beitr., iii., 127, 1788.

1412 (10). *BERKHEYA STOBÆOIDES* Harvey in *Fl. Capensis*, 505. Alien, Cape. Tweedside, Selkirk, 1915, Miss I. M. HAYWARD. Det. A. THELLUNG.

Gen. 331 (3). *GAZANIA* Gaertn. Fruct. ii., 451, 1791.

1412 (20). *GAZANIA SPLENDENS* Lem. Ill. Hort., vii., 1860. Alien. Of garden origin. Hartlepool, Durham, M. A. LAWSON, ex HOGG, in *Brit. Assoc.*, 1866.

1433 *f.* *CIRSIUM ARVENSE* Scop., var. *MARITIMUS* (Fries Fl. Hal., No. 717) comb. nov. Foliis maxime dissectis lobis imbricatis squarrosus, floribus congestis. Near Littlestone-on-Sea, Kent, G. C. DRUCE.

1459 (2). *CENTAUREA ORIENTALIS* L. Alien, Europe, Orient. Hartlepool, M. A. LAWSON, ex HOGG, in *Brit. Assoc.*, 1866.

1657 *e.* *SONCHUS ARVENSIS* L., var. *SPINULOSUS*. See *Fl. des Nordwestdeutschen Tiefebene*, 520, 1894. Shingle at Shurton Bars, S. Somerset, E. S. MARSHALL, in *Journ. Bot.*, 126, 1915.

Gen. 365 (2). *SCORZONERA* L. Differs from *Tragopogon* in the achenes having no beak, and in having an imbricated, not simple, pericline.

1663 (10). *SCORZONERA HUMILIS* L. Sp. Pl., 1112. Rootstock thick, blackish, vertical, the base of the stem covered with membranous scales. Stem about 3 dem., simple, with a few white floccose hairs. Radical leaves petiolate, lanceolate, or lanceolate-oblong, acuminate, the cauline leaves small. Pericline oblong, somewhat lanate, the exterior phyllaries oval, obtuse, the inner lanceolate obtuse. Corolla as long again as the pericline. Achenes short, very slightly attenuated at top, a little shorter than the pappus, striated, smooth. In some plenty, in a moist grassy field, bordered by heathland, in Dorsetshire, Mrs and NOEL SANDWITH, vide sp. A native of Portugal, Spain, France, Switzerland, N. Italy, Germany, Belgium, Denmark, Norway, Sweden, Finland, Austria, &c. The English plant is somewhat smaller than the specimens I gathered in dampish, sandy marshes at Le Touquet, on the French coast, in 1912. The continental distribution favours its being indigenous in Britain, and from what Mrs Sandwith and her son tell me, there was nothing to suggest its being introduced into the field between heathland, in which it grows in considerable quantity. The species with which it is associated are all native species, but the pasture is not aboriginal, since at one time (about thirty years ago) it was under arable. G. C. DRUCE.

1684. *VACCINIUM ULIGINOSUM* L., var. *b. PUBESCENS* Lange Consp. Fl. Groenl., 90, 1880. I gathered this on Sgurr Fhuaran, in West Ross, in July 1881, and the Rev. E. S. Marshall found it near Kingshouse, Argyll, in 1888, and on Lochnagar in 1886. It





PHYSALIS IXOCARPA BROT. NEAR DRYBURGH. ROXBURGH.
COLL., MISS L. M. HAYWARD, F.L.S. SEE REPORT, 203, 1915.

differs from the type by the somewhat larger leaves, which are pubescent on the under surface. The plant of Glen Dole, Callater, Glen Aan, and Ben Lawers is glabrous. See *Journ. Bot.*, 179, 1915.
G. C. DRUCE.

1722 (2). *STATICE PLANIFOLIA* (Syme as a var. of *ARMERIA VULGARIS*) — *ARMERIA ALPINA* Williams *Prod. Fl. Brit.*, 446, 1910, not of Willdenow. This alpine *Statice* seems to deserve specific rank, differing as it does not only from the continental *alpina*, but also from the pleurotrichous British maritime plant, by the larger and more membranous phyllaries and the normally broader leaves, which are more obtuse and thickened. I saw it on Ben Lawers this year, and previously in Ross, E. and W. Inverness, S. Aberdeen, Forfar, Argyll, E. and Mid Perth, and on Snowdon. G. C. DRUCE.

Gen. 411 (10). *PHLOX L.*

1767 (10). *PHLOX PANICULATA L.* Alien, America. Cothill, Berks., garden escape. G. C. DRUCE.

1776 (2). *GILIA PUNGENS* Hook. *Bot. Mag.* t. 2977 (*NAVARRERIA*, *f. squarrosa* Hook & Arn.). Alien, N. America. Under Ladhope Bridge, Selkirk, 1915, Miss I. M. HAYWARD. Det. A. THELLUNG.

1800 (3). *ANCHUSA PROCERA* Bess. in Link *Enum. Hort. Berol.*, l., 166. Ware, Herts., G. C. DRUCE and H. F. HAYLLAR. Det. A. THELLUNG. Closely allied to *A. ochroleuca*.

1846 *c.* *SOLANUM NIGRUM L.*, var. *HUMILE* (Bernh.). Alien, Dryburgh, Roxburgh, 1914, Miss I. M. HAYWARD.

1847 (2). *SOLANUM COMMERSONI* Dunal, ex Poir. *Enc. Suppl.*, iii., 746. Alien, Argentina. Galashiels, Selkirk, 1915, Miss I. M. HAYWARD. Det. A. THELLUNG.

1851 (3). *PHYSALIS IXOCARPA* Brot. ex Hornem. *Hort. Hafn. Suppl.*, 26, 1819 = *P. aequata* Jacq. f. Alien, Mexico. Cultivated in N. America. Near Dryburgh, Roxburgh, 1915: and 1851 (4). *P. PUBESCENS L.* Alien, America. Skinworks, Galashiels, Selkirk, 1915, Miss I. M. HAYWARD. Det. A. THELLUNG.

1859 (5). *NICOTIANA ALATA* Link and Otto *l.c. Pl. Rar.* 1, 63, var. *b. GRANDIFLORA* Comes *Mon. Nic.* (*N. AFFINIS* Moore). Alien,

S. America. Hayes, Kent, 1912, W. H. GRIFFIN. Det. A. THELLUNG.

Gen. 445 (5). SCHIZANTHUS Ruiz and Pavon Prod. 6, i., 1794.

1859 (2). SCHIZANTHUS PINNATUS Ruiz and Pavon Fl. Peruv., i., 13, t. 17. Alien, Chili. Boddin, Forfar, 1911, J. WHYTE, ex R. & M. CORSTORPIINE. Det. G. C. DRUCE.

1862 (2). VERBASCUM SCHRADERI G. F. W. Meyer Chlor. Hannover., 326. Alien, Europe. Went Vale, York, W. D. BRAITHWAITE, in *N. H. Journ.*, 143, 1885.

1872 (2). CALCEOLARIA CHELIDONIODES H. B. K. Nov. Gen. et Sp. ii., 378. Alien, America, S. and W., Guatemala. Marston brick-yards; weed in the Botanical Garden, Oxford, G. C. DRUCE. Det. A. THELLUNG.

1874 (4). LINARIA DALMATICA Mill. Gard. Diet., 1768. Alien, Dalmatia. Island in Tweed, near Dryburgh, Roxburgh, 1914, Miss I. M. HAYWARD. Det. G. C. DRUCE. Near St Germans and Par Sands, Cornwall, spreading rapidly, H. DALTRY. The Cornish plant agrees with the description of var. *macedonica* (Griseb.). G. C. DRUCE.

Gen. 448 (2). ANARRHINUM Desf. Fl. Atl. ii., 51.

1888 (10). ANARRHINUM BELLIDIFOLIUM Desf. *l.c.* Alien, S. Europe. Esparto grass casual, Midlothian, 1915, J. FRASER, in *lit.*, as *A. corsicum* Jord. and Fourreau.

1893. SCROPHULARIA ALATA × AQUATICA = × S. HURSTII nov. hyb. With both parents, near Shalbourn, Berks., 1915, C. P. HURST. In this place it grew with both species in tangled masses, the hybrid being vegetatively luxuriant, some specimens being tall and branched. In some instances they were nearer *alata*, in others *aquatica*, and the leaves especially showed these transitional forms. Leaves palish green, darker and usually duller than *alata*, but paler and brighter than *aquatica*; leaf-cutting variable, sometimes with distant crenatures, sometimes crenate-serrate, ovate-oblong, subacute. Corolla paler than *aquatica*, less green than *alata*. Staminode stunted, less bilobed, and the lobes less diverging than *alata*, but more deeply divided than *aquatica*. Capsule less acuminate than *aquatica*, usually barren, in some instances quite small and empty. Folia pallidiora et

lariora quam in α , sed magis opaca quam in β , supra partem inferiorem ceteram ovali-oblonga, apice subacuta, margine crenato-serrata vel emote parceque crenata. Corolla pallidior quam in α , subtus minus viridulo-suffusa quam in β . Stammodium rudimentarium, emarginato-lobum. Ovarium saepius sterile. Capsula interdum exigua, tumque acua. We owe the discovery of this interesting hybrid to our member, Mr C. P. Hurst, who shortly before added *S. alata* to Berks. and Wilts. from this district. *S. alata* has a range along the Shalourn Stream for about three miles, nearer the Kennet *S. aquatica* comes in, and it is where the two species overlap that \times *S. Hurstii* grows. G. C. DRUCE.

1903 (2). DIGITALIS AMBIGUA Muft. Alien, Europe. Moncrieff Hill, W. BISSETT, in *Fl. Perthshire*, 228.

1907. VERONICA OFFICINALIS L., var. RIGIDA Edmonst., in *Ann. Nat. Hist.*, 287, 1841. Common on waste ground in the Shetlands. Stem erect, very rigid, leaves not serrated; all the plant glabrous; capsules very distinctly winged. This may be equivalent to and antedate Babington's var. *glabra* of the 6th edition of the *Manual*. It should be refound and tested by culture.

1948. BARTSIA ODONTITES Huds., var. Flowers white; stem very pale green, leaves without any tinge of red. Gathered by Rev. BOURNE on Northington Farm, Grimley, Worcester: near Diss., Mr WOODWARD, With. *Nat. Arr. Ed. v. iii.*, 671, at the S.E. corner of a small wood called Jack Sherwood, about half a mile from Papplewick, Notts., D. COOPER, in *Ann. Nat. Hist. v.*, 357, 1840.

1956. RHINANTHUS BOREALIS \times R. STENOPHYLLUS, var. MONTICOLA = \times R. GARDINERI mihi. Growing with both assumed parents in Glen Phee, Forfar. It has the habit of tall *monticola*, but with the fruits slightly hairy. The leaves are nearly linear, and there are few intercalary branches. The flowers are dull yellowish, and the seeds small. The name is given in honour of the author of the *Flora of Forfarshire*. August 1915, G. C. DRUCE.

1960. MELAMPYRUM PRATENSE L., agg., var. HIBERNICUM mihi. Under this as a sub-var. M. Beauverd provisionally puts my specimens from Millook, Cornwall. [Ref. No. 11149.] (See *Rep. B.E.C.*

154, 1914.) *Hibernicum* is the large southern yellow-flowered plant I formerly put under *hians*, but which I now think is distinct. It is abundant at Killarney. M. Beauverd considers *M. hians* to constitute a sub-species, represented in varied forms in Britain and on the Continent. G. C. DRUCE.

1961. MELAMPYRUM SYLVATICUM L., sub-var. PALLIDIFLORUM (F. B. WHITE, in *Scot. Nat.* 301, 1878, as a var.). In large masses in Glen Tilt, E. Perth. The name seems antedated by that of var. *pallens* Auserdorfer *Exsicc. Tirol*, 1872. Corolla albida-flavescens quandoque etiam labellum inferius aut tota corolla rubescens.

2033 (2). ZIZIPHORA TAURICA Bieb. Fl. Taur. Cauc., i., 414. Alien, Asia Minor. Hoddesdon, Herts., 1914, H. F. HAYLLAR.

2044 c. PRUNELLA VULGARIS L., var. c. NEMORALIS Beguinot Fl. Ital. Exs., n.s. ii., n. 1744. A tall, erect plant, with long internodes, and long flowering spikes, S. Hinksey, Berks, 1889. G. C. DRUCE.

2044. PRUNELLA VULGARIS × LACINIATA nov. hybr. Hardwick, Cambridge, C. E. Moss, in *Journ. Bot.*, 8, 1915.

2048 (2). SIDERITIS ROMANA L. Alien, S. Europe. Hoddesdon, Herts., 1915, H. F. HAYLLAR.

2048 (3). SIDERITIS LANATA L. Alien, Greece, Orient. Inveresk, Edinburgh, 1906, J. FRASER; Hoddesdon, Ware, Herts., H. F. HAYLLAR; near Bristol, 1915, T. H. GREEN, *vide* sp.

Gen. 479 (2). MONARDA L.

2052 (20). MONARDA DIDYMA L. Alien, America. Island in Tweed, near Dryburgh, Roxburgh, 1915, Miss I. M. HAYWARD. Det. A. THELLUNG.

2054 (2). STACHYS CRETICA L. Alien, Europe, Orient. Railway, Leeds, 1914, Mr JOHNSON, *vide* sp.

Gen. 496 (2). PRASIMUM L.

2078 (5). PRASIMUM MAJUS L. Aberdeen, Prof. TRAILL, in *Ann. Scot. Nat. Hist.*, 178, 1906.

2081. *AJUGA PYRAMIDALIS* × *REPTANS*. Betty Hill, W. Sutherland, with both parents, July 1907, clearly intermediate. Leaves early those of *pyramidalis*, inflorescence nearer *reptans*, offshoot suberect. In foliis et floribus illam revocans, in verticillastris hanc nulans, stolonibus epigaeis suberectis nec in orbem expansis. *A. pyramidalis* is without stolons, so that this hybrid is remarkable in having offshoots which are suberect, and therefore intermediate in character between stolons and flowering stems. To this may also probably be referred plants gathered by Mr P. B. O'Kelly near the east of Co. Clare. G. C. DRUCE.

2090. *PLANTAGO CORONOPUS* L., var. *TRANSIENS* Beguinot. Berrow, N. Somerset, E. S. MARSHALL. See *Rep. B.E.C.*, 157, 1914. et. E. G. BAKER.

2090. *PLANTAGO CORONOPUS* L., var. *CRITHMIFOLIA* Willd. Milok, Cornwall, 1914, G. C. DRUCE. Det. E. G. BAKER.

2092. *PLANTAGO LANCEOLATA* L., var. *ELLIPTICA* Mill. Laminiis ellipticis (100 × 35 mm.) ad basin et summitatem attenuatis capitalis 5-20 mm. longa. In smaller specimens the leaves measured 25 × 80 m. On the lawn of Captain Butler's house at Hambledon, Hants., with all three species; near Watlington, Oxon. Another broad-leaved form from Arbroath, Forfar, Mr E. J. Baker says approaches *var. dubia* Lilj. = *P. dubia* L. G. C. DRUCE.

2098. *PLANTAGO MEDIA* L., var. *LANCEOLATIFORMIS* Druce. Mr E. G. Baker says this closely resembles var. *Monnieri* Rouy & Fouc. Fl. Fr. x., 133, and it may have to be merged into it. Near Penge Wood, Berks., 1915, V. MURRAY; Biddesden, Wilts.; Hambledon, Hants., G. C. DRUCE.

2098 c. *PLANTAGO MEDIA* L., var. *LONGIFOLIA* Meyer Chloris lannov. Biddesden, Wilts., 1915. This may prove to be *media* × *lanceolata*. G. C. DRUCE.

2116 (2). *AMARANTHUS ANGUSTIFOLIUS* Lam. Encyc. i., 115 (*A. RAECIZANS* L.). Alien, Reg. Medit. Galashiels, Selkirk, 1913, Miss M. HAYWARD. Det. A. THELLUNG.

2116 (4) *AMARANTHUS CHLOROSTACHYS* Willd. Amaranth. 34, t. 0, var. *ARISTULATUS* Thell. in Asch. and Graeb. *Syn.* v., 354, 1914

(alien, Argentina), and var. PSEUDO-RETROFLEXUS Thell. in *Viert Nat. Ges. Zurich*, lii., 493, 1907. Galashiels, Selkirk, 1913, Miss I. M. HAYWARD. Det. A. THELLUNG.

2116 (5). AMARANTHUS DINTERI Schinz, var. UNCINATUS Thell. Alien, S. Africa. Galashiels, Selkirk, 1914, Miss I. M. HAYWARD. Det. A. THELLUNG.

2131 (12). CHENOPODIUM AURICOMIFORME Murr. & Thell. in *Mitt. ausdem Bot. Mus. Univ. Zurich*, 432, 1915. Alien, patria ignota, verisim Australia. Skinworks, Galashiels, Selkirk, 1915, Miss I. M. HAYWARD. A recently described species intermediate between *C. album* and *C. auricomum* Lindley. A. THELLUNG.

Gen. 507 (2). MONOLEPIS Schrad. Ind. Sem. Hort. Gott. 4, 1830.

2135 (10). MONOLEPIS NUTTALLIANA (R. & S.) Engelm. Alien, N. & W. America. Galashiels, Selkirk, 1914, Miss I. M. HAYWARD. Det. "cf. *M. Nuttalliana* Greene," A. THELLUNG.

2163 (2). SALICORNIA DISARTICULATA Moss, var. HUMIFUSA, E. S. MARSHALL. Dawlish, Devon, *Journ. Bot.* 363, 1915; also a hybrid of it with *S. Smithiana*, E. S. MARSHALL, *l.c.*

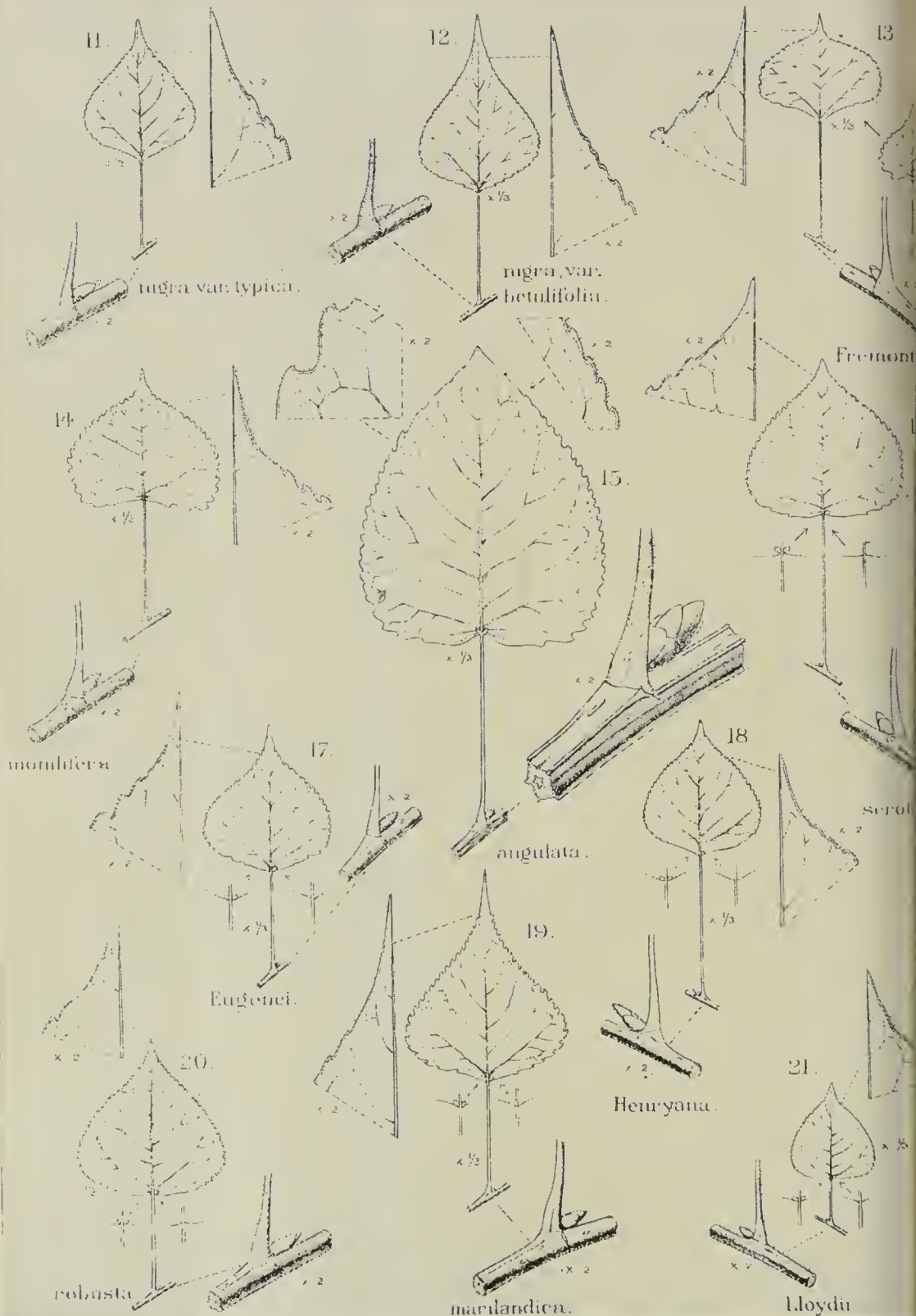
2183 (2). POLYGONUM ARENARIUM Waldst. & Kit. Ware, Herts., G. C. DRUCE; also in Dunn's *Alien Flora*, without specific locality.

2185 (3). POLYGONUM PLEBEJUM R. Br. Prod. 320, 1810. Alien, Africa, trop.; S. Asia, trop.; S. & W. Australia. Galashiels, Selkirk, 1914, Miss I. M. HAYWARD. Det. A. THELLUNG.

2189 (2). POLYGONUM AFFINE D. Don Prod. Fl. Nap. 70, 1802-3. Alien, India. Quarry, Bowness, Westmoreland, 1898, Prof. BULLOCK, vide sp.

2210. RUMEX ACETOSELLA L., var. ANGIOCARPUS Posp., sub-var. INTEGRIFOLIA (Wallroth Sched. Crit. 187, as a var.). Carbis Bay, Cornwall, H. CLARKE, vide sp. = sub-var. *repens* (DC. *Fl. Fr.* iii., 378, as a var.). Stems short, diffuse, rooting at base; flowering branches ascending, G. C. DRUCE.

2210 (10). RUMEX NEPALENSIS Sprengel Syst. ii., 159. Alien, S. Asia, Malay, trop., and S. Africa. Tweedside, Selkirk. 1914, Miss I. M. HAYWARD. Det. A. THELLUNG.



POPULUS LEAVES.

(Kindly lent by the Proprietors of the *Gardener's Chronicle*.)

2219 (2) EUPHORBIA SPINOSA L. Alien, Europe, Mer. Tyne-
le, Winch, ex HOGG, in *Brit. Assoc.*, 1866.

Gen. 527 (2). PEDILANTHUS Necker *Elem.* ii., 354, 1790.

2239 (10). PEDILANTHUS TITHYMALOIDES Poit. Alien, S. America.
meside, Winch, ex HOGG, in *Brit. Assoc.*, 1866.

Gen. 536 (2). PILEA Lindley *Coll. Bot.* t. 4, 1821.

2253 (10). PILEA MICROPHYLLA (L.) Liebm. in *Vid. Selsk. Skr.* v.,
, 302, 1851 (L. MUSCOSA Lindl. L.K.). Alien, America, trop. Gala-
iels, Selkirk, 1914, Miss I. M. HAYWARD. Det. A. THELLUNG.

2260. CORYLUS AVELLANA L., var. LACINIATA. Belvoir, Leicester,
115, A. R. HORWOOD.

2291. POPULUS NIGRA L. See A. HENRY in *Gard. Chron.* 1, 46,
i. July 1914. This has no cilia on the margin, or glands on the base
the leaf in front. The American Black Poplar has both cilia and
ands. Each species has a pubescent and a glabrous form, the
immean *P. nigra* being glabrous. The latter is limited to Southern
id South-Eastern Europe. Its natural habitat is the alluvial lands
ordering the Danube and its tributaries, the Po and Volga.

Populus nigra L., var. *betulifolia* has dense short pubescence on its
ange-yellow twigs, readily seen with a lens. It is apparently wild
i South England and France, and curiously it first received a name
om Michaux, who saw a few trees in New York City, and on the
nks of the Hudson, near Albany, evidently introduced. He called
P. Hudsonica. It attains an enormous size. One cut down in 1912
West Stow, near Bury St Edmunds, was 92 feet in height and
9 feet in girth at five feet from the ground. 225 annual rings were
ounted. The timber was quite sound, and measured 748 cubic feet.
rof. Henry holds that the Lombardy Poplar is not a distinct species,
ut a sport of the typical *P. nigra*, the original tree being staminate.
he rare female fastigiata trees, he considers, are the offspring of the
male type pollinated by the Lombardy Poplar. The fastigiata form
f *P. nigra* var. *betulifolia* is *P. plantierensis* Dode, so named from
lantières, near Metz, where, in the nursery of Simon Louis, it
riginated. There are three forms of the American Black Poplar.

1. *P. deltoidea* Marshall, var. *monilifera* Henry.

2. *P. deltoidea* var. *occidentalis* Rydberg, a xerophytic form,
not yet introduced.

3. *P. deltoidea* var. *missouriensis* Henry, native of the south and south-eastern parts of the United States, not introduced in Britain.

The Poplar hybrids include :—

1. *P. serotina* Hartig. The Black Italian Poplar. It is our common and well-known tree. It grows to a great height. Mr A. Bruce Jackson records one at Albany, Sussex, 150 feet high. A tree, exactly 100 years old, at Watford, measured 130 feet, and yielded 1000 cubic feet of timber.

2. *P. regenerata* Schneider. This is a female tree, and closely resembles in foliage the foregoing, but it opens its leaves a fortnight earlier and its habit is narrower.

3. *P. Eugenei* Simon Louis. This is a male tree. The leaves and twigs are similar to *P. serotina*, but the leaves are smaller and open earlier, and the habit is narrower than *serotina*. Simon Louis believes it to have been the progeny of *P. regenerata* × The Lombardy Poplar. The original tree, Prof. Henry thinks, is the most vigorous tree in Europe, as at 81 years old it measured 150 feet in height and 25 feet in girth. This hybrid is seen in good condition at Kew, where a tree planted 24 years ago is 90 feet high.

4. *P. Henryana* Dode. A staminate tree of a wide-spreading habit, the origin of which is unknown. The leaves are cuneate at the broad base. A specimen at White Knight's, Reading, Berks., is about 100 feet high.

5. *P. marilandica* Bosc. Always pistillate, twigs glabrous (as in the four preceding), leaves like *nigra*, but these are glandular at the base with strong cilia on the margin, and the placentae and stigmas are variable, two, three, or four in number.

6. *P. robusta* Schneider (*P. nigra* var. *betulifolia* × *P. angulata*).

7. *P. Lloydii* Henry (*P. nigra* var. *betulifolia* × ?). The flowers have 2-3 stigmas. There are large trees at Major Lloyd's, Seaton Knolls, Shrewsbury.

8. *P. angulata* Aiton. This closely resembles the Southern American Poplar (*P. deltoidea* var. *missouriensis*) in twigs and foliage, but is very different in the shape of the scales of the flowers. It was at first conjectured by Mr Henry to be a mutation on the American species that originated in Europe, but he now writes to me that it is in all probability also a hybrid. It retains its leaves, which are very large, till late in November.

NOTES ON ORCHIDS.

The following plants have come under my observation in 1915, and although not necessarily new forms, they are brought together for convenience here :—

2325. *ORCHIS LATIFOLIA* L. Hambledon, S. Hants. ; near Winchester, S. M'DOWALL ; Guildford, Surrey, Lady DAVY ; Frilford, Berks. ; Eynsham, Oxford ; Marsworth, Herts. ; Longwick, Bucks. ; Buckholm, Selkirk, Miss I. M. HAYWARD. In almost all cases hybrids with other species occurred.

O. latifolia × *praeternissa*. Winchester, D. G. LOWNDES ; Hambledon, S. Hants. ; Frilford, Abingdon, Berks.

O. latifolia × *incarnata* = *O. Aschersoniana* Haussk. Hambledon, S. Hants. ; Longwick, Bucks.

2325. *ORCHIS FOLIOSA* × $\begin{cases} O. MACULATA \\ O. LATIFOLIA \end{cases}$ = *O. HEPBURNII* mihi.

Plant 8-9 dm. Stem nearly solid, 1.5 cm. diam. Lower leaves oval-lanceolate, narrowed into a bluntish apex, blotched with purple, 6 cm. broad, 20 cm. long, sheathing the stem, the sheaths greyish green, membranous. Leaves gradually reduced in size, the uppermost 5 cm. long by 1 cm. broad, gradually acuminate ; about 6 cm. of naked stem. The lower bracts 3 cm. long, becoming gradually smaller, and eventually shorter than the ovaries. Inflorescence cylindric, dense, 15-22 cm. long by 3 cm. broad. Flowers large, lilac, with purplish-violet hieroglyphic markings. The middle lobe of labellum smaller and shorter than the lateral, upper petals reflexed ; spur slender, cylindric, very slightly curved, 1.5-2 mm. long, deeply furrowed. This fine plant appeared spontaneously in the beautiful grounds of our member, Sir Archibald Buchan Hepburn, at Smeaton-Hepburn, where it grew with the Madeiran *O. foliosa*, and the showy hybrid *O. latifolia* × *maculata*. He kindly forwarded me fresh specimens in July and August 1915.

2326. *O. INCARNATA* L. Chalk Downs, Winchester, P. M. HALL, in *lit.* ; Hambledon, S. Hants. ; Easton, N. Hants. ; Abingdon, Cot-hill, Frilford, Berks. ; above Godstow, Oxford ; Silverdale, Yorks. Untypical *incarnata* has been seen from Freshfield, Lancs., W. G. TRAVIS ; Ballyvaughan, Co. Clare, P. B. O'KELLY.

O. incarnata L., var. *dunensis* mihi. Plant small, 5-10 cm., spikes 3 cm., loose; flowers bright rose-red, leaves more recurved, somewhat attenuated from a broad base. In abundance on the slacks on the Sands of Barry, Forfar, R. & M. CORSTORPHINE; sandhills, Freshfield, S. Lancs., W. G. TRAVIS.

O. incarnata × *praetermissa*. Hambledon, S. Hants.

2326 (2). *O. PRAETERMISSA* Druce. Lizard, Cornwall, Toller, Dorset, Dr F. J. SMITH; Hambledon, S. Hants., Miss BUTLER and G. C. DRUCE; Easton, N. Hants.; near Chobham, &c., Winchester, D. G. LOWNDES; Surrey, Lady DAVY; Marsworth, Herts.; near Henny, N. Essex, G. C. BROWN and G. C. DRUCE; Wilston, Herts.; Cothill, Abingdon, Frilford, Berks.; near Wytham, Eynsham, Weston, Haseley, Oxford; Longwick, Wilstone, Bucks, G. C. DRUCE; Wittering Marsh, near Thrapston, Northants., *Hb. Bailey*; Kirkby, L. Lancs., W. H. PEARSALL; Ashwell, Derby, C. BAILEY, 1876. Untypical specimens from Wareham, Dorset, R. V. SHERRIN; Bolchester, Leicester; Luffenham, Rutland, A. R. HORWOOD; Wicken Fen, Cambridge, C. E. MOSS. These are probably what Babington called *O. incarnata* var. *angustifolia*, the leaves being erect and the bracts short. Aberdeen, T. STEPHENSON; Port Patrick, Wigton, C. BAILEY. A hybrid, perhaps with *latifolia*, meadow near Croft, Leicester, H. P. READER. Newbould's *angustifolia*, from Holme Fen, is quite a different plant, and may be *praetermissa* × *Fuchsii*.

2326 (3). *O. TRAUNSTEINERI* (Saut.) Koch. Perhaps as a form of this may be best put a curious Orchid from Tregaron Bog, Cardigan, 1915, T. STEPHENSON. The tubers are markedly different from the palmate ones of *incarnata*, *latifolia*, or *praetermissa*, being narrow, with two long fleshy divisions, which do not divaricate, reminding one of the root of *Mandragora*. It differs from Rouy's description of *Traunsteineri* by the stem being 1-5 dm., not slender, leaves not very short, not always narrowly lanceolate, nor sublinear, nor always pointed. The spike is somewhat dense-flowered, with 10-30 flowers, not 5-10. Labellum not usually three-lobed. Spur conical, straight, or nearly so, relatively stout. It is near *incarnata* in its narrow reflexed flowers, and near *praetermissa* in the colour of flowers (dark purple), but the outline of the lip is narrower, and the root tubers quite different.

2327. *O. MACULATA* L., vera (ERICETORUM). Tregaron, Cardigan, T. STEPHENSON; Grace Dieu, Keyham, Leicester, A. R. HORWOOD.

Sub-var. *leucantha*. Tregaron Bog, Cardigan, with sides of labellum strongly reflexed; median lobe very small, almost obsolete, T. STEPHENSON; Ballyvaughan, Co. Clare, P. B. O'KELLY. As a strong form with stiff stems, Tregaron Bog, Cardigan, T. STEPHENSON; Tackley, Oxon.

Forma *vespertilio* Lindm. Near Byfleet, Surrey; Tregaron, Cardigan, T. STEPHENSON.

Forma *hieroglyphica* Lindm. Menmarsh, Oxon.

Forma *striata* Lindm. Tregaron, Cardigan, T. STEPHENSON.

Forma *purpurea* Lindm. Clova, Forfar; Kenmore, Mid-Perth.

O. maculata × *praeternissa* = × *O. Hallii* Druce. Water meadows, Winchester, D. G. LOWNDES; Tregaron, Cardigan, T. STEPHENSON; as a variant with the upper sepals pale pinkish-purple, Freshfield, Lanes., 1914, W. G. TRAVIS, vide sp.

O. maculata × *latifolia* = × *O. Braunii* Hal. Edmondsham, Dorset, LINTON and SHERRIN, *Orchis Review*, 367. See also *Proc. Bournemouth Nat. Soc. Science* iii., 41. Tregaron, Cardigan, T. STEPHENSON, vide sp.

O. maculata × *Habenaria Gymnadenia*, vel *G. conopsea*, with narrow leaves, long spur, and fragrant flowers. Tregaron Bog, Cardigan, 1915, T. STEPHENSON, vide sp.

2327 (3). *O. OKELLYI* Druce. On magnesium limestone, near Partington wood; near Aberford, Leeds, York, Carleton Rea, 1915, vide sp.; Kileolgan, Galway, Dr F. J. SMITH.

2327 (2). *O. FUCHSII* Druce. (*O. maculata* Sm. et auct.) A variable species, especially in the shape and markings of the labellum.

Var. *trilobata* (Bréb.) Druce. Hailey, Oxon., G. C. DRUCE; Salthy Heath, Leicester, A. R. HORWOOD; Dalton-in-Furness, W. H. PEARSALL; Kenmore, Mid-Perth, G. C. DRUCE.

O. Fuchsii × *latifolia*. Pennypot, Surrey, Lady DAVY; Winchester, D. G. LOWNDES, 1915; Aberdeen.

O. Fuchsii × *maculata* = × *O. transiens* mihi. St Mary Church, S. Devon, Miss C. E. LARTER; Winchester, S. Hants., D. G. LOWNDES and R. QUIRK; Menmarsh, Oxon.; Wytham, Berks.; Northants. Plants under this have often the stiff habit of *Fuchsii*, but with the lower form of *maculata*, and have often been mistaken for *latifolia*.

O. Fuchsii × *praetermissa*. Cothill, Berks. ; Longwick, Bucks.

2338. HABENARIA GYMNADENIA, vel CONOPSEA × ORCHIS PRAETERMISSA. See *Rep. B.E.C.* 25, 1914. This was found at Winchester by Rev. S. M'Dowall in 1914, and was beautifully drawn by Miss Corfe, and excellently reproduced as a frontispiece to the *Report of the Winchester College Natural History Society*, 1913-15. This hybrid is much nearer the Fragrant Orchid, but in the fresh state the colouring, the larger flowers, the larger bracts, and the broader leaves point to the presence of *praetermissa*, with which it was found.

H. viridis × $\left\{ \begin{array}{l} O. incarnata. \\ O. maculata. \end{array} \right.$ Beautiful photographs and Miss Corfe's excellent drawing of this suggested hybrid are also given in the same *Report*, as well as critical notes on them by the President, the Rev. S. M'Dowall. G. C. DRUCE.

Gen. 583 (3). YUCCA L.

2389 (10). YUCCA GLORIOSA L. Alien. On the sandy seashore, opposite the racecourse, on Crumlyn Burrows, Glamorgan, L. L. DILLWYN, 1839. Destroyed about 1848. See *Cyb. Br.*, ii., 463.

2398 (2). ALLIUM MOLY L. Alien, Europe. Naturalised in a plantation at Lowwood, near Belfast, *Cyb. Hib*, 297, 1866.

2431. JUNCUS BALTICUS Willd., var. PSEUDO-INUNDATUS A. & G. Fl. Nord. Flach., 173, 1898. A greener plant, with closer and fewer-flowered panicle, than the type. Ansdell, Lancs., E. S. MARSHALL in *Journ. Bot.*, 91, 147, 1915.

2442. JUNCUS BUFONIUS L., var. GRANDIFLORUS R. Sch. Alien, S. Africa. Tweedside, Selkirk, 1914, Miss I. M. HAYWARD. I saw this at the Cape in 1914.

2468. ARUM MACULATUM L., var. TETRELI Corb. See Rouy *Fl. Fr.*, xiii., 278, 1912. Surrey, C. E. BRITTON in *Journ. Bot.*, 148, 1915. This appears to differ only in the yellow colour of the spadix and the stamens, *i.e.* a sub.-var. *Tetrelii*.

2517. ZANNICHELLIA PALUSTRIS L., var. GRACILIS Druce in Hayward's *Bot. Pocket Book*, 274, 1914. Diffusa, folia angustissima et breviora.





CYPERUS CONGESTUS VAHL. BANKS OF GALA AND TWEED.
COLL., MISS I. M. HAYWARD. SEE REPORT, 215, 1915.

2527 (2). *CYPERUS CONGESTUS* Vahl Enum. ii., 350 (*MARISCUS CONGESTUS* C. B. Clarke). Alien, S. Africa, Australia, Mediterranean. Banks of the Gala and Tweed, Selkirk, 1914, Miss I. M. HAYWARD. Det. A. THELLUNG.

2529. *ELEOCHARIS PALUSTRIS* Br., var. *ARENARIA* Sonder Fl. Hamb. 22, 1851. Culmo abbreviato (digitali), spica oblongo-ovata Drigg, Cumberland, A. WALLIS, ex C. E. SALMON, in *Journ. Bot.*, 310, 1915.

Gen. 632 (2). *SCLERIA* Berg. in Vet. Handl. Stockh. xxvi., 142, 1765.

2556 (10). *SCLERIA BRACTEATA* Cav. Ic. v., 34. Alien, S. America. Halstead, Leicester, E. A. WOODRUFFE-PEACOCK, ex. A. R. HORWOOD.

2558 *b.* *CAREX PSEUDO-CYPERUS* L., var. *MINOR* Hampe Prod. Fl. Herc. 299, 1873. "Plante plus grêle : épis femelles plus petits et plus courts, dressés ou peu inclinés, même à la maturité," Rouy *Fl. Fr.*, xiii., 483. Near Yarnton, Oxon.

2559. *CAREX RIPARIA* Curt. A tall form, 4 feet high, was noticed at Yarnton, Oxon., with smaller spikes, and slightly smaller fruits, but it grew in a tree-shaded swamp.

2560. *CAREX ACUTIFORMIS* Ehrh. Another variable sedge, probably hybridising with *gracilis* and *riparia*.

Carex acutiformis × *riparia*. With both assumed parents in Bate's Leys and Weston, Oxon.; Wytham, Berks. The plants were usually barren, and the male spikelets were intermediate in colour between the rufous tint of *acutiformis* and the tawny colour of *riparia*. The glumes of the male spikelets were less strongly cuspidate, and the leaves less glaucous than *riparia*, but plants varied towards the one or the other parent.

Carex acutiformis × *gracilis*. This has the male spikes of *acutiformis*, but the female spikes have the fruits of *gracilis* (only in part fertile) and the long acuminate glumes. In appearance it was a good intermediate. Mr Bennett thinks it may possibly be the hybrid. A more slender form occurred in Bate's Leys, Oxon., growing with both species. The anthers were paler than those of true *acutiformis*, the leaves narrower, and the spikes long and narrow. A similar plant

occurred near Abingdon, Berks., and at King's Weir, Oxford. In each instance the Rev. E. S. Marshall agrees with the suggested name.

2561. *CAREX VESICARIA* × *RIPARIA*. A barren intermediate. Grew with both species at Ambrosden, Oxon., but it is quite a different form from × *C. csomadensis* Simonk., which grows near Grendon, Bucks., and of which specimens have been distributed,

2561. *CAREX VESICARIA* × *INFLATA*. This hybrid was gathered by myself and Mr Pearsall, at Esthwaite, L. Lancs., last August. Both parents were growing there.

2565. *CAREX LASIOCARPA* × *RIPARIA* = × *C. EVOLUTA* (Hartm.) Eastern end of the peat moor between Edington and Strcet, N. Somerset. It has the habit of small *C. riparia*, and the very hairy fruit of *C. lasiocarpa* (*C. filiformis* L.), found by Mr H. S. THOMPSON, *Journ. Bot.*, 309, 1915.

2572. *CAREX BINERVIS* Sm. × *C. FLAVA*, var. *OEDOCARPA* Anders. = × *C. CORSTORPHINEI* mihi. Growing with both the assumed parents on wet grassy slopes, at about 2000 feet altitude, in Glen Phee, Forfar, August 1915. The plant differs from *binervis* by the green lines on the glume being obsolete, by the pale golden-brown coloured spike, and the yellower-green foliage. The perigynia are shorter than *binervis*, but the beak is also short. The fruit seems mostly infertile.

2576. *CAREX OEDERI* Retz., forma *LONGIBRACTEATA*. Sands of Barry, Forfar, and a somewhat intermediate form on the shingle of Loch Tay, Mid-Perth. G. C. DRUCE.

2576. *CAREX FLAVA*, var. *OEDOCARPA* And. × *FULVA*. Great Bedwyn, Wilts., with both parents, C. P. HURST, *vide* sp.

CAREX FLAVA × *OEDERI*, var. *ELATIOR* = *C. SUBELATIOR* Kük. Mon. Car. 678. Copyhold, Sussex, Lady DAVY; Water Beach, Cambridge, Miss TODD, 1915, vide sp.

2588. *CAREX FLACCA* Schreb., var. *SYLVATICA* (Asch. & Graeb., Syn. Fl. Mitt. Eur. 135 under *C. GLAUCA*) mihi. Plant 5-7 dem., male spikes slender. Wood in the Chalk Downs, near Tring, Bucks., 1915, G. C. DRUCE.

- Var. AMBLEOCARPA (Willd. Sp. Pl. iv., 307, as a species) mihi =
T. Micheliana Sm. Glen Dole, Forfar, G. C. DRUCE.
2601. CAREX GRACILIS Curt., var. FLUVIATILIS Hartm. Scand. Fl.
 ii., 219. Wytham, Berks., G. C. DRUCE.
- 2648 (2). SORGHUM HALEPENSE L. Alien. Hineckley, Leicester,
 1915, A. R. HORWOOD.
- 2669 (4). STIPA BRACHYCHAETA Godr. Alien. America S.,
 Argentina, Uruguay. Selkirk, 1915, Miss I. M. HAYWARD. Det.
 A. THELLUNG.
- 2669 (5). STIPA (*cf.*) LEPTOTHERA Spegazz., and 2669 (11), STIPA
 MAESPITOSA Spegazz. (? NASSELLA). Aliens, Argentina. Selkirk, Miss
 I. M. HAYWARD. Det. A. THELLUNG.
2713. HOLCUS BIARISTATUS Parnell (not of Weber). Outer palea
 of lowermost floret with a long dorsal awn, arising immediately be-
 neath the summit. The plant is about 2 feet high. Near Edinburgh,
Ann. Nat. Hist., 254, 1842.
- 2720 *b.* AVENA SATIVA L., var. ARISTATA Kr. Alien. Bays-
 water, Oxon., August 1912, G. C. DRUCE. Det. Prof. PERCIVAL.
- 2729 (2). CHLORIS VENTRICOSA R. Br. Prod. 186. Alien, Aus-
 tralia. Near Bristol, 1915, T. H. GREEN, *vide* sp.
2733. PHRAGMITES COMMUNIS Trin., vel P. VULGARIS Trin., vel
 ARUNDO PHRAGMITES L., var. FLAVESCENS Custor, ex Gaud. *Fl. Helv.*,
 i., 341, 1830. Serotina, panicula flavescens, spiculisque minoribus.
Phragmites Isiaca Reichb. *Fl. Excurs.*, 140 (bis), 1830, *Ic.* t. 108, f.
 730, non Kunth. Panicles large, glumes golden-brown (typically),
 from chestnut-brown to yellow, panicles dense or effuse. plant tall,
 robust. Miss Pallis agrees with me in referring our British plant to
 his variety, and Dr Stapf said that our British plant could not be
 separated. It will be observed that our British purple-glumed plant
 is usually about four flowers. Jersey, near Roose Veer, and near
 Antia Bay, F. RILSTONE (rather dark coloured), *Hb. Druce*; Pen-
 arves Marsh, 1878, *Nat. Herb.*; Ryde, Isle of Wight, 1838, *Nat.*
Herb.; Lewes, Sussex, *Hb. Druce*; Chatteris, Cambridge, not quite
 typical, *Hb. Druce*; Pidley, Hauts., A. FRYER in *Hb. Druce*; Phillips
 Marsh, Bristol, W. H. PAINTER; Banbury, Oxon., *Hb. Druce*; Sut-

ton, Lincoln, *Nat. Herb.*; Llanfairfeehan, Carnarvon, C. BAILEY; Anglesey, Rev. H. DAVIES, who says usually only two florets, rarely three; Potteril Carr, Doncaster, J. E. STOCK in *Nat. Herb.*; Urswick Tarn, L. Lanes., Miss HODGSON; Montrose, Forfar, G. DON, as *riparia*, but rather too dark to be typical; Ireland, Renvyle Lake, 1831, *Hb. Shuttleworth* in *Nat. Herb.* Evidently more frequent in the South of England, and on the Continent. There it has a northern extension to Scandinavia, and an eastern one to Hungary. Villefranche, La Condamine, Basse Alpes, MAGNIER; Bouche de Rhone, MAGNIER, 3388; Segorbe, Valencia, REVERCHON; Granada, Spain, CAMPO; Palermo, TODARO, 1262, an extreme form (?*Isiaca*), but Nyman cites it under *Phragmites*; Strassburg, BILLOT, 90 bis; Gratz, Austria, REILER; Bohemia, *Fl. Exs. Aust.*, 699; Styria, *Hb. Bailey*; Englesfield, Flamina Sorok, BAENITZ; Reichenberg, Switzerland, BAENITZ; Skandinavia, *Hb. Bailey*; also plants approaching it from Göteberg, Upsala, AHLBERG. As a very diffuse long-glumed form from "Suluklu ad fines Persia SINTENIS *Sub-Trans. Cauc. Pers.* 9756," in *Hb. Bailey*.

Var. TENELLA Nolte. Dover, JONES in *Nat. Herb.*, 1822.

Var. PSEUDO-DONAX Rabh. = forma LATIFOLIA Druce in *New Phyt.*, 362, 1911, Norfolk Broads. The specimens seen were indistinguishable from those from Tauschverein, i.e. *Lusatica* Luchau in *Hb. Bailey*.

Forma DENSIORE Druce. Kennington, Berks.

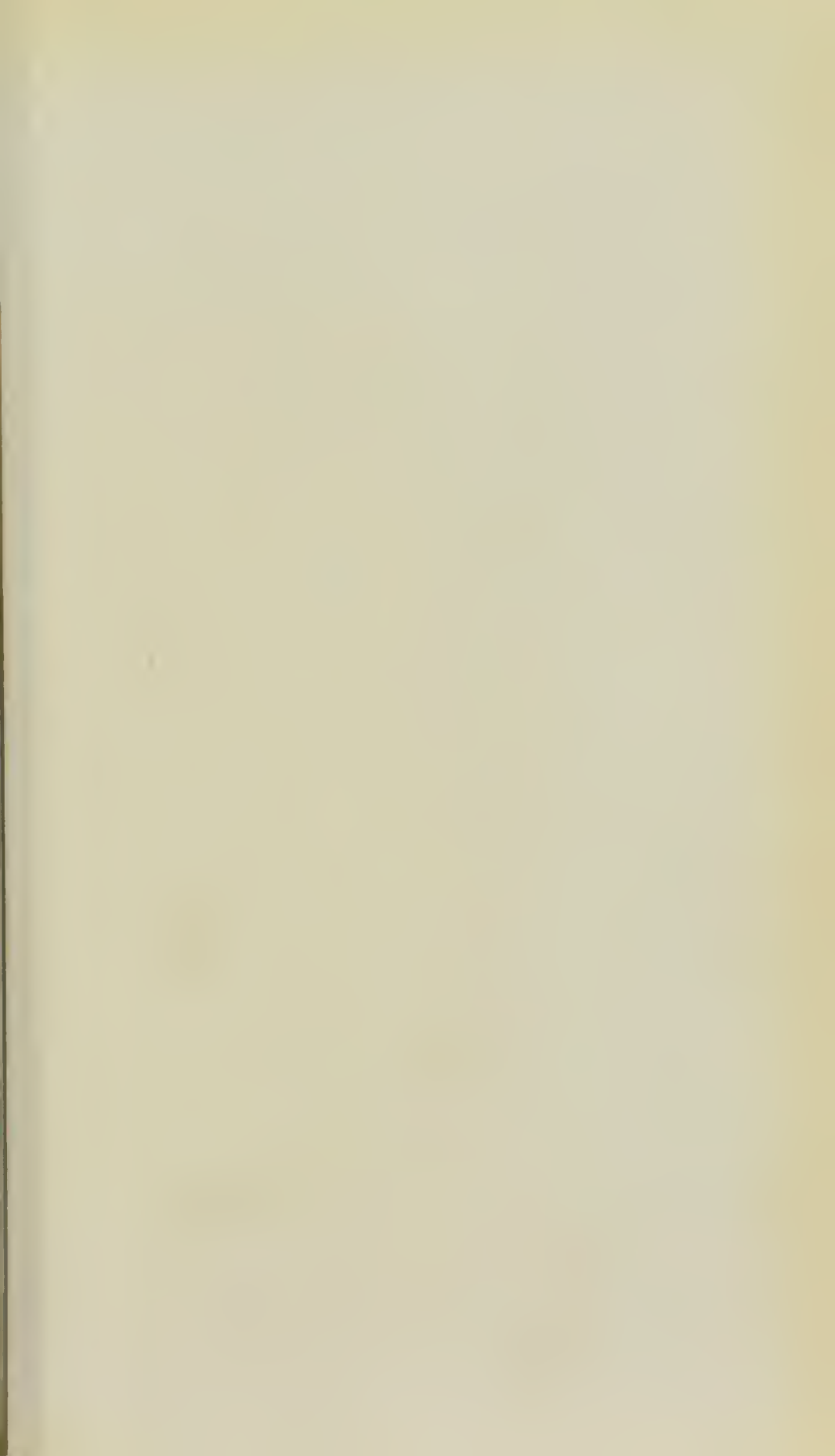
Forma DIFFUSA Druce. Ashton-on-Ribble, C. BAILEY. Panicles loose, with less numerous spikelets. G. C. DRUCE.

2748 (5). ERAGROSTIS CHLOROMELAS Steudel Syn. Pl. Gram. 27 (E. ATROVIRENS Nees non [Desf.] Trin.). Alien, S. Africa. Galashiels, Selkirk, Miss I. M. HAYWARD. Det. A. THELLUNG.

2787 (3). FESTUCA SALZMANNI Boiss., ex Coss. *Notes Crit.*, 131. Alien, Spain. Esparto grass casual, Midlothian, 1915, J. FRASER, in *lit.*

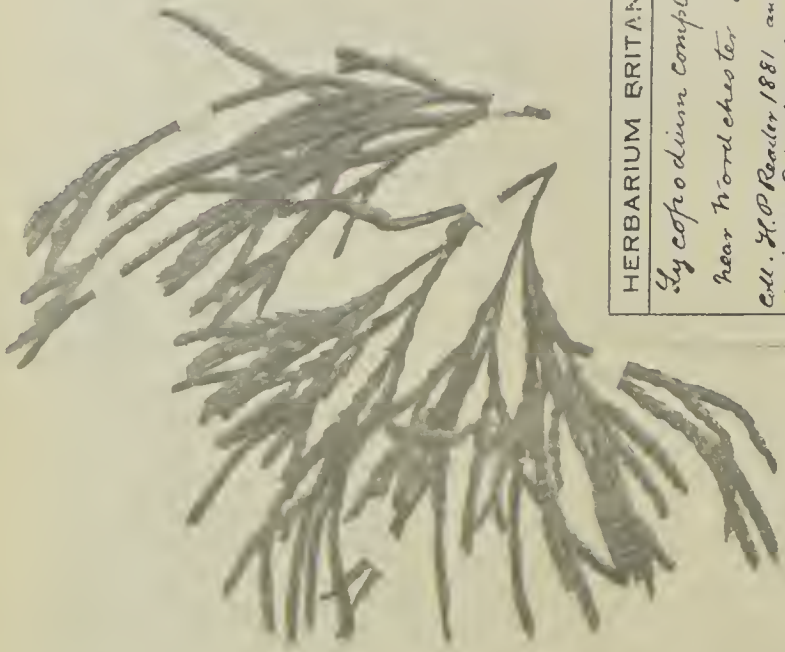
2824. LOLIUM PERENNE L., var. ANGUSTIFOLIUM Parnell British Grasses, 142, 1845. "A tall and slender variety, with long narrow leaves." Putney, Surrey (sub-var. *angustifolium* mihi).

2854 (3). HORDEUM MUTICUM Presl, var. ANDICOLA (Griseb.) Thell. Fl. Adv. Montp., 157, 1912. Alien, Bolivia, Peru, Argentina. Selkirk, 1914, Miss I. M. HAYWARD. Det. A. THELLUNG.



L. complanatum L.
a. areolif. Mille

Determinavit *H.T.* May 1915



Cairngorm *fl. a.*
Benny & Eastwicks
July 1887 *Jb. Druce*

HERBARIUM BRITANNICUM
<i>Lycofodium complanatum</i> !
near Worcester, Gloucestersh.
Coll. H. P. Reesler 1881 and first
described as <i>British Lycof. Soc. Bot. 321, 1882</i>
G. CLARIDGE DRUCE, M.A., J.P.,
YARLEY LODGE, OXFORD.

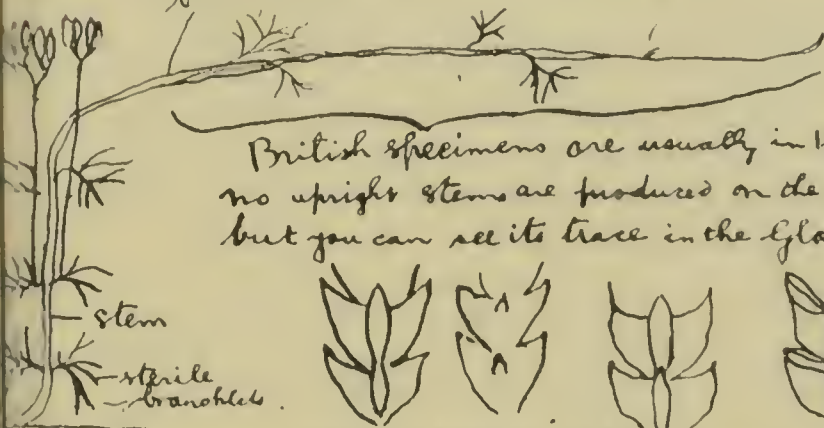
2927 (2). *LYCOPodium COMPLANATUM* L. In 1881, through Mr Bolton King, I received a specimen of a *Lycopodium* which had been gathered by the Rev. H. R. Reader, near Woodchester, Gloucestershire, which differed from *L. alpinum* by its more flattened branches. Subsequently Father Reader sent me fruiting specimens, and these were submitted to Mr J. G. Baker and Mr Carruthers, both of whom agreed it must be referred to *L. complanatum*, notwithstanding the spikes were pedunculate, not sessile, Mr Baker placing little value on the latter character. As *complanatum* I therefore recorded it in *Journ. Bot.*, 321, 1882. There had been previous records of it for Britain. ① Spring's *Mou. Lycop.*, gave it for Scotland in the *Compendium to the Cybele Britannica*, 604. Mr Watson gives "near Bramshot, Hants. (!), Worcestershire (!), error (!), *Bab. Man.*, ed. 6, p. 445, Leefe MS." In the *Manual*, eds. 6 and 7, Babington puts it in brackets and adds, "Stated to occur at Bramshot. I have not seen it, and doubt its being correctly named." In Hooker's *Student's Flora*, 480, 1870, it is said to be "no doubt confounded with *L. alpinum*." Regarding the reference to Leefe MS. there must be some error, since the Rev. J. E. Leefe told me he had never found either *alpinum* or *complanatum* in Worcestershire. Possibly the record belongs to the Rev. Prof. Churchill Babington, who found, as the author of the *Manual* informs me, in July 1837, on Hartlebury Common, Worcestershire, a plant which he thought might be *L. complanatum* or *L. Chamaecyparissus*, but which he had of late considered to be only a form of *alpinum*, growing in a rather low situation. An imperfect barren specimen was sent by Mr James Lloyd, who called attention to the undergrown creeping branch, from Lower Wagners Wells, in the parish of Bramshot, where the soil is a sandy peat (*Gard. Chron.*, 753, 1866), which the Editor recorded as *L. complanatum*. It was discovered by a working woman, Sarah Young. The following year (*l.c.* 808, 997) Lloyd (the discoverer of *Dryopteris uliginosa*) sent better specimens, which, having compared them with Welsh plants, he believed to be *alpinum*, but at that time Babington, to whom they had been referred, was inclined to think they might be *L. Chamaecyparissus*. In the eighth edition of the *Manual*, however, Babington, having evidently come to the conclusion that they were *alpinum*, omits all reference to *complanatum*. In the *Flora of Hants.*, the Bramshot plant is also referred to *L. alpinum*, and in the *Flora of Worcestershire* the *Lycopodium*,

whichever it was, is said to be extinct for very many years. Mr J. G. Baker exhibited specimens which he named *complanatum* at the Linnean Society on November 22nd, 1882, which had been collected by Professor Lawson in Skye in 1868, and Dr Trimen (*Journ. Bot.*, 1882) also referred one of Gardiner's specimens from the Sidlaw Hills, Forfar, to the same species. At Dr Boswell's request I lent him my Gloucestershire plants, and Mr N. E. Brown made a drawing of it for the twelfth volume of *English Botany*, ed. 3, plate 1884, as is shown by Boswell's letter to me of June 5th, 1883, in which he says, "I have named your specimen on the plate of *English Botany*, *Lycopodium alpinum* var. *decipiens*. I do not believe it has anything to do with *complanatum*." Unfortunately Dr Boswell gave no description of var. *decipiens* in the text, so that it is a nomen solum. In the same year Babington issued a supplementary leaflet to the eighth edition of his *Manual*, in which he describes *L. complanatum* as occurring in Hants., Gloucester, Worcester, Ross, and Skye. In the third edition of the *Student's Flora*, Sir Joseph Hooker amends the description of *L. complanatum* so as to include *L. alpinum*, but retains the character of peduncled cones for the Gloucester and Worcester plants, which they do not possess. In 1887 (*Journ. Bot.*, 26, 1888) I gathered good specimens resembling the Gloucester plant on the Cairngorms, both in Easternness and Glen Aan, Banff, which I recorded as *complanatum*. In *Journ. Bot.*, 178, 1891, H. and J. Groves contend "that at present there is no evidence upon which to include *L. complanatum* in the *British Flora*." In the *Annals of Scottish Natural History*, 182-5, 1892, I gave the history of the *Lycopodium* and added a description, hitherto lacking, of *L. alpinum* var. *decipiens*, pointing out that its figure in *English Botany*, xii., 1834, was not so characteristic as that given in the *Journal of Botany*.

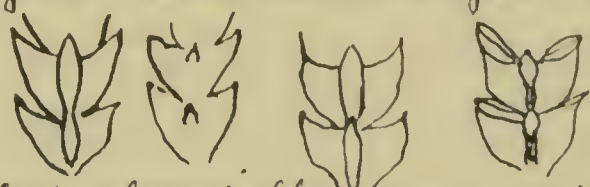
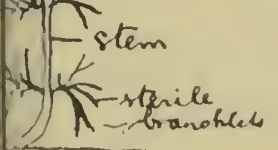
In April 1915, Dr H. Takeda, who had been studying the world forms of *Lycopodium*, borrowed my material. In May last he wrote, "As a matter of fact, the specimens are so rich and excellent, and also contain many of those previously referred to in several publications, that I wanted to study them very carefully. Above all, my intention was to get a clear and definite idea of *L. alpinum* var. *decipiens* Syme, and the type specimen of yours has thrown much light on the elucidation of this matter. The specimen collected by Reader, and reported by you as *L. complanatum* in 1882, and identified later by Groves as *L. alpinum*, and which finally formed the type

f var. *decipiens* Syme, is much better than that kept at the British Museum, and figured in the *Journal of Botany*. I have been rather surprised to find it to be, not *L. alpinum*, but *L. complanatum* L., *anceps* (Wallr.) Milde, monstr. *fullax* Celak. Reader's specimens are the only British specimens of *L. complanatum* with spikes. All other specimens I have seen are sterile. . . . Syme's name, *L. alpinum* var. *decipiens*, is therefore to be regarded as a synonym of *L. com-*

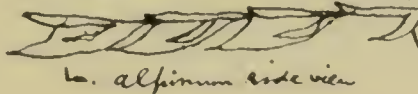
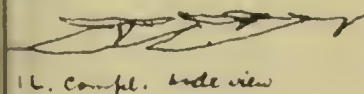
Buried in moss and becomes a rhizome.



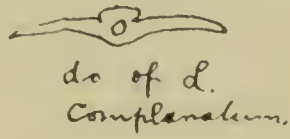
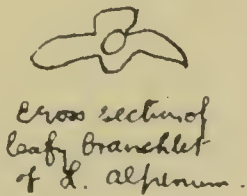
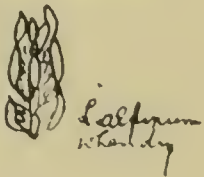
British specimens are usually in this condition no upright stems are produced on the rhizome but you can see its trace in the *L. glaber* spec.



seen from above seen from below seen from above seen from below
L. complanatum *L. compl.* *L. alpinum*



note this leaf.



lanatum. Now there is another *L. alpinum* var. *decipiens*. This name applies to those specimens of *L. alpinum* growing in heathy localities, and having a slightly luxuriant form, and a rather flattened appearance, such as those collected by the Rev. E. S. Marshall at Allt Dubh in Mid-Perth, &c. This is only an extreme form of *alpinum*, and ought not to be regarded as a variety. I personally have doubts as to whether this form can be easily recognised in the

fresh condition. All the specimens of *alpinum* I have seen growing on the Welsh and Scottish mountains are flat, and they assume a more or less terete appearance when they become dry. Sometimes the sterile branches completely roll up (or I should say the lateral leaflets roll inwards), and then the specimen becomes a typical *alpinum*. Sometimes, however, only some of the branchlets do so, while others remain flat. There are all the transitional degrees from the typical form to the completely flat form. It appears to me, however, that the heath form usually assumes the flat condition, while those growing in drier situations become terete when dry. You can see a good example of transition in the specimen from Orkney. One part of the specimen represents the typical *alpinum*, while the other represents the flat form. The typical *complanatum* is very characteristic, but the British forms (not to be distinguished as a var. or forma) are rather difficult to recognise. The accompanying diagrams may help you."

L. complanatum L., var. *anceps* Milde, is represented in my herbarium, as named by Dr Takeda, from Woodchester, Gloucester; Glen Easan Biorach, Arran, alt. 900 feet, July 2nd, 1895, A. SOMERVILLE; S.W. slope of Gealcharn, Glen Feshie, Easternness, 2700 feet, July 1909, J. A. WHELDON and A. WILSON; Cairngorms; Banff; Easternness, July 1887, G. C. DRUCE. In W. Borrer's herbarium at Kew, Dr Takeda says there is also a specimen from Easedale, Westmoreland, 1850. The heath plant *L. alpinum* forma *Issleri* (Rouy and Fouc. *Fl. Fr.*, xiv., 489, as a race) is represented from Allt Dubh Ghalair, Glen Lochay, Mid-Perth, 1890, E. S. MARSHALL; and from Hill of Ackla, Ophir, Orkney, October 1883, H. H. JOHNSTON; also from Aonach Mhor, Westernness, 1891; Glyder Fawr, Carnarvon, July 1900; Glas Thulachan, Mid-Perth, 1899, my own gatherings. Dr Takeda says the heath form cannot be properly designated as a "race," nor is there any necessity for distinguishing *alpiniforme* and *complanatiforme*. G. C. DRUCE.

2927 (3). LYCOPodium CHAMAECYPARISSUS A. Braun, *L. COMPLANATUM* var. CHAMAECYPARISSUS Döll *Fl. Bad.* 80, *L. COMPLANATUM* subsp. CHAMAECYPARISSUS Asch. & Graeb. *Fl. Mitt. Eur.* i., 156. In Mr Charles Bailey's splendid herbarium there is a sheet labelled *L. alpinum* with three specimens on it; one of these is from Lochnagar, Coll. R. Br. 1838; one from Ingleborough Hill, 1816, H.S.; and a

ird, close to this, is a specimen of the pedunculate *L. Chamæcyparissus*. This differs from *complanatum* in its more slender habit, the secondary branches are much narrower, less compressed, shorter, most tetragonous, erect, fastigate and compact, and the spikes are peduncled. This plant may well be native in Britain, since it occurs in Denmark, Sweden, North and West Germany, Holland, Belgium, France, Switzerland, &c. The evidence of its occurrence on Ingleborough requires confirmation, since its presence on the sheet of fixed specimens is not without suspicion. It rests on somewhat similar evidence to *Salix reticulata* on Cader Idris and *Epilobium alpinum* in England. This record may, however, stimulate anyone visiting Ingleborough to make a special search for this plant. In the broad sense *L. complanatum* L., emend. may be taken as the super-species with *L. alpinum* (L.) and *L. Chamæcyparissus* (A. Br.) as subspecies, but the third is nearer *complanatum* than *alpinum*.
 . C. DRUCE.

2728 b. LYCOPODIUM ANNOTINUM L., var. LATIFOLIUM Takeda in Bot. Mag. Tokyo, xxiii., 16, 1909. This is the common British plant. The var. *angustifolium* Takeda is not known to occur in Britain.

The following aliens, which have been recently determined by Dr A. Thellung, will be more fully mentioned in next year's *Report*. I owe them to Mr E. Ch. Horrell.

184 b. SISYMBRIUM ALTISSIMUM L., var. RIGIDULUM (Decaisne). Kirkstall, York.

237 (2). LEPIDIUM CHALEPENSE L., var. AURICULATUM (Boiss). Lingley railway bank, York, 1915.

341. SILENE DICHOTOMA Ehrh., var. RACEMOSA Otth. Rohrb. Kirkstall, York.

366 (3). SILENE SCHAFTA Gmel. Ludlow, Salop.

398. ARENARIA HOLOSTEOIDES C. A. Mey. Kirkstall, York.

505 c. OXALIS CORNICULATA L., var. MINOR Lang. Thornton Dale, York.

560 (2). TRIGONELLA FISCHERIANA Ser. Kirkstall, York.

RECENT PUBLICATIONS.

THE POTAMOGETONS (PONDWEEDS) OF THE BRITISH ISLES. ALFRED FRYER and ARTHUR BENNETT, illustrated by Robert Morgan and others. Royal 4to. L. Reeve & Co. Part III. Grass-leaved Potamogetons and Introduction, 4 pages, by Arthur Bennett, pp. 77-94. This latter portion describes *P. zosteraefolius* [*P. compressus* L.] *P. acutifolius*, *P. obtusifolius* [the plate drawn from an Esthwaite specimen has narrower leaves than the Midland plant], *P. Friesii*, *P. rutilus* [from a foreign specimen. It is given for Anglesey and Orkney (?). The first locality, Mr Bennett tells me, was probably Llyn Coron, where Mr Griffith who sent it from Anglesey, believed he gathered it, but it has not been confirmed] *P. Sturrockii* [without a plate], *P. pusillus*, *P. trichoides*, *P. pectinatus*, *P. vaginatus* [also from a foreign specimen], *P. interruptus*, *P. marinus*, and the adventitious *P. pennsylvanicus*. Since the Monograph was written Mr Pearsall has added *P. Sturrockii* to the English Flora. We are grateful to Mr Bennett for completing this work, but we much wish he had given us, from his unique store of knowledge, more details of the habitats which he could so well have supplied, and we lack the copious and vivid notes of the life-history of these plastic plants which made Mr Fryer's portion of the work of such intense interest. With regard to *P. Drucei*, which Mr Fryer described as a probable hybrid in an early portion of the work, having cultivated it for some years, he found it to produce fruit freely, and therefore (*Journ. Bot.* 524, 1899) established it as a *full species*. The fruit, as he told me, was quite unlike that of any species he had met with. I have also found it fruiting on the Loddon River, its only known habitat. It is rather remarkable that neither *P. compressus* nor *P. acutifolius* have been met with in Ireland. A serious drawback to the work is the unlabelled plates. The dates of the publication of the various parts should have been clearly indicated, separated as they are by so many years, and a supplementary note on the earlier part, so as to bring the whole of the work up to date, would have been much valued. In passing we may point out that in the portion written up by Mr A. H. Evans there is no reference to the note in *Journ. Bot.* 212, 1907, on \times *P. salignus*, where the following quotation is made from vol. i., p. 129, of the *Victoria County History of Devonshire*, "*P. salignus* A. Fryer (probably a hybrid) differing from *P. salicifolius* Wolfg. by the outermost vein of the leaves

rting near the base of the midrib and not from the base of the
 rgin of the leaves." This is more to be regretted because
 lacomic habitat. Herefordshire, gives little information. The
 nt was originally found in 1866, in the river Wye, near
 lack, by our late member, the Rev. Augustin Ley, where I have
 n it growing, but I believe it has not been found recently. It was
 t recorded as British in our *Report* for 1877, p. 10. Nor is there
 y allusion in the Monograph to the references in *Bab. Man.*, ed. 9,
 139, and in *Journ. Bot.* 251, 1908. The name *salignus* cited
 yer MS. should (teste *Journ. Bot. l.c.*) be given as Fryer *Victoria
 nty History of Devon*, i., 129. No reference is made to *P. rutilus*
 rded from Ely in *Journ. Bot.* 24, 1895, nor to the plate No. 407
 awn from one of Power's specimens), and its description in *Journ.
 t.* 66, 1900, where the plant is recorded from Coventry Canal,
 herstone, Marl Pits, Fradley, Staffs. ex. Herb. Power, and Rye,
 ssex, 1898, C. E. Salmon. Are all these only forms of *P. pusillus*?
 they are not quoted in the Monograph, these early references are
 bably erroneous. The discrepancy should have been indicated and
 matter made clear, as in the future it may cause trouble and
 fusion. Although *P. vaginatus*, of which no more precise locality
 in Shetland is given, is said to belong to the *marinus* group, it is
 t between the two closely allied species *pectinatus* and *interruptus*.
 e locality (*Rep. B.E.C.* 259, 1907) is Tingwall Loch, Shetland.
 otwithstanding the high price of the Monograph, one feels sure that
 cannot be remunerative to the publishers, who have had unusual
 ouble, in part caused by the long delay, which must have been very
 udicial. This is greatly to be regretted, for important Monographs
 special groups have been too few in Britain. It is to be hoped that
 our members who can afford it, will obtain a copy. The illustrations
 e beautifully executed, and will always be of value.

HAYWARD'S BOTANIST'S POCKET BOOK. Fourteenth edition,
 ised and enlarged by G. Claridge Druce, pp. xlv., 288. 4/6.
 Bell & Sons. Preface dated August 1913. The appendix of
 pages gives many of the critical plants which have appeared in
 e pages of our *Reports*.

THE JOURNAL OF BOTANY for 1915 contains, among other material,
 e following papers and notes:—*Brunella laciniata* × *vulgaris*, C. E.

Moss at Hardwick, Cambridgeshire, p. 8. Smith's Flora Britannica, F. G. Wiltshier, p. 34. This appeared in three volumes, the first two in 1800, the third in 1804. The plate of *Carex teretiuscula* in *E.B.* No. 1065, dated December 1, 1796, was not actually published till 1802. British Association in Australia, A. B. Rendle, p. 23. Note on *Hypericum calycinum* (found by T. Brewer in 1730, at Bradford, ~~Wilt.~~), Editor, p. 68. Sussex *Rubi*, Rev. W. Moyle Rogers, pp. 49, 84. Includes *R. Bakeri*, *R. Schentzii*, *R. silvaticus* [*R. hesperius*], *R. uncinatus*, *R. amplificatus*, *R. lusiocladus*, var. *longus*, *R. scaber*, *R. Durotrigum*. Obituary of M. C. Cooke, J. Ramsbottom, p. 58. A most valuable account of the work of this prolific writer. *Vaccinium uliginosum* L., var. *pubescens* Lange, Kingshouse, Argyll, Marshall, 1888, S. F. Blake, pp. 90 and 179. The plate 581 in *English Botany* was drawn from this variety, but it is not localised. *Juncus balticus*, Ansdell, W. Lancs., E. S. Marshall, p. 91. *Helleborus viridis*, with sepals blotched with purple, Miss I. M. Roper, p. 113. Notes on Somerset plants for 1914, E. S. Marshall, p. 122. Supplementary Records of British *Rubi*, Rev. W. Moyle Rogers, p. 139. Further notes on *Arctium*, A. H. Evans, p. 145. Scottish Highland Plants in 1914, E. S. Marshall, p. 158. British forms of *Hypericum humifusum* and *H. linariifolium*, H. W. Pugsley, p. 162. *Oxalis corniculata* L., A. J. Wilmott, p. 172. Surrey Plants, C. E. Britton, p. 177. *Melampyrum pratense* var. *purpureum*, C. E. Salmon, p. 177. Notes on *Statice*, C. E. Salmon, pp. 237, 325. Mycetozoa of Australia and New Zealand, W. N. Cheesman and G. Lister, p. 203. *Calamintha Acinos*, H. S. Thompson, p. 217, suggests that *C. Acinos* Clairv. and *C. arvensis* Lam. are not identical, the latter from Guildford; the former from St Vincent's Rocks. Anomalies in the Vice-County Divisions of Perth, Eleanora Arnitage, p. 218. County Records of Potamogetons, A. Bennett, p. 236. *Polygala dunense* at Crosby 59, Lytham &c., 60, Aberafon, 41, J. A. Wheldon, p. 250. Watsonian Divisions of Perthshire, W. Barclay, p. 250, suggests 87½ Lomond, Perth, for that portion of County draining into Loch Lomond. Herbarium of John Lightfoot, Editor, p. 269. *Polygala dunensis*. Sussex; Blea Gill, Durham, C. E. Salmon, p. 279. *Calamagrostis stricta* var. *Hookeri*, Nayland Hundred, W. Norfolk, A. Bennett, p. 281. *Diotis maritima* Cass., Par Sands, Cornwall, W. Wise, p. 281. *Azolla* in the Lea Valley,

. Peirson, p. 308. × *Carex evoluta*, in Somerset, between Edington and Street, 6, H. S. Thompson, p. 309. *Heleocharis palustris*, var. *arenaria* Sond., C. E. Salmon, p. 310. *Wolffia Michellii*, in N. Somerset, Cecil Sandwith, p. 311. *Scorzonera humilis* L. in Dorset, Cecil Sandwith, p. 311, and C. B. Green, p. 373. Correct name for *triplex arenaria* Woods, S. F. Blake, p. 355, contends that *A. bulbosa*, used in the Cambridge Flora, should be superseded by *A. maritima* Hallier, p. 355. Note on Article 45 of the Vienna Code, G. Claridge Druce, p. 356, shows that *Limonium* is a valid name for the Sea Lavenders. Dialysis of Corolla in *Convolvulus creensis*, G. S. Boulger, p. 359, describes the form with cut corolla as var. *schizocarpa*, but the variety is previously described as var. *tonestrectii* by myself in our *Report* for 1913, p. 330, based upon a specimen in Herb. Du Bois, circa 1700, which was gathered near Tenley, Oxfordshire. Strictly speaking, this (and also the analogous form of *Erica cinerea* and *Tetralix* (*Rep.* p. 329), is not a true variety, but a *lusus*). New *Salicornia* variety, *S. disarticulata* var. *humifusa*, and a hybrid of it with *S. Smithiana*, Dawlish, S. Devon, E. S. Marshall, p. 362. *Rumex maritimus* E. A. Woodruffe-Peacock, p. 363, suggests that *R. limosus* is a hybrid of *R. maritimus* and *myglomeratus*. This is so marked in my List, p. 62. *R. palustris* m. may prove to be a distinct form. R. M. Barrington, *Memoir*, R. L. Praeger, p. 364. The supplement contains valuable papers on the Lichens of Perthshire by J. A. Wheldon and Albert Wilson, and on *Narcissus poeticus* and its allies, by H. W. Pugsley. Three new specific names are established *N. verbanensis*, *N. hellenicus*, and *N. exertus*.

SET OF BRITISH WILLOWS. Fasc. 3. Supplement. Rev. E. F. Sinton, December 1914.

THE THIRTIETH ANNUAL REPORT OF THE WATSON BOTANICAL EXCHANGE CLUB, 1913-1914, vol. ii., No. 10, Cambridge, J. Webb & Co., 1915. Distributor, Mr J. E. Little; Editor, Mr G. Goode. Contains a short note on *Spartina Townsendi*, which was first published as a species in our *Report* for 1880, p. 37, by H. & J. Groves, but only alluded to as a form of *stricta* in *Journ. Bot.* 277, 1879. An appendix of four pages is devoted to an account of *Draba verna* by Mr J. E. Little.

PROC. BOURNEMOUTH NAT. SC. SOC., vol. iv., contains interesting notes on *Spartina Townsendi* by R. V. Sherrin, F.L.S., with two excellent photos of the grass growing in Poole Harbour.

TRANSACTIONS OF THE SCOTTISH ARBORICULTURAL SOCIETY, vol. xxix., pp. 19-28, 1915. The planting of sand dunes at Culbin, P. Leslie, M.A.

WINCHESTER COLLEGE NATURAL HISTORY SOCIETY REPORT, 1913-1915, contains an account of some of the hybrid Orchids of the neighbourhood, and excellent plates of *Habenaria conopsea* × *praetermissa*, *H. conopsea* × *maculata*, *H. conopsea* × *viridis*, × *Gymplatanthera Jacksoni* (× *H. Jacksoni*) and *H. viridis* × $\begin{cases} O. incarnata. \\ O. maculata. \end{cases}$ A list of local additions is also given which includes *Salvia pratensis*.

PAISLEY NATURALISTS' SOCIETY TRANSACTIONS, vol. v., pp. 120, edited by Rev. C. A. HALL, includes a list of Renfrewshire plants.

BIOLOGICAL SURVEY OF CLARE ISLAND. Section I. contains the Botanical records. Williams & Norgate, 1911-15.

WHITBY WILD FLOWERS. BERNARD REYNOLDS. pp. 60, 1s. Horne & Sons, Whitby.

DEVONSHIRE BOTANY, Sixth Report of the Botany Committee, edited by Miss C. E. LARTER, 1914.

PLANTS FROM THE COUNTRY OF CHESHIRE, 1910-14. C. WATERFALL.

A BOTANICAL SURVEY OF SOME FIELDS NEAR LEICESTER, Miss C. E. C. MEASHAM, with map, pp. 14, 1915. Leicester.

THE NATURALIST, 1915. *Deyeuxia neglecta* in York, A. BENNETT, p. 95. *Gagea lutea* in thousands, as a weed, among bulbs in Doncaster nursery. Specimens of this would be much valued by the Secretary (9 Crick Road, Oxford).

RUGBY SCHOOL NATURAL HISTORY SOCIETY REPORT, 1914. Records several *Rubi* for Northamptonshire, by Mr L. CUMMING, including *R. lasiocladus*, var. *angustifolius* from Badby Wood.

LIST OF LESS COMMON PLANTS IN THE AREA OF THE BERWICK FIELD CLUB, recorded in the Proceedings since 1831, by Mr ADAM ANDERSON. A very useful compilation, which necessarily does not include many records which have been published elsewhere.

PROC. COTTESWOLD NATURALISTS' FIELD CLUB, vol. xviii., pp. 231-242, 1914. Notes on *Helosciadium*, Rev. H. J. RIDDELSDELL, M.A. In this paper the author describes *H. nodiflorum* var. *longipedunculatum* forma *simulans* from Oxford, Cheshire, Suffolk, Haddington, *H. repens* from Skipwith, York. \times *H. Moorei* and *H. imundatum* var. *fluitans* Fries, in which all the leaves are capillary, are also described.

TRANSACTIONS OF THE WORCESTERSHIRE NAT. CLUB, 1915. *Azolla filiculoides* in Worcestershire, Carleton Rea.

PLYMOUTH AND DISTRICT FIELD CLUB TRANSACTIONS No. I., 1912-13, contains a list of plants which include several additions to Briggs's Flora, and some new County Records, which are included in our present *Report*.

THE JOURNAL OF ECOLOGY. Editor, Mr FRANK CAVERS, March 1915. 5/. Includes, among others, notices of the botanical features of the Algerian Sahara, W. A. Cannon, ex Carnegie Inst., Wash. Publ., 178, pp. 81, 1913. June, 1915, 5/-. Maritime Ecology of Holme next the Sea, Norfolk, A. S. Marsh. Ecology of the Purple Heath Grass, *Molinia caerulea*, T. A. Jefferies, pp. 93-109, the district described being Slaithwaite Moor, near Huddersfield.

NEW PHYTOLOGIST. Further observations on the Heath Association of Hindhead Common, F. E. FRITSCH and E. J. SALISBURY. April-May, 1915, 4/-. June-July, 1915, 4/-.

TRANSACTIONS OF THE BOTANICAL SOCIETY OF EDINBURGH. Vol. xxvi. Ecology of Knockdow, Argyllshire, Miss Lamont. Blakeney Point in 1914. Report of Committee of Management, mentions the rapid spreading of *Limonium (Statice) binervosum*, and the occurrence of a probable hybrid, *L. binervosum* \times *reticulatum*, the continuance of *Pneumaria maritima*, and the use of *Suaeda fruticosa* for the protection of shingle. The Report is edited by Prof. Oliver. Dune Plants of Holland, D. J. Gesweit, Bei. Bot. Centr. xxxi., abt. 2,

Heft. 2, pp. 332-372. Biology of European Flowers, Rob. Ltäger, *l.c.*, pp. 281-321. In this paper the Pollination of many Alpine species is detailed. In an area 90 cm. square, the author counted on the Col de Jorat, 720 single flowers of *Anthyllis Vulneraria* and in another 2360 of *Cerastium latifolium*, and on Salamp Alp, in a similarly constricted area at 1950 metres, 5160 flowers of *Pedicularis*, and 2960 of *Galium asperum*.

WONDERS OF PLANT LIFE. F. M. & L. T. DUNCAN. Sm. 8vo. Six volumes, of about 80 pages each, 1/-. Frowde, Hodder & Stoughton.

THE ENGLISH COUNTRYSIDE. ERNEST C. PULLBROOK. A pleasing work with beautiful illustrations, among which may be singled out the Buckinghamshire scene in a Chiltern Valley, and a primrose wood in early spring. Lge. 8vo., pp. 136, 126 illustrations, 7/6. Batsford, London.

ZANNICHELLIA REPENS BOENN. IN NORD EUROPA. C. A. M. LINDMAN, in Bot. Notiser, 141, 1915. It occurs in Sweden, Norway, Denmark, Finland, North Germany, Schleswig Holstein, Hamburg, Dantzig, France, Switzerland, Vosges, Altai, Mongolia, Egypt, Canada, Nebraska.

PRIMULA OBCONICA in its micro forms, I. BAYLEY BALFOUR, in Trans. Bot. Soc. of Edinburgh, pp. 302-344, with 45 plates, 1914?

ACAENA. Die Gattung Acaena, GEORGE BITTER, in Bibl. Bot., 37 tt. 98 text figures, Heft 54, pp. 386, 1911.

ASTER. Species and Variation of Biotian Asters. EDW. S. BURGESS, pp. 419, 108 fig. In Bulletin Torrey Club, New York, 1906.

A TEXT-BOOK ON GRASSES (AMERICAN). A. S. HITCHCOCK. 8vo., pp. xvii., 276, 6/6. Macmillan, New York.

SVENSK BOT. TIDSKRIFT. 1915, Bi. 9, h.i. *Rosa mollis* Sm. Ofversikt af de Nord Europeiska Formerna af *R. mollis* Sm., L. P. REINHOLD MATSSON. In this minutely critical revision 123 sub-species of *mollis* are described.

ACTA HORTI BERGIANA. Tom. V. 1914. Forms of *Picea excelsa*, B. WITTRICK, pp. 91. *Verbascum* Hybrider, S. J. BLUMQUIST, 6 text figures, pp. 40.

PLANTAE IN HORT. BOT. BERGIANS ANN., 1912-13, critically examined, ERIK LUNDSTROM, p. 122. Contains beautiful figures and critical descriptions of *Iris* species.

REPORT SPEC. NOV. REG. VEG. Prof. Dr F. FEDDE, 1914. Thellung reduces *Polygonum calcatum* to a sub-species of *P. aviculare*, and I should put *P. microspermum* and *P. aequale* in the same grade. Brand describes two new Boraginaceous genera, one named in honour of our member, Mr C. Lacaita, i.e., *Lacaita*, and *Vaupelia*, p. 81. The species and hybrids of *Potamogetons* are enumerated on p. 191, and Topitz gives diagnoses of a large number of *Menthae*, p. 68.

FLORE DES ALPES MARITIMES. EMILE BURNAT. Vol. v. prem. part. Supplement aux quatre premières volumes par François Cavillier, with nap, pp. 95, 1913, and 2^e partie par John Briquet and François Cavillier, pp. 375, 1915. Araliaceae. These form an important addition to our knowledge of the botany of a most interesting region. The treatment of the genus *Galium* is keenly critical. *G. sylvestre* Pollich is once again changed to *pusillum* Murray Prod. Stirp. Gott. 44, 1770. *Galium palustre* has under it var. *lanccolatum* Uechtr. Presl's *elongatum* is, the author says, confined to Sicily. Hudson's *G. anglicum* is made only a sub-var. of *parisiense* L. *G. Vaillantii* DC. Fl. iv., 263, 1805, is made a var. of *G. Aparine* as *echinospermon* (Wallr.). "Fruits rendus hispides par de nombreux poils faiblement renflés à la base." *G. spurium* L. is also made a var. as *leiospermon* (Wallr.). Our *G. Vaillantii* requires further study. *Kentranthus* Necker is used in preference to *Centranthus* DC., but they cite the authors who have established the species as *Centranthus*, i.e., *ruber* DC. *Valeriana sambucifolia* is put as a sub-species of *V. officinalis*. The genus *Valerianella* is wrongly attributed to Pollich. Miller has precedence (and so, too, with *Petasites*.) *V. Morisonii* DC. is used in the place of *V. dentata* Poll., since Krok says "Synonymon autem *V. dentata* Poll. plene citare haud aussumus, quum descriptio manca sit." *Knautia* is kept distinct from *Scabiosa*, and *Scabiosa maritima* is made a var. of *S. atropurpurea*. *Sherardia arvensis* var. *maritima* (see *Fl. Berks.*, 266), which some of our botanists consider to be of little importance, is referred to as a modification "plus importante caractérisée par des pièces calicinales très réduites ou nulles." There are many valuable notes on nomen-

clature, and some critical remarks upon the plants included, and the Index in itself, with its mass of detail, adds another feature to this most suggestive Flora.

STUDIES ON THE VEGETATION OF CYPRUS, based upon Researches during the Spring and Summer, 1905. JENS HOLMBOE. 4to., pp. 344, 7 tt. 137 text figures. Bergens Museums Skrifter, Ny Raekke, Bind 1, No. 2, 30 Kronen, Bergen, John Griegs, 1914. This very valuable summary of the botany of "the brightest jewel in our Crown" is written in English, and as an introduction gives a general sketch of the physical geography. The highest mountain, Chionistra, attains an altitude of 1953 metres, and has a well on its side at 1643 metres, and there are others about Rodromo at 1400 and 1500 metres. There are no real constantly flowing rivers in the island. Even the Pedias, the longest river, only exceptionally runs six weeks in the year. There are no mountain lakes, but a lowland piece of water at Paralimni is about 800 acres in extent, but it is very shallow, and in the summer the bottom is laid bare. A few years back I was the fellow-traveller to Ceylon, where he was Attorney-General, of the Hon. A. Lascelles and his sister, who did so much excellent work at the botany of this island; and last year, through the kindness of the Greek Minister, I met M. P. G. Gennadius in Athens, who was for some time the Minister of Agriculture in Cyprus, and from these authorities I realised the difficulties which agriculture had to endure from this shortage of water, since Cyprus is one of the hottest and driest, so far as summer rainfall goes, of the Eastern Mediterranean Islands. The rainfall, March to October, is only one-eleventh of the total, *i.e.*, 240 mm. (1881-91), but a small patch of snow remained on Chionistra till Midsummer Day. *Acer obtusifolium*, which Smith locates from Mont Sphak, in Crete, was doubtless, the author believes, collected by Sibthorp in Cyprus. In several instances there is no doubt Sibthorp's plants were shifted from their original covers, and thus errors were made. Four species of *Centaurium* (under the name *Erythraea*), are given, *i.e.*, *C. umbellatum*, *C. tenuiflorum*, *C. pulchellum*, and the yellow-flowered *C. maritimum*. The latter I gathered in Corfu last year. It is not given from that island in Halacsy's *Flora*, but has been added, on the authority of Pieri, in the *Supplement*. A new and beautiful *Onopordon* is described, as well as many other new species. A chapter is devoted to the Fossil

Quaternary Flora, another to Cyprian topographical names derived from plant names, and then a fascinating and suggestive sketch of the more important Plant Societies. One of the photographs shows *Pinguicula crystallina*, "which has clear drops on its leaves, glistening like diamonds in the sunshine," a plant discovered by Bauer, whose figure of it is on t. II of the sumptuous *Flora Graeca*. Near it grows, in its more western locality, the oriental *Helleborine veratriloba* (Boiss. & Hohen., as an *Epipactis*), which was originally found here by Lascelles, and which also occurs on Elbrus. It is referred in *Index Kewensis* to *consimilis* Wallich. Our Oxford botanist, Professor Sibthorp, whose biography Professor Vines and myself are producing, visited Cyprus in 1787, but there are earlier notices of its plants, stretching back to Dioscorides and Theophrastus. Sibthorp was only there from the 8th April to 13th May, when he was accompanied by his unequalled draughtsman, Ferdinand Bauer, and his friend Mr Hawkins, once of Dallington Hall, Northants, one of the executors who carried out the publication of the *Flora Graeca*. A concise and informative history of botanical research in the island precedes the author's own itinerary. There is a red-flowered form of *Silene Cucubalus* Wibel or *latifolia* R. & B., which I saw also last year at Delphi, in Greece. The author holds that the European and American *Liquidambar*, from which incense, or one of its ingredients, is collected, are specifically identical, and that *Geranium purpureum* and *modestum* Jord. can hardly claim even the value of distinct varieties. *Euphorbia Thompsonii* is named after Mr H. Stuart Thompson. It was gathered in Cyprus by Kotschy and Lascelles, and is closely allied to *Characias*. Notes on the spreading of some Cyprian plants are given, as well as a brief survey of the Affinities and History of the Cyprian Flora. The island, situated as it is near the three continents, has a vegetation of a marked Mediterranean character, and as the author of the excellent *Flora of Palestine*, the Rev. G. E. Post, remarks, it has a selection of the plants of Syria, Cilicia, and Pamphylia. The African influence is the least marked. Sixty-nine species, fourteen sub-species, and six varieties are endemic: eight of these were discovered by Sibthorp. The author says (p 25): "The maintainers of great species have seen the close relations connecting forms which differ from one another only in characters of less importance, and they have feared that an extreme separation would render the perspicuity difficult. On the other hand, the 'pulverisators'—a

word often applied, almost as a term of abuse—have observed the astonishing constancy with which even inconspicuous forms transfer their qualities upon their offspring, and the independence in geographical and other respects which they often possess. The experimental cultures of Jordan, Wittrock, de Vries, and others have shown to evidence that the considerations of both opposite tendencies are right in the main. If we adopt as a new systematical unity the sub-species and make use of this term for the 'species' of Jordan and his successors, the conflict between the two opposite camps will be in reality smoothed." In this work the author has treated as sub-species "several forms, only differing from each other in characters, which may seem to be rather inconspicuous . . . whenever they possess distinctly separate areas of distribution, or it can be otherwise concluded . . . that they constitute independent hereditary types. . . . The name variety is reserved for such forms as appear occasionally at various places within the area occupied by the species, either by mutations altering the type in a single respect—colour of flowers, absence of ray flowers in composites, etc., or by some variation in direct correlation with the natural conditions, climatic or ecological, in their growing place. An arrangement with so many degrees of systematical value, as, for instance, Ascherson & Graebner's *Synopsis*, is impracticable when a Flora is concerned in which the polymorphy of the species is yet imperfectly known."

THE BOTANY OF ICELAND. L. K. ROSENVINGE and E. WARMING, Editors. By Professor T. THORODDSEN. Fig. 34, pp. 191-343. Wheldon & Co., London.

DANSK EXCURSIONS-FLORA. Tredie Udgave ved. C. H. OSTENFELD og C. RAUNKAJER. 8vo., xxii., pp. 330, 1914. Copenhagen and Christiania.

BEIHEFTE Z BOTANISCHES CENTRALBLATT, xxxiii. Heft. i., February 1915. Flora von Bormio. E. FURRER and M. LONGA. pp. 1-112.

SUB-ALPINE PLANTS. H. STUART THOMPSON, F.L.S. 33 coloured plates, 168 fig., by GEORGE FLEMWELL, pp. 325, 1912. A useful and practical work, which will be found valuable to botanists wishing to become acquainted with Swiss flowers.

LES ILES D'HYERES. EMILE JOHANDIEZ. Dex. Geol. Flore Laun. 1914, 8 francs. The botanical portion occupies 99 pages. Cargulanne, Var.

FLORA OF NORWAY AND ITS IMMIGRATIONS. DR N. WILLE, in Ann. Missouri Bot. Gard., vol. 1.

FLORA OF ADEN. FATHER ETHELBERT BLATTER. In vol. viii. No. 2 *Records of Botanical Survey of India*, pp. 79, tt. 5. The arid cinder cap on which Aden is situated has 250 species recorded, which include 10 trees and 104 woody perennials—two specially interesting species, the bushes yielding myrrh, *Commiphora abyssinica*, and the frankincense, *Boswellia Carterii*.

FLORA OF JAMAICA. WILLIAM FAWCETT and A. B. RENDLE. Vol. 1., Piperaceæ to Commaraceæ, 8vo., pp. xxiv., 280, 113 text illustrations, tt. 5, *Brit. Mus. Nat. Hist.*, 1914, 15s. Longmans.

FLORA OF NEW MEXICO. E. O. WOOTON and PAUL C. STANDLEY. Contr. from the *United States National Herbarium*, vol. 19, large 8vo., p. 794, 1915. A model flora of a most interesting region, comprising 22,000 square miles, from sea-level to over 10,000 feet. The species are clearly defined, and are said to number 2975. The nomenclature is based on the law of priority, and is, on the whole, logically carried out. The authors do not shrink from using *Eruca Eruca* (L.) Britton, which has the advantage of using the earliest trivial, and is not more annoying than *Sagina Saginoides*. The keys to the species are clear, concise, and most helpful. Underneath many of the species suggestive details are given as to its distribution and uses. The genera are somewhat more split than in the *Genera Plantarum*: for instance, the genus *Echinochloa* is kept distinct from *Panicum*, *Ribes* from *Grossularia*, *Potentilla* from *Argentina*, *Rubus* from *Rubaceæ*, *Sophia* from *isymbrium*, *Cerasus* from *Prunus*. Earlier authority for var. *glabrescens* of *Bromus hordeaceus* is to be found on p. 592 of the *Flora of Berkshire*, 1897. This European species is widely introduced in the United States, and has been found in Willow Creek, New Mexico. *Rubus nutkanus* is put in the genus *Rubaceæ*, as *R. parviflorus*, and retained as a *Rubus* it must be called by the older but somewhat misleading name, *R. parviflorus* Nuttall Gen. Pl. i., 308, 1818, which is seven years earlier than the *Prodromus*. *Savastana*, *Juncoides*,

Cirsium, *Dryopteris*, *Dondia*, *Radicula* are among other genera wisely retained.

NOTES ON THE FLOWERS AND TREES OF CALIFORNIA. C. F. SANDERS. pp. xii., 286, 1914, 7/6. Grant Richards. A fascinating description of the beautiful species met with in that wonderful region.

JOURNAL KEPT BY DAVID DOUGLAS DURING HIS TRAVELS IN NORTH AMERICA, 1823-27, together with a particular description of 33 species of American Oaks and 18 species of *Pinus*, etc. Edited by Rev. W. WILKS. Demy 8vo, pp. 364, £1 1/- net. Wesley, London. Much interesting matter relating to this intrepid traveller, who was born at Scone, Perth, is given. Douglas met a tragic death in the Sandwich Islands in 1834. Among 200 species which he sent home to our gardens and parks are the Douglas Pine and many beautiful Californian species. A fairly complete set of his dried specimens is preserved at Kew, and very many in the National Library in Cromwell Road.

THE WEED FLORA OF IOWA. Dr L. H. PAMMEL and Others. 8vo., pp. 912, 1913. *Iowa Geological Survey Bulletin*, No. 4. A useful and comprehensive account of the weeds (many of European origin) by the author of *The Grasses of Iowa*. 555 figures are given from photographs. Many of the seeds are also carefully delineated. The descriptions of the plants are good, and practical methods of destroying pernicious weeds are given.

FIELD BOOK OF AMERICAN TREES AND SHRUBS. F. SCHUYLER MATHEWS. 8vo., pp. xvii., 465, 7/6 net. Putnams, Sons, London and New York.

THE GENUS *PINUS*. GEORGE RUSSELL SHAW. 4to., pp. 96, tt. 39, £2 12/6. 1914. W. Wesley & Son, London. Sixty-five species are described.

JOURNAL OF HEREDITY, Washington, September 1915. Large Broad-leaved Trees of the United States. The largest tree is claimed to be *Platanus occidentalis*, in Indiana, which has a girth of 42 feet and a height of 150 feet; but one cut down in 1864 had a girth of 67 feet. The tallest tree is the Tulip tree, *Liriodendron tulipifera*. It is 198 feet high, with a girth of 34 feet, and grows in N. Carolina.

This year witnesses the completion of Dr F. Ducane Godman and Bert Salom's *Biologie Central America*, the Botany of which, by B. Hemsley, in 5 vols., appeared in 1879-1888. Mr Hemsley now estimates the number of genera at 2000, and the species at 15,000. Botanists and zoologists of repute favour the theory of a former land connection with Africa and South America, and there are evidently close relationships in the floras of E. Asia and Eastern N. America.

THE FLORA OF SOUTH AFRICA. RUDOLF MARLOTH. Vol. iv. Monocyledons. 4to., 42 coloured and 18 monochrome plates, £2 2/-. Wesley & Son, London. An excellent work by an enthusiastic worker, whose kindness the writer is indebted to during his all too short visit to the Cape.

FLORA CAPENSIS. The parts of vol. v. containing Thymeleaceae, Naecaceae, Geissolomaceae, Loranthaceae, Santalaceae, Euphorbeae (first instalment) have now appeared.

THE FERNS OF SOUTH AFRICA. T. R. SIM. Ed. 2. Demy 8vo., 1914, x., 384, tt. 186, 25/- net. Cambridge University Press. 220 species are enumerated.

PLANTS AND THEIR WAYS IN SOUTH AFRICA. BERTHA STONEMAN, M.Sc. 8vo., pp. x., 387, with 354 text figures, 5/-. Longmans.

SOME DESERT FLOWERS COLLECTED NEAR CAIRO. GRACE M. CROWT. pp. 50, tt. 35; 5/-. W. Wesley & Son, London.

THESMUM IN THE CAPE FLORA. Diagnoses of 52 new species. 18 species in all are described by A. W. HILL in *Kew Bulletin*, 1915.

NATIVE PLANTS OF THE AZORES. DR H. B. GUPPY. See *Kew Bulletin*, 1914.

ON THE TRAIL OF THE OPIUM POPPY. A narrative of travel in the chief opium provinces in China. SIR ALEXANDER HOSIE. I., pp. viii., 1914; II., pp. 308. 2 vols., 25/-. 1914. J. Phillips & Co.

THE POTAMOGETONS OF THE PHILIPPINE ISLANDS. A. BENNETT. Reprint, *Philipp. Journal of Science*, pp. 339-344, 1914. 13 plants are described, and here Mr Bennett uses the name *P. angustifolius* for *izii* as a full species.

NOTES FROM THE ROYAL BOTANIC GARDEN, EDINBURGH. Vol. viii. Some new plants from Japanese mountains, H. Takeda, p. 299. An enumeration of Chinese *Astragali*, with descriptions of new species, N. D. Simpson, p. 239. 66 species are enumerated, including 17 new species. Asiatic Polypodiums—Chinese and Japanese specimens in the Herbarium of the Royal Botanic Garden, Edinburgh, H. Takeda, p. 265-312. Diagnoses Specierum Novarum in Herb. Hort. Regii Bot. Edin. cogn., p. 313. *Moultonia*, a new genus of the *Gesneraceae*, from Borneo, Professor Bayley Balfour and W. W. Smith, p. 349. A Key to the *Labiatae* of China, S. T. Dunn, vol. vi., p. 128. 47 genera are mentioned.

AUSTRALIAN VEGETATION. J. H. MAIDEN, F.L.S. A reprint from the *Federal Handbook on Australia*, in connection with the visit of the British Association in 1914, pp. 163-209. Australia covers about 3,000,000 square miles (rather more than the United States). F. von Mueller estimated its vascular plants at 8909 species. Since that time 1856 species have been added. The largest order is *Leguminosae* with 1084 species, *Myrtaceae* coming next with 666 species, and *Proteaceae* with 599 species, and there are more species of Orchids than Grasses. In contrast with this the Flora of New Zealand has, according to Mr T. F. Cheeseman and Dr L. Cockayne, 1771 species of flowering plants. Here, too, are a great proportion of endemic plants; indeed, no fewer than 30 genera belong to this class.

JOURNAL OF THE HORTICULTURAL SOCIETY. Chinese Trees and Shrubs, W. J. Bear, p. 215, 1914. Some Garden Irises, W. R. Dykes, M.A. South African *Gerberas*, R. A. Dümmer. Trees of the Cambridge Botanic Garden, R. J. Lynch, p. 1, 1915. Trees and Shrubs of the Pacific Coast. F. R. S. Balfour, p. 21, with magnificent photographic reproductions of *Cornus Nuttallii*, etc., of Mount Rainier, with *Veratrum viride* and *Abies amabilis* in the foreground. Mount Rainier, the highest mountain in the United States of America, is over 14,000 feet. *Xerophyllum tenax*, discovered by Douglas, affords another striking illustration. On Pressing Flowers to Retain their Colour, Dr Claud F. Fothergill. The method suggested is to place the flowers between layers of cotton wool, and more than three layers, then put between two wire grids with half-inch meshes. The necessary pressure is given by leather straps. These grids, with their contents, are

ed before an open fire, or in the hottest possible sun, so as to
them very rapidly. The Passing of Darwinism, Rev. Professor
Henslow, p. 47.

Kew Bulletin, 1915, No. 2. The Care of Old Trees, W. J. Bear,
1915, No. 6 gives an excellent account of the work of Walter
od Fitch, by Mr W. B. Hensley. It states that Fitch made
arly 10,000 published drawings, of which 5000 are coloured. His
all but vivid illustrations to Bentham's *Handbook* are perhaps better
own to the field botanists of to-day than any other. They even
r the severe test of enlargement. Biographical notice of Sir James
rray, S. A. Skan, p. 350, 1915. Interesting details respecting the
hor of the English Dictionary. The Arboretum at Tortworth, p.
8. The genus *Phelipaea*, Otto Stapf, p. 285. In this paper Stapf
cribes the three species contained in the genus, which does not
tain *Orobancha purpurea* and *ramosa*, which by many botanists
e been, it seems, erroneously included in the genus. A mono-
ph of the genus *Sansevieria*, by N. E. Brown, pp. 185-261. *Rham-*
s Frangula for Charcoal, p. 304.

THE STANDARD CYCLOPEDIA OF HORTICULTURE. Edited by L. H.
ILEY. Vol. i., A to B, pp. xx., 602; vol. ii., C to E, pp. 603-1300.
/- each. Macmillan & Co., New York.

SAXIFRAGES. W. IRVING and R. A. MALBY. pp. 148: 2/6.
adley Bros. With colour and half-tone illustrations.

MY GARDEN IN SPRING. E. A. BOWLES. pp. 315, tt. 39: 5/-.
C. & G. C. Jack, 1914.

GARDEN CRAFT IN EUROPE. N. INIGO TRIGG. 35/-. Batsford.

MY SHRUBS. EDEN PHILLPOTTS. 4to., pp. 132; 10/-. John Lane.
ith 50 illustrations.

COLOUR SCHEMES FOR THE FLOWER GARDEN. GERTRUDE JEKYLL.
o., pp. 159, third edition: 12/6. Country Life.

WALL AND WATER GARDEN. GERTRUDE JEKYLL. 8vo., pp. 214;
/6. Country Life.

A WOMAN'S HARDY GARDEN. HELENA R. ELY. 8vo., pp. 216 ; 7/6. Macmillan.

OUR MOUNTAIN GARDEN. MRS THEODORA THOMAS (ROSE FAY). 8vo., pp. 212 ; 6/6. Macmillan.

MY GARDEN IN SUMMER. E. A. BOWLES. 8vo., pp. viii., 316 ; 5/-. T. C. and G. C. Jack, London.

MY VILLA GARDEN. S. GRAVESON. 2/6. Headley Bros.

CIVIC ART STUDIES IN TOWN PLANNING. Parks, Boulevards, and Open Spaces. T. MAWSON. 4to., pp. 376. Batsford.

CLIMBING PLANTS. W. WATSON. pp. xi., 132. Plants suitable for pergolas, walls, etc., belonging to 100 different genera, are described, and there are some beautiful illustrations.

THE HERBACEOUS GARDEN. ALICE MARTINEAU. 8vo., pp. 298 ; 7/6. Williams & Norgate.

HOME LANDSCAPES. W. ROBINSON. 4to., pp. 78 ; £2 12/6. John Murray. Sumptuously illustrated with beautiful views of Sussex County.

LE BON JARDINIER. 150th edition. Lib. Agric., 26 Rue Jacob, Paris. 8vo., pp. 1000. Paper covers, 10 francs. Many illustrations. Edited by MM. BOIS and CRIGNAN and about 40 collaborators.

THE STUDY OF PLANTS. An Introduction to Botany and Plant Ecology. T. W. WOODHEAD, M.Sc., Ph.D., F.L.S. 8vo., pp. 440, with 257 text figures and plates ; 5/6. Oxford Clarendon Press, 1915. This eminently useful book can be strongly recommended. In it the fundamental principles of plant physiology are clearly demonstrated. There are excellent chapters on the structure and germination of seeds, on the structure, work, and forms of roots, on the structure and work of the shoots, others on buds and branches. Hibernation and the movements and attitudes of plants, which are so simply written that those who run may read, as the instruction is conveyed in so lucid a manner, are explained, and the examples selected are of easily obtainable species. The illustrations, being original and not dragged in irrespective of the context, are singularly good. The second part

devoted to the biology of the reproductive organs, the structure of seeds and their dispersal. Systematic botany is dealt with in part three, while part four is devoted to common trees and shrubs, in which there are excellent photographs of the trunks of the ash, elm, and oak. The fifth part is a capital and practical explanation of Plant Ecology, a subject which is peculiarly the author's own, one to which he has devoted much attention, and which he luminously explains in the ten chapters devoted to the subject. This part alone would well repay the purchaser of the volume. The author wisely avoids the jargon of recently coined words, repelling as they are to many would-be students. The subject is one which no field naturalist can ignore, and one to which this volume gives a clear and useful introduction.

BOTANY, A TEXT BOOK FOR SENIOR STUDENTS. D. THODAY, M.A. Large cr. 8vo., pp. xvi., 474, 205 figures; 5/6. Cambridge University Press, 1915. This clearly-written and practical manual is intended primarily for use in connection with the Senior Cambridge Local Examinations, but it will be found to be very useful to teachers, as well as scholars in upper forms of Secondary Schools, and to those who begin to study botany for the first time. The method of growth of the Sunflower, Annual Poa, Dandelion, and Horse-chestnut are illustrated and described. Nutrition is clearly explained, as is the conveyance and storage of food, and respiration and transpiration. The function of root-hairs, the mineral food of plants, and adaptations are dealt with in the same lucid manner. The internal structure of plants is briefly but adequately dealt with, as are special forms and functions. The flowers, fruits, seeds, and seedlings are very effectively demonstrated. The conditions of germination and growth are well illustrated. Nearly one hundred pages are devoted to the classification of plants. There are capital chapters on trees, climbing-plants, and water-plants. The distribution of plants and the factors which govern it are pleasantly explained. The volume is well printed, and there are many attractive illustrations. The price being quite reasonable, it should command a considerable sale.

THE STORY OF PLANT LIFE IN THE BRITISH ISLES. A. R. HORWOOD, L.S. Vol. ii., cr. 8vo., pp. 358. with 78 illustrations. Chapter I., Buttercup group to Crowberry group; Chapter II., Spindle-wood

group to Cornel group; Chapter III., Woodbine group to Primrose group; 6/6. Vol. iii., pp. 514, and 121 illustrations. Chapter I., Privet group to Dead-nettle group; Chapter II., Strapwort group to Pine group; Chapter III., Frogbit group to Grass group; 6/6. J. A. Churchill, London. The photographic reproductions are most excellent and are well selected, and should give the work a permanent value, as well as stimulate an increased interest in field botany. The text is full of suggestive detail.

PRACTICAL FIELD BOTANY. A. R. HORWOOD, F.L.S. Cr. 8vo., pp. xv., 193, tt. 20, 26 text figures; 5/-. C. Griffin & Co.

TREES—A WOODLAND NOTE-BOOK. Containing observations on British and Exotic Trees. Right Hon. Sir HERBERT MAXWELL, Bart., F.R.S., &c. 4to., pp. 235; 2/- net. MacLehose, Glasgow.

EVOLUTION OF SEX IN PLANTS. J. M. COULTER. pp. ix., 140; 4/-. Cambridge University Press.

FUNDAMENTALS OF PLANT BREEDING. J. M. COULTER. pp. xiv., 347; 6/-. Appleton, New York, 1914.

POCKET SYNOPSIS OF THE FAMILIES OF BRITISH FLOWERING PLANTS (based upon the system of Engler). W. B. GROVE, M.A. Sm. 8vo., pp. vi., 49; 1s. Longmans.

PLANT LIFE. Prof. J. BRETLAND FARMER. Sm. 8vo., pp. 256; 1/-. Williams & Norgate.

TRANSPIRATION AND THE ASCENT OF SAP. H. H. DIXON, Sc.D., F.R.S. pp. vi., 216; 5/- net. Macmillan & Co., London, 1915. Subject to certain reservations, the ascent of the sap is caused by haulage, the power of which is induced by the leaf cells. The author suggests that volatile oil in plants slows down transpiration, hence enabling the plant to exist in very arid situations.

A SECOND CONTRIBUTION TO OUR KNOWLEDGE OF THE ANATOMY OF THE CONE AND FERTILE STEM OF EUISETUM. Lady M. P. ISABEL BROWNE. Reprint from *Annals of Botany*, pp. 231-265, April 1915.

DETERMINATION OF SEX. L. DONCASTER, F.R.S. 7/6. Cambridge University Press, 1915.

SYMBIOGENESIS. The Universal Law of Progressive Evolution. REINHEIMER. Deniy Svo., pp. 450; 10/6. Knapp, Drewett, Westminster.

PLANT WORLD. Vol. xviii., November 1914. Longevity of Seeds. Shull says seeds buried in mud for 70 years germinated on the old floor of an old reservoir. 140 species of plants appeared. He gives experiments showing that seeds submerged for seven years (including *Juncus bufonius* and *tenuis*) subsequently germinated. Kidd (*Gardener's Chronicle*, lv., p. 186, and lvi., p. 4) shows that the presence of 10 per cent. to 20 per cent. of carbon dioxide surrounding the seeds provokes a persistent latency. "How long life remains in these seeds has yet to be determined." I once assisted in some experiments with Prof. Romanes, which showed that seeds placed in pure dry chlorine and nitrogen for two years germinated.

JUNIOR BOTANY. Dr CAVERS. Svo., pp. xii., 288, with 14 text-figures. University Tutorial Press.

PLANT BREEDING. Prof. L. H. BAILEY. pp. xviii., 474; 8/6. Macmillan & Co., 1915.

PLANT LIFE. C. R. HALL. pp. xi., 380. 50 coloured plates and plain illustrations. 20/-. 1915.

THE HUMAN SIDE OF PLANTS. ROYAL DICKSON. pp. xix., 201; 6. Grant Richards, 1915.

PLANTS WE PLAY WITH. H. R. ROBERTSON. 40 pictures (20 in colour); 3/6. Wells, Gardner, Darton & Co.

THE HAIRS OF ROCK PLANTS. K. E. SHYAN. With special reference to the glandular hairs of Saxifragas. Science Knowledge, September 1915.

A MANUAL OF WEEDS. A. E. GEORGIA. pp. xi., 593, with 385 illustrations; 8/6. Macmillan & Co., New York. An excellent work on American weeds. The descriptions are terse and clear, and a mass of information given of each species.

ALL ABOUT LEAVES. F. J. HEATH (the late). pp. ix., 228; 4/6. Williams & Norgate, 1914.

THE MUTATION THEORY IN EVOLUTION, WITH PARTICULAR REFERENCE TO OENOTHERA. R. RUGGLES GATES, Ph.D. 8vo., pp. xiv., 353; 10/. With 114 text figures. Macmillan & Co., 1915. Dr Gates recognises 28 species. *Oe. Lamarckiana* was collected by Michaux about 1796, and is probably the plant described by Lamarck as *Oe. grandiflora* in that year, as it was grown from seed sent by Michaux from North America, and Seringe changed the name to *Lamarckiana*, since it differed from Solander's *grandiflora*, an Alabama plant. (See also *Rep. B.E.C.*, 44, 1914).

THE ESSENTIALS OF ILLUSTRATION. A practical guide to the reproduction of drawings and photographs for the use of scientists and others. T. G. HILL. 8vo., pp. xii., 91, with 12 plates and 38 engravings. 10/-. W. Wesley & Son, London, 1915. This eminently useful volume treats of intaglio printing, including line engraving. Curtis's *Flora Londinensis* is quoted as an excellent example of hand-coloured copper engravings, indeed it has set a standard never yet reached in other work on British Botany, either for care in details, clearness and accuracy of outlines, or truth and fidelity of colouring, but the finest plates ever published in a botanical work are said by Mr Hill to be those given in Thoret & Bornet's *Etudes Phycologiques*, published in Paris in 1878. Riocreux made the drawings from the preparation, and his drawings were engraved on steel by Picart, Thomas, and others. The methods of etching, soft ground etching, mezzotint, and photogravure are then described. Plane surface printing is next explained. Under this comes lithography, an art discovered by Senefelder towards the end of the eighteenth century. The method of working is detailed, and again the highest praise is given to Thoret & Bornet's *Notes Algologiques*. Chromo-lithography is next described, and then in turn, photolithographic processes, collotype, and the preparation of illustrated pages. Relief printing is then explained, and under it are grouped woodcuts and engravings, in which is a reference to Fitch's wood blocks for Bentham's Handbook, perhaps the best known of any modern British botanical work. The half-tone process, of which an excellent example is given, showing *Suaeda fruticosa*, and a Ring Plover's nest with four eggs, doubtless on Blakeney Shingle, is described. Plates 8, 9, and 10 show the same view as represented by photogravure, collotype, and half-tone. The half-tone three-colour

process is next illustrated and described, and an example cited is Church's magnificent drawings for his *Floral Mechanism*. Photo-mechanical line blocks, commonly known as zincos, are in a sense the real descendant of the old wood block. Very practical and valuable information is contained in the chapters relating to the drawing of microscopic details, diagrams, and apparatus, maps, graphs, and curves. The swelled gelatine process is described, and an eminently useful chapter on the relative cost of blocks and plates by various processes, completes this compact mass of information, which is well printed and contains excellent examples of the various types of illustration.

REVUE GENERALE DE BOTANIQUE, 1915, contains an appreciative and critical article of the work of the well-known *Hieracium* student, L. Arvet Touvet, by M. MARCEL MORANDE, pp. 67-76, 117-127, 142, 157.

HISTORY AND FUNCTION OF BOTANICAL GARDENS. A. W. HILL (Assistant Director of Kew). *Annals Missouri Bot. Gard.* 4to, no. 185-240.

LIFE OF LORD AVEBURY. W. J. HUTCHINSON. Vol. i., pp. xiv., 138; vol. ii., x., 324, 2 vols., 1914.

JOURNAL OF EDINBURGH ROYAL BOTANIC GARDEN GUILD. The first number opens with an appreciation of its President, Prof. Hayley Balfour, who has done so much, not only for systematic botany, but for horticulture, and has made Edinburgh Gardens so attractive and useful. His discoveries in Socotra were very valuable, and he has been indefatigable in introducing fresh plants into culture. An admirable portrait of him enhances the interest of this number.

THE ROMANCE OF BOTANY was the title of a lecture given by Prof. G. S. Boulger to the Horticultural Club, and reported in the *Gardener's Chronicle*, p. 62, 1915.

FLOWERS OF MILTON. CANON ELLACOMBE. See *Gardener's Chronicle*, 1915.

TRAVELS IN CHINA. REGINALD FARRER. See *Gardener's Chronicle*, 1915.

MOSSES IN THE STOMACH OF A MAMMOTH FOUND IN LIAKHOV ISLE include *Polytrichum sexangulare* and our British *Hypnum stellatum* and *Hypnum revolvens*. Gardener's Chronicle, 1915.

SUBMERGED FORESTS. CLEMENT REID. 1/-. Cambridge University Press.

POT POURRI MIXED BY TWO. MRS C. W. EARLE and Miss ETHEL CASE. 8vo., pp. 451. 7/6. Smith, Elder, London, 1914.

THE COUNTRY MONTH BY MONTH. J. A. OWEN and G. S. BOULGER. 8vo., pp. x., 492.

FLORAL RAMBLES IN HIGHWAYS AND BYWAYS. Rev. Prof. J. HENSLOW. pp. 294. 6/-. S. P. C. K.

OBITUARIES.

DANIEL CHARLES OCTAVIUS ADAMS, born at Anstey, Warwickshire, in 1822, died 1914. He was the son of Thomas Coker Adams, Vicar of Anstey with Shilton. He was educated at Merchant Taylor School, which he entered in 1833, and came to St John's College, Oxford, in 1841, as Andrew's Exhibitioner, and took his B.A. in 1845. He was ordained deacon the following year, and priest in 1847. After serving in a curacy in Foleshill, he worked in the parish of Christchurch, St Pancras. There his health broke down, and he returned to Anstey Hall to live with his sister, Lady Adams, the widow of a Crimean general, who erected Anstey spire in memory of her husband. There he helped his brother, the vicar, until the death of Lady Adams, when he came to live with his sister, Mrs Coker Beck, the widow of the Rector of Crowell, at her home at Monk's Risborough. For twenty-two years he was Organising Secretary to the S.P.G. for the Archdeaconry of Coventry. He was the founder and the heart and soul of the Missionary Studentship Association, in which he was successful in obtaining over a hundred men ordained for foreign work. He published in two series *The Saints and Missionaries of the Anglo-Saxon Era*, which evinced much literary taste. He was one of the most courteous of men, reminding one in many ways of Newbould. He knew Fungi well, and largely assisted

rs Coker Beck and Miss Beatrice Taylor in compiling the list of the hibern Fungi. He got bitten with the *Rubi*, and was with the ev. W. Moyle Rogers when he visited the rich bramble neighbourhood of Crowell. I well remember being a fellow guest with him at Crowell Rectory. We had enjoyed a great day on those beautiful hills, when *Gentiana germanica* was in its glory, and a large number of Fungi had been seen, and one of these was diagnosed as being a great delicacy for the table. There was not much of it, and at dinner that evening it had shrunk to small dimensions. It was handed to me on a silver dish, but perhaps with mixed motives. Our dear friend had described its flavour with such gusto that one felt one could be robbing him of a treat. Then there was a slight doubt cast by Mrs Coker Beck upon the exact identity of the species. So I passed the dish, as did everyone else, and it was triumphantly placed upon Mr Adams's plate. Loud was his exclamation of delight upon the flavour. Quite a wrong idea of Mr Adams's character would be conveyed if this anecdote suggested that he was a gourmand. He was the most temperate and abstemious and one of the most kindly and saintly of men. At breakfast time next morning his chair was vacant, and it turned out that he had had a very bad time. There had clearly been a mistake in the identification, for he was nearly poisoned. Unfortunately he did not persevere with his study of the brambles, but his love for the English flowers continued to the last. When he was nearly ninety I happened to call, and found him and his sister, Mrs Coker Beck, trying to make out the differences between the two hawthorns which I had been recently describing.

RICHARD MANLIFFE BARRINGTON, born in 1849, died at Fassaroe, Co. Wicklow, September 15, 1915. He graduated in Science honours at Trinity College, Dublin, and studied for the Bar, to which he was called in 1875. He, however, relinquished legal matters and occupied himself in land valuation. This was especially congenial, as he could follow his favourite pursuits of Natural Science in his long journeys through Ireland. He was one of A. G. More's most valued helpers in preparing the second edition of *Cybele Hibernica*, and to his exertions the most important addition to our knowledge of the Irish Flora is due. His published papers include those in the *Journal of Botany*:—*On some Plants recorded from Ireland*, 108, 1872. In it he records an

unsuccessful search for *Erica vagans*, which had been recorded for Islandicane, west of Tramore, Waterford, and *Euphorbia Peplis* from Tramore coast. *On Fertilization of Cereals, l.c.*, 109. *Rosa britannica* Déség. at Bray, Co. Wicklow, 270, 1876. *Plants of Ireland*, 178, 1877. *Plants of Tory Island, Donegal*, 263, 1879. The island is about three miles long by half a mile broad, the highest point being 282 feet. On it he found 145 species. The form of *Cirsium pratense* which grows there is evidently my var. *polycephalum*. *Epilobium alsinesfolium in Leitrim*, new to Ireland, 247, 1884. *Notes on the Flora of St Kilda*, 213, 1886. The highest point is 1220 feet. The group consists of six or seven islands and rocks. On four of these vegetation exists, but he found no plant on either which did not occur on St Kilda proper. Twenty-nine species had been previously recorded by Macgillivray (*Ed. Phil. Journ.* 47, 1842), but eleven of these were not found by Barrington. The plants found included *Cerastium vulgatum* var. *alpinum* Koch, *Saxifraga oppositifolia*, *Salix herbacea* down to 500 feet, *Carex rigida*, *Ophioglossum vulgatum* var. *polyphyllum*. *Trientalis europaea in Foula*, 315, 1890. *Proc. Royal Irish Academy: Flora of the Blasket Islands*, vol. iii., 368, 1881. These show 174 species. The Galway Aran Isles have 372 species, the Donegal Aran Isles have 232 species, and Inishbofin in West Galway 303 species. *Report on the Flora of the Shores of Lough Erne, l.c.*, vol. iv., 1, 1884. *Report on the Flora of Ben Bulbin and the adjoining Mountain Range, l.c.*, vol. iv., 493, 1895 (in conjunction with R. P. Vowell). *Report on the Flora of the Shores of Lough Ree, l.c.*, vol. iv., 693, 1887. *Rediscovery of Rubus Chamaemorus* (with H. C. Hart), see *Irish Naturalist*, 124, 1892. Mr Barrington was one of the founders of the Dublin Naturalists' Field Club, and was on the Council of the Royal Irish Academy of the Dublin Society and the Zoological Society of Ireland. From 1880 he made friends with the various lighthouse-keepers along the Irish coast, and induced them to send him the various birds that had been attracted by the light, and by this means he was enabled to add many species to the Irish list, including four species of warblers, two larks, and two redpolls. He had a very extensive museum and collection of bird skins at his delightful country residence at Fassaroe. I had corresponded with him for some years, but it was not till April 1914, after a short visit to the Marquis of Lansdowne's beautiful estate of Derreen on Kenmare Bay, when the Reeks were snow-topped and presented a scene of wonderful beauty, contrasting

they did with the wealth of vegetation, Bamboo, Eucalyptus, zalea, Rhododendron, and Kalmias, which were planted by the present Marquis and which have changed the gloomy moor and coast to a veritable garden, that I had the opportunity of seeing Mr Barrington at home, and it was a real delight. We breakfasted with the "Zoo" in Dublin, and walked round with an orang-outang arm in arm with one of the Committee, and Barrington was the life and soul of the party. His narratives of his landing at St Kilda, his struggling up the friendly ropes, his experiences with the birds, his wonderful pine climbs—over 80,000 feet in eleven days—on the Swiss Alps, his visits to the stormy islets with the privations there necessitated, his cheery outlook on the future of his country, his pleasant criticism of the botanists of to-day, and not less the charm of his home life made the visit a memorable one, and I little realised it was the last time I was to see him in the flesh. I had one or two extremely kind and sympathetic letters from him in July, full of the joy of life, and the news of his sudden death at a time when even the deaths of so many of one's friends had partly dulled sensation stung one with keen pain and seemed almost impossible to be true. He leaves behind a splendid record of good honest work, and a vacancy in our ranks very difficult to fill.

SARAH COKER BECK, *née* ADAMS, born at Aunston, Warwickshire, January 20, 1821, died at Monk's Risborough, Bucks., November 8, 1915. She married Mr Coker Beck, who was for many years Rector of Crowell, Oxfordshire, a village picturesquely situated at the base of the Oxfordshire Chilterns. There she studied Fungi with great assiduity, and the long list of them which appeared in my *Flora of Oxfordshire* is due to her industry and the collaboration of her brother, the Rev. D. Octavius Adams, and Miss Beatrice Taylor. Mrs Coker Beck, who was the schoolfellow of Miss Charlotte Palmer, another botanist and member, was the President of the Chiltern Natural History Society, and many pleasant reunions we had under her hospitable roof. On one of these occasions we added *Polyomatium multiflorum* to Oxfordshire, and she also found *Rubus rudis* in 1891. In 1891 she discovered, for the third time in Britain, the curious and striking Discomycetous Fungus *Gyromitra gigas* Cooke, in Sherbourne Wood, Oxford. I went with her to secure the specimens figured in *Journ. Bot.* 129, 1893, t. 334, where it was described

by W. Phillips. Mrs Beck was a remarkably handsome woman, keenly intellectual, and a brilliant conversationalist. She retained her faculties to the last. Last May when I called on her she was just as keen as ever to hear of any discoveries on her loved Chilterns, under the shade of which she passed peacefully away in the early November of this sad year, and was buried in the churchyard of Monk's Risborough.

THOMAS LOWNDES BULLOCK, born on September 27, 1845, died at Wood Lawn, Oxford, 1915. He was the son of the Rev. J. F. Bullock, of Radwinter, Essex, and was educated at Winchester, and New College, Oxford. He married Florence, daughter of S. Norton, of Shifnal, Salop. He was a member of the British Consular Service in China from 1869-1897, a barrister of the Inner Temple in 1890, and Professor of Chinese in the University of Oxford from 1899-1915. When in China he was much interested in botany, and made a collection of dried specimens, some part of which is in the Fielding Herbarium. He also formed a considerable collection of Alpine and British plants. These for the greater part have been given to Colchester by Mrs Bullock. He was a genial and cultured man, and for some years was a valued representative of the University on the Oxford City Council. He added one alien to our British list, the Indian *Polygonum affine*, from the Lake district.

MORDECAI CUBITT COOKE, born at Horning, Norfolk, July 12, 1825, died 1915. For a lengthy period Dr Cooke was one of our most prolific writers, but the subject which he made peculiarly his own was outside our domain. All field botanists, however, owe him a debt of gratitude, as for many years, as Editor of *Science Gossip*, 1865, he made the subject attractive, and drew together many kindred workers. I made his acquaintance under the roof of our old member Mr James Bagnall. I do not know which smoked the most or longest, but in the small hours it was difficult to see either of them across the room, itself of no vast dimensions. I owed much to Dr Cooke, for he asked me to contribute to his paper when I was quite a beginner, and I had nothing but kindness from him. His output of work was prodigious. He helped to form the Society of Amateur Botanists in 1862, which met in rooms above Hardwicke's in Piccadilly, and of this he was President. He also helped to form the Quekett Club, and was Editor

f *Gravillea* from 1872-1892. His *Plain and Easy Account of British Fungi* appeared in 1862; *Rust, Smut, Mildew, and Mould* in 1865; *Handbook of British Fungi*, in two vols., 2810 species, in 1871, second edition in 1883-5; *Mycomycetes of Great Britain* in 1877; *Edible Fungi* in 1891; *Handbook of British Hepaticae* in 1895; *The Illustrations of British Fungi*, 1881-1891—a magnificent work with 1200 coloured plates; *Introduction to Fresh Water Algae: An Enumeration of all the British Species* in 1890; *A Handbook of the British Hepaticae* in 1894. These are only a part of his contributions to Science. His collection of 46,000 specimens and drawings are at Kew. Saccardo, the eminent Italian Fungologist, founded the genus *Cookella* in his honour.

FREDERICK HAMILTON DAVEY, born at Ponsanooth, 1867, died 1915. In his schooldays Canon Saltern Rogers influenced him in the study of the Zoology and Botany of the Kenal Vale. In 1891 the Royal Cornwall Polytechnic Society (of which at one time he was assistant librarian) awarded him their first silver medal for a monograph on the rushes, sedges, and grasses of that area, which was supplemented by carefully-selected and well-mounted specimens. He began the business of life in one of the mines, and eventually became manager of the Cornwall Arsenic Works at Bissoe. In this occupation his kindness of disposition and tactful manners stood him in good stead, and it was very pleasing to see how popular he was with the workpeople and respected by those about him. He worked very diligently at the *Flora of Cornwall*, and in 1901 recorded five new plants in the *Journal of the Royal Institution of Cornwall*. When Mr A. Hume went to that county on one of his wholesale collecting raids he secured the assistance of Davey, whose knowledge, zeal, and energy so impressed him that he rendered Davey substantial aid in publishing in 1902 *A Tentative List of the Flowering Plants, Ferns, &c., of Cornwall*, which occupied 276 pages. It was printed on one side of the paper only, and, as was explained, was meant to induce fellow-botanists to send in additional material. He joined the Linnean Society in 1903, and was then the youngest Fellow. In 1905 he received the Henwood Gold Medal from the Royal Institution of Cornwall for the best scientific paper that had appeared in their *Journal* during the three previous years. In 1909 he issued the *Flora of Cornwall*, lxxxviii., 570, with six portraits. It was dedicated

to his father, "who inspired me with a love for the flowers of the field." The Flora was a well-written and trustworthy description of a very interesting area, to which Davey himself added fifteen species, altogether forty-two species additional to the *Tentative List* being given. Davey also prepared the article on Botany for the *Victoria County History of Cornwall*, i., 56-69. He acted as Examiner in Agricultural Botany to the Cornwall County Council, and lectured in Natural Science at the Central Technical Schools, Truro. To the *Journal of Botany* he contributed *Notes on Cornish Plants*, 354, 1900, which added *Hippophae* and *Zannichellia pedunculata* to Cornwall. In 1906 *Polygala serpyllacea*, a new variety (*vincooides* Chodat) to Science, 34; *Cornish Plants*, 131; *Narcissus odoratus*, 215; *Eriophorum angustifolium* var. *triquetrum*, 279; *Carex montana* forma, 280; *Veronica peregrina*, 359; *Cornish Rubi*, 426; *Hieracium umbellatum* var. *curtuni* Fr. 428. In 1907, *Notes from Cornwall*, 119, and a species of *Euphrasia* - *E. Vigursii*, new to science, but perhaps too near *Rostkoviana* to be more than sub-specifically distinct, 217. In 1908 *Fumaria occidentalis*, 57; *Cornish Plants*, 199; and a *Biographical Note on R. V. Tellam*, 360. In 1910 *Agrostis verticillata* at Falmouth, 80; *Malaxis paludosa*, 259; *Herniaria hirsuta*, 260; and *A new hybrid heath Erica vagans* \times *cinerea*, 333 (this the writer has since identified and described as *E. vagans* \times *Tetralix* = \times *E. Williamsii*). In 1911 he sent a note on *Thalictrum duense* in Cornwall. In that year he became a member of our Society, but his health had long been delicate, so that he took no part in Exchange, and when about 1910 I made his acquaintance he was not able to take long walks. He, however, regained strength to some extent, and acted as our very efficient guide in 1911 during the visit of the Phytogeographical Excursion into Cornwall. He contributed an excellent account of these expeditions to the local papers. In his latter days he removed to a cottage he had built at Perranarworthal. In 1912 he had a cerebral seizure which prematurely laid him low, and after that he never left his room. He died from another attack on September 23, 1915. He was buried in the Wesleyan Cemetery at Ponsanooth, his friend Dr Vigurs reading the lesson at the memorial service. By his illness Botany lost a devoted disciple, and to him who so loved the book of nature the confinement to his room for so long must have been inexpressibly trying. He was, however, able to read and write nearly to the last. Indeed, on July 8 he wrote to congratulate me on

the success of the "Society and Club," and to say that he was rather anxious to dispose of his herbarium of 4000 mounted plants, representing the labour of many years. He was a delightful companion in the field, and was blessed with a keen critical eye and a good memory. His cheerfulness and sympathy gained him the goodwill of both employees and employed, and his outlook on things, places, and men was broad and cheery. His Flora will long remain a standard work of reference.

HENRY PIERSON, born at Hertford, October 22, 1852, died Hertford, June 4, 1915. He found *Orchis maculata* × *Gymnadenia conopsea* = × *G. Le Grandiana*. See *Journ. Bot.* 369, 1899; 278, 1907. *Journ. Bot.* 1915, 261

CHARLES TANFIELD VACHELL, M.D., born at Cardiff, 1848, died here, 1914. He was descended from an old Reading family who had migrated to Wales. From an early age he delighted in Field Botany, and at Hereford Cathedral School he was enabled to cultivate his taste. He qualified as a medical practitioner, taking his degree from London University. He settled in his native town, where he achieved success in his profession. At the same time he threw himself into the study of Natural History, founding the Cardiff Natural Society of Science, of which he became Secretary for ten years, and served as President four times. He was on the Council of the National Museum of Wales since 1908, for which, originally known as the Cardiff Municipal Museum, he had performed yeoman service. He was instrumental in having a Botanical Garden set apart at Rooth Park. He induced his Society to expand Storie's *Flora of Cardiff*, and in 1903 a Committee was formed, of which Professor Trow was chosen Editor, to produce a Flora of Glamorgan-shire, Dr Vachell and his daughter acting as Secretaries, and collating the records sent in. This was published in five sections—Thalamiflorae (in vol. 39), 1906; Calyciflorae (in vol. 40), 1907; Corolliflorae (in vol. 41), 1908; Incompletæ (in vol. 42), 1909; and Vascular Cryptogams (in vol. 43), 1910—the whole published separately in one volume in 1911. "Possessing great personal charm and a dignified presence, his generous instinct and wide sympathies secured him the confidence of his colleagues, and made him a welcome member of public bodies. . . . His public services over a long period, carried on

without ostentation, leave the commonalty sensibly poorer for his loss." See Memoir by Dr R. Paterson in *Trans. Cardiff Bot. Soc.* 47, 1914.

Natal

I. MEDLEY WOOD, A.L.S., born at Mansfield, Notts., 1828, died at Durban, Natal, August 26, 1915. He went to South Africa in 1852. In early life he practised as a solicitor, later he traded in Zululand, and farmed land, chiefly cultivating arrowroot and castor oil. In 1882 he became Curator of the Durban Botanic Garden, of which he was subsequently appointed Director. The enterprising and competent Corporation of Durban took over the Garden later, when Dr Wood was made Director of the Natal Herbarium. There I saw him in 1914, and had the pleasure of being shown over the Garden by him. He was a keen observant naturalist, and for over thirty-three years he closely studied the Natal Flora, which he has described in six important volumes already printed. He was delighted to show me a new species just received from the north of Natal, and pointed out with justifiable pride the magnificent Indian *Beaufortia* with its large white showy blossoms, covering a long reach of trellis, and the sweet-scented *Brunfelsia* with its flowers one day purple, another lilac, and a third day white. In Dr Wood there was the happy combination of the systematist and the practical agriculturist, so rarely to be met with. In the latter sphere he did excellent service in improving the sugar-planting industry of Natal.

NEW COUNTY AND OTHER RECORDS.

9. ANEMONE NEMOROSA L., var. PURPUREA DC. and var. CAERULEA DC. Near Frilsham, Berks., 22, the latter noticed there by Mr R. H. HOOKER, and new to the County.

24. RANUNCULUS FLAMMULA L., var. SERRATUS Persoon = ALISMI-FOLIUS Glaab. Pennypot, near Chobham, Surrey, 17, and keeping very distinct over a considerable area. This form was noticed on the first excursion into Surrey of the Botanical Society of London in 1838. July 1915, Lady DAVY and G. C. DRUCE.

28. *R. SARDOUS* Crantz. Near Alvechurch, Worcestershire, 37, B. GROVE, *vide sp.* A rare species in the county for which it is readily recorded.
38. *R. TRICHOPHYLLUS* Chaix. Pipe Gate, N. Staffs., 39, W. L. B. RIDGE in *Rep. N. Staffs. Field Club*, 156, 1914-15.
38. *R. RADIANUS* Revel. Herts., 20, Miss TODD, *vide sp.*; Thame, Oxon., 23; Hockham, Norfolk, 28, G. C. DRUCE.
40. *R. HETEROPHYLLUS* Weber. Staffs., 39, W. L. B. RIDGE in *Rep. N. Staffs. Field Club*, 146, 1914-15.
var. *TRIPHYLLUS* (Wallr.). Marsh Gibbon, Bucks., 24, July 1913, G. C. DRUCE; Exton, Rutland, 55 b, Earl of GAINSBOROUGH.
41. *R. SPHAEROSPERMOS* Boiss. Canal, Broad Oak, N. Hants., 2, C. E. PALMER in *Hb. Druce*; Cuxham, Oxon., 23; Halton, Bucks., 4, G. C. DRUCE.
51. *HELLEBORUS VIRIDIS* L., var. *occidentalis* Druce. Near Slade's Bottom, Oxon., 23, April 1915, W. B. TURRILL. A new locality.
57. *NIGELLA DAMASCENA* L. Alien. Marston, Oxon., 23, G. C. DRUCE.
63. *DELPHINIUM CONSOLIDA* L. Barnack, Northants, 32, 1915, R. HORWOOD, in *lit.*
91. *ROEMERIA HYBRIDA* DC. Alien. Ware, Herts., 20, H. F. HAYLLAR.
104. *FUMARIA CAPREOLATA* L. Ormesby, 28, *Fl. Norf.* Is this restricted *pallidiflora*?
105. *F. PURPUREA* Pugsley. W. Lothian, 84, J. FRASER, in *lit.*
107. *F. BORAEI* Jord. Hunstanton, 28, *Fl. Norf.*
- 108 (3). *F. PARADOXA* Pugsley. Reigate, Surrey, 17, C. E. SALMON, in *Rep. B.E.C.*, 114, 1914.
109. *F. BASTARDI* Bor. Midlothian, 83; W. Lothian, 84, 1915, J. FRASER, in *lit.*

125. *RADICULA AMPHIBIA* Druce. Denholm Dean, Roxburgh, 80, *Berwick Proc.* xvi., 66.
130. *BARBAREA ARCUATA* Reichb., teste A. B. Jackson. Banks of Cherwell, Marston, Oxon., 23, 1911, G. C. DRUCE.
131. *B. INTERMEDIA* Bor. Ranworth, 27, *Fl. Norf.*; Askham, L. Lancs., 69 b, D. LUMB, in *Rep. B.E.C.*, 115, 1914.
141. *ARABIS GLABRA* Bernh. Henfield, Sussex, 13, 1915, A. WEBSTER.
143. *CARDAMINE AMARA* L. Dunglass Dean, Haddington, 82, *Proc.* viii., 410.
148. *C. BULBIFERA* Cr. Billacombe, Harford, S. Devon, 3, H. SMITH, in *Trans. Plymouth Field Club*, 20, 1913; Millbrook, S. Hants., 11, J. F. RAYNER.
157. *ALYSSUM INCANUM* L. (*FARSETIA*) Alien. Herts., 20, H. F. HAYLLAR; King's Lynn, Norfolk, 28, Rev. E. BRACKENBURY; Market Bosworth, Leicester, 55, W. B. HARRIS, ex A. R. HORWOOD; Lunan, Forfar, 90, R. & M. CORSTORPHINE.
162. *DRABA MURALIS* L. Alien. Gaywood, 28, *Fl. Norf.*; Selkirk, 79, *Proc.* vii., 354.
164. *EROPHILA PRAECOX* DC. Hunstanton, 28, *Fl. Norf.*; Askham, L. Lancs., 69 b, D. LUMB; Sands of Barry, Forfar, 90, R. & M. CORSTORPHINE, in *Rep. B.E.C.*, 119, 1914.
169. *COCHLEARIA MICACEA* E. S. MARSHALL. Ben Vorlich, Dunbarton, 99, E. S. MARSHALL, in *Journ. Bot.*, 159, 1915.
170. *C. GROENLANDICA* L. Boddin, Forfar, 90, R. & M. CORSTORPHINE, in *Rep. B.E.C.*, 119, 1914.
172. *C. DANICA* L. South of Fast Castle, Berwick, 81, *Proc.* xi., 205; Dunbar Castle, Haddington, 82, *Proc.* viii., 8.
184. *SISYMBRIUM ALTISSIMUM* L. Alien. Hoddesdon, Herts., 20, H. F. HAYLLAR; Col Fen, Cambridge, 29, Miss NEILD, vide sp.; Chester, 58, C. WATERFALL, vide sp.

188. *S. IRIO* L. Alien. Swaythling, Millbrook, S. Hants., 11, F. RAYNER.
208. *BRASSICA RAPA* L., var. *BRIGGSH* Wats. Lunan, Forfar, 90, C. DRUCE.
224. *B. INCANA* Doell. Alien. Galashiels, Selkirk, 79, Miss M. HAYWARD, *vide sp.*
227. *DIPLOTAXIS MURALIS* DC., forma *BABINGTONII* (Syme as var.) Druce. Barrow-in-Furness, L. Lancs., 69 b, 1912, D. LUMB.
233. *SENEBIERA DIDYMA* Sin. Yarmouth, 27, *Fl. Norfolk*: Rutland, 10 b, Earl of GAINSBOROUGH, in *lit.*; Arbroath, Forfar, 90, R. & M. DRISTORPHINE and G. C. DRUCE.
239. *LEPIDIUM PERFOLIATUM* L. Alien. Ware, Herts., 20, H. F. AYLLAR.
240. *L. RUDERALE* L. Alien. Great Bedwyn, Wilts., 7, C. P. MURST.
- 240 (2). *L. NEGLECTUM* Thell. Hastings, Sussex, 14, A. G. REGOR, in *Rep. Wats. Exch. Club*, 432, 1913-14.
247. *L. VIRGINICUM* L. Millbrook, S. Hants., 11, J. F. RAYNER: Oxford, 23, G. C. DRUCE.
252. *IBERIS AMARA* L. Pomphlett, S. Devon, 3, H. SMITH, in *Trans. Plymouth Field Club*, 20, 1913.
255. *HUTCHINSIA PETRAEA* Br. Harford, S. Devon, 3, H. SMITH, *l.c.*
258. *VOGELIA (NESLIA) PANICULATA* Horn. Alien. Haslemere, Surrey, 17, J. LAMB, *vide sp.*; Colchester, 19, G. C. BROWN.
284. *RESEDA LUTEA* L. Bowden Burn, Roxburgh, 80, *Proc.* xi., 339; Springhill, Berwick, 81, *Proc.* x., 253.
294. *VIOLA RIVINIANA* Reichb., f. *PSEUDO-MIRABILIS* (Coste). Wychwood, Oxon., 23, 1915, Hon. Mrs G. BARING, *vide sp.*; Forest Rock, Leicester, 55, A. R. HORWOOD, in *lit.*

296. *V. CANINA* L., var. *LANCEOLATA* Martr.-Don. Dunsford, S. Devon, 3, Miss C. L. PECK.

var. *PUSILLA* Bab. Trearrrdur Bay, Anglesey, 52, Earl of GAINSBOROUGH, fide Mrs GREGORY.

297. *V. LACTEA* Sm., var. *INTERMEDIA* Wats. Bovey Heathfield, S. Devon, 3, Miss C. E. LARTER, in *lit.*

300. *V. CALCAREA* Greg. Newhall, Rutland, 55 b, A. R. HORWOOD.

339. *SILENE CONOIDEA* L. Alien. Ware, Herts., 20, H. F. HAYLLAR, vide sp.

340. *S. NOCTIFLORA* L. Kelso, Roxburgh, 80, *Proc.* vii., 251.

341. *S. DICHOTOMA* Ehrh. Near Lichfield, Staffs., 39, June 1915, Sir ROGER CURTIS, Bart., vide sp.

344. *S. QUINQUEVULNERA* L. Alien. Sheringham, Eaton, 27, *Fl. Norf.*; Cromer, 27, F. ROBINSON.

354. *S. NUTANS* L. Alien. A plant found near the path between Selcroft and Cliffe Road, Riddlesdown, Surrey, 17, *Croydon Nat. Hist. Soc.* viii., 28, 1915.

367 (2) *CERASTIUM TOMENTOSUM* L. Alien, Europe. Garden out-cast near Chadlington, Oxon, 23, May 1915; Lunan Bay, Forfar, 90, August 1915, with R. & M. CORSTORPHINE, on site of an old garden, G. C. DRUCE.

373. *C. SEMIDECANDRUM* L. Askham, L. Lancs., 69 b, D. LUMB, in *Rep. B.E.C.*, 127, 1915.

377. *STELLARIA AQUATICA* Scop. Denholm Dean, Roxburgh, 80, *Proc.* xvi., 66, 1896; Woodhall, Haddington, 82, *Proc.* ix., 219, vide sp.

378. *S. NEMORUM* L. Monteviot, Roxburgh, 80, June 1915, G. J. TALBOT, vide sp. Gives personal authority for v.-c. 80.

382. *S. DILLENIANA* Moench. Near Middleton, N. Essex, 19; Yarnton, Oxon, 23, but in small quantity; near Abingdon, in St.

- ot's Meadow, Berks., 22, June 1915, N.C.R. In each case growing
th, but much rarer than, the var. PALUSTRIS (Retz.) Druce, G. C.
RUCE.
392. ARENARIA LEPTOCLADOS Guss. 27, 28, *Fl. Norf.*; Ketton,
utland, 55 b, A. R. HORWOOD.
407. SAGINA MARITIMA DOB. St Abbs, Berwick, 81, *Proc.*
v., 401.
412. SPERGULARIA MEDIA Presl. Mouth of the Tyne, Haddington,
1, *Proc.* vii., 364.
418. CLAYTONIA SIBIRICA L. Alien. Near Hanchurch, &c.,
affs., 39, W. L. B. RIDGE.
421. MONTIA FONTANA L. (M. LAMPROSPERMA Cham.) Near
ullyvaughan, Co. Clare, May 1915, P. B. O'KELLY, vide sp.;
sthwaite, L. LAUES., 69 b, G. C. DRUCE; Eskhause, Cumberland, 70,
cof. BULLOCK, vide sp.
- 421 (2). M. VERNA Neek. Barnsdal, Rutland, 55 b, Earl of
GAINSBOROUGH.
430. HYPERICUM MONTANUM L. Bedford Purlieus, Northants., 32,
N.C.R., G. CHESTER, in *lit.*; Tolethorp Oaks, Rutland, 55 b, N.C.R.,
Earl of GAINSBOROUGH, in *lit.*, and vide sp. Both interesting
additions to the respective counties.
438. H. LINARIIFOLIUM Vahl. Trearrdur Bay, Anglesey, 52, Earl
GAINSBOROUGH, ex A. R. HORWOOD.
452. MALVA NICEENSIS All. Alien. Belgrave, Leicester, 55,
E. MERCER, ex A. R. HORWOOD.
463. TILIA PLATYPHYLLOS Scop. Stokenchurch Wood, Oxou., 23;
locality given by Bobart in *Ray Syn.*, 336, 1690, where the var.
trullina Aiton was afterwards described. Planted near Kenmore,
Mid-Perth, 88, G. C. DRUCE.
475. GERANIUM VERSICOLOR L. Isle of Wight, 10, Miss STONE;
near Isfield, Sussex, 14 (as *lancastricense*), Rev. C. GAUNT, 1859,
vide sp.

477. *G. SYLVATICUM* L., sub-var. *ROSEUM* mihi (var. *WANNERI* auct. ang.). Torwoodlee Woods, Selkirk, 79, growing with the type, Miss I. M. HAYWARD. This appears to differ only in the flowers being pink, with darker striations, instead of purple as in the type, a somewhat analagous case to that of the var. *lancastricense* of *G. sanguineum*. A form of *G. sylvaticum*, if not a hybrid with *G. pratense*, having broader petals, &c., occurs in Glen Isla, Forfar, 90, G. C. DRUCE.

479 (2). *G. ENDRESSI* Gay. Alien. Island at junction of Till and Tweed, Berwick, 81, 1914, Miss I. M. HAYWARD; near Melrose, Roxburgh, 80, Mrs DRUMMOND; Haslemere, Surrey, 17, Mr J. LAMB, vide sp.

481. *G. PYRENAICUM* Burm. f. Near Lowlynn, Cheviot, 68. *Proc.* xii., 394; Tyne, E. Linton, Haddington, 82, *Proc.* xx., 187.

487. *G. LUCIDIUM* L. 27, 28, *Fl. Norf.*

493. *ERODIUM MARITIMUM* Aiton. Goswick, Cheviot, 68, *Proc.* xv., 239, 1895.

510. *IMPATIENS NOLI-TANGERE* L. Alien. Winchester, 12, Canon VAUGHAN; Uppingham, Rutland, 55 b, A. R. HORWOOD.

513. *I. GLANDULIFERA* Royle. Near Cark, L. Lanes., 69 b, G. C. DRUCE; Llanfairfechan, Carnarvon, 49, Miss BOURNE, 1915, vide sp.; Tweed Mill Islands at Tillmouth, Berwick, 81, Miss I. M. HAYWARD.

517. *EUONYMUS EUROPAEUS* L. Pressmennan, Haddington, 82, *Proc.* x., 470.

520. *STAPHYLEA PINNATA* L. Longleat, Wilts., 8, doubtless planted, May 1915, G. C. DRUCE.

531. *LABURNUM ANAGYROIDES* Med. Seedlings at Hertford, 20, Miss TROWER and G. C. DRUCE; gravel pit at Abingdon, Berks., 22, June 1915, G. C. DRUCE.

539. *ULEX MINOR* Roth. Docking, &c., 28, *Fl. Norf.*

544. *ONONIS SPINOSA* L. Clipsham Quarries, Rutland, 55 b, R. HORWOOD.
562. *MEDICAGO FALCATA* L. Alien. Millbrook, S. Hants, 11, F. RAYNER.
568. *M. RUGOSA* Desr., var. Alien. Belgrave, Leicester, 55, E. MERCER, ex A. R. HORWOOD.
581. *M. MINIMA* Bart. Alien. Par, Cornwall, 1, C. C. VIGURS.
597. *MELILOTUS INDICA* All. Chilton, Bucks., 24, Comtess TESCUE, 1915; Roydon, Herts., 20; Yardley Gobion, Northants., 1915, G. C. DRUCE; Montrose, Forfar, 90, G. C. DRUCE.
599. *TRIFOLIUM PRATENSE* L., var. *LEUCOCHRACEUM* Asch. and Nt. Near Herts., 20, 1915, Miss TODD, vide sp.
605. *T. LAPPACEUM* L. Alien. Bristol, 1915, H. GREEN, vide; Kingston, Notts., 56, A. R. HORWOOD.
618. *T. SCABRUM* L. Yetholm, Roxburgh, 80, *Proc.* xx., 209, '88.
622. *T. RESUPINATUM* L. Alien. Whyte Gravel Pit, Chichester, Sussex, 13, Rev. Preb. BURDON, in *lit.*
635. *T. AGRARIUM* L. Alien. Croydon Hall, Somerset, 5, A. H. WILLEY-DOD, in *Journ. Bot.* 123, 1915.
651. *GALEGA OFFICINALIS* L. Alien. Riverside, Roydon, Herts., Misses TROWER and G. C. DRUCE; near Little Maplestead, Essex, 1915, G. C. DRUCE.
653. *ASTRAGALUS GLYCYPHYLLUS* L. Stamford Quarries, Rutland, 55 b, Earl of GAINSBOROUGH.
654. *A. ALPINUS* L. In the recorded station, Ben Bhrackie, Perth, 89, where it is said to rarely or never flower. This year, the end of July, there was some quantity in fruit and two or three flowering specimens. It is associated with *Oxytropis sericea*. R. & CORSTORPHINE and G. C. DRUCE.

656. *A. HAMOSUS* L. Alien. White Hawk Down, Sussex, 1908, T. HILTON. Sent to me as *uncinatus*, but, doubting this determination, I submitted it to Dr Thellung, who thus names it.

666. *CORONILLA VARIA* L. Alien. Millbrook, Highfield, Lymington, S. Hants., 11, J. F. RAYNER; on the railway near Thrupp, Berks., 22, July 1915, H. E. PORTER, *vide sp.*

667. *C. SCORPIOIDES* Koch. Alien. Ware, Herts., 20, September 1915, Miss TROWER and G. C. DRUCE.

673. *ONOBRYCHIS VICIÆFOLIA* Scop. Manifold Valley, Staffs., 39, *Rep. N. Staffs. Field Club*, 95, 1913-14.

678. *VICIA TENUIFOLIA* Roth. 694. *V. PANNONICA* Crantz. Aliens. Groby, Leicester, 55, Miss RUTH EVERARD, ex A. R. HORWOOD.

687. *V. NARBONENSIS* L. Alien. Ware, Herts., 20. A very robust form, Miss TROWER and G. C. DRUCE.

691. *V. LUTEA* L. Alien. Near Falconbridge, Kent, August 1915, G. TALBOT, *vide sp.*; Ware, Herts., 20, G. C. DRUCE; Beacham, 28, (?) native, *Fl. Norf.*

709. *LATHYRUS LATIFOLIUS* L. Alien. Millbrook, S. Hants., 11, J. F. RAYNER, in *lit.*

718. *L. HIRSUTUS* L. Alien. Ware, Herts, 20; East Walton, 28, *Fl. Norf.*

720. *L. ANNUUS* L. Alien. Ware, Herts., 20, H. F. HAYLLAR; near Watton, Norfolk, 28, F. ROBINSON.

723. *L. CICERA* L. Alien. September 1915. 724. *L. OCHRUS* L. Alien. 726. *L. APHACA* L. Ware, Herts., 20, Miss TROWER and G. C. DRUCE.

729. *L. MONTANUS* Bernh., var. *TENUIFOLIUS* Garcke. Penhallow, Cornwall, 1, growing with the type, but flowering later. On May 25th, 1915, the type was in good flower, but not the variety. On June 14th the latter was only in flower, while several plants of the type were showing well-developed pods, F. RILSTONE, in *lit.* In

- ivation the narrow-leaved form keeps constant. See Bot. Soc. of London, in *Bot. Mag.* iii., 272, 1839. Dersingham, 28, *Fl. Norfolk*. The e, Pickworth, Rutland, 55 b, L. M. WHITCHER.
738. *PRUNUS CERASUS* L. In a hedge on the Caerphilly Road, about three miles from Cardiff, Glamorgan, 41, N.C.R., 1915, Miss VACHELL, in *lit.*
741. *P. SPINOSA* L., var. *MACROCARPA* Wallr. Twinstead, N. Essex, 19; Hanslope, Bucks., 24, G. C. DRUCE.
744. *SPIRÆA SALICIFOLIA* L. Alien. Glen Isla, Forfar, 90, & M. CORSTORPHINE and G. C. DRUCE.
- 745 (3). *S. DOUGLASH* Hook. Alien. Cheshire, 58, C. WATER-L.L.
746. *S. ULMARIA* L., var. *DENUDATA* Wallr. Locally abundant in the ash grounds, Twinstead, N. Essex, 19, G. C. DRUCE.
748. *RUBUS IDEUS* L., var. *OBTUSIFOLIUS* (Willd.) (R. LEESH b.). Black Den, Forfar, 90, abundant, August 1915, R. & M. CORSTORPHINE and G. C. DRUCE.
750. *R. NESSENSIS* And. Eastney Park, Herts., 20, 1915, Miss OWER and G. C. DRUCE.
756. *R. AFFINIS* W. and N. The Moors, Alphamstone, N. Essex, G. C. BROWN.
788. *R. SILVATICUS* W. & N. Badby, Northants., 32. L. CUMMING, in *Rep. B.E.C.*, 138, 1914.
- 802 (2). *R. MACROTHYRSOS* Lange. Bladon, Oxon., 23, G. C. DRUCE.
821. *R. DREJERI* Jensen. Bladon, Oxon., 23, G. C. DRUCE.
822. *R. LEYANUS* Rogers. Bladon, Oxon., 23, G. C. DRUCE.
832. *R. PODOPHYLLUS* P.J.M. Moira, Leicester, 55, S. A. TAYLOR, A. R. HORWOOD.
845. *R. SCABER* W. & N. Badby, Northants., 32, L. CUMMING, *Rep. B.E.C.*, 139, 1914.

851. *R. PURCHASIANUS* Rogers. Crowell, Oxon., 23, Rev. D. O. ADAMS (with some slight doubt).

855. *R. HOSTILIS* M. & W. Oakmere, Cheshire, 58, A. H. WOLLEY-DOD and E. S. MARSHALL, in *Journ. Bot.*, 113, 1915.

860. *R. MARSHALLI* F. & R., var. *SEMIGLABER* Rogers. Tiptree Heath, N. Essex, 19, G. C. BROWN.

866. *R. HIRTUS* W. & K., var. *FLACCIDIFOLIUS* (P.J.M.) Owston, Leicester, 55, S. A. TAYLOR, ex A. R. HORWOOD.

872. *R. DUMETORUM* W. & N., var. *FEROX* Weihe. Uppingham, Rutland, 55 b, A. R. HORWOOD.

875. *R. BALFOURIANUS* Blox. Great Bromley, Essex, G. C. BROWN.

878. *R. SPECTABILIS* Pursh. Near Colliston, Forfar, 90, R. & M. CORSTORPHINE. Quite naturalised and seeding freely.

878 (3). *R. PARVIFLORUS* Nuttall (*NUTKANUS* Moç.). Near Colliston, Forfar, 90, R. & M. CORSTORPHINE. Quite naturalised.

879. *R. SAXATILIS* L. Aikengall, Haddington, 82, *Proc.* xiii., 316.

880. *R. CHAMAEMORUS* L. Lammermoors, Berwick, 81, *Proc.* x., 24.

883. × *GEUM INTERMEDIUM* Ehrh. Longleat, Wilts., 8. With this occurred a deep crimson-petalled form of *G. rivale*, G. C. DRUCE; Stoke Holy Cross, 27, *Fl. Norf.*; Twinpole Wood, Rutland, 55 b, A. R. HORWOOD.

885. *FRAGARIA MOSCHATA* Duchesne. Wakefield Lawn, Northants., 32. A sub-female form which sets no fruit, G. C. DRUCE.

886. *F. VESCA* L., var. *BERCHERIENSIS* Druce. Near Thompson, W. Norfolk, 28, G. C. DRUCE and F. ROBINSON.

893. *POTENTILLA HIRTA* L. Alien. Near Herts., 20, H. F. HAYLLAR.

896. *P. INTERMEDIA* L. Alien. Ware, Herts., 20, G. C. DRUCE and H. F. HAYLLAR; near the old gateway of Llanthony Abbey, Gloucester, A. S. MONTGOMRY, in *lit.* and *vide sp.*

902. *P. PROCUMBENS* Sibth. Clipsham Great Wood, Rutland, 55 b, A. R. HORWOOD.
902. *P. PROCUMBENS* × *REPTANS* = × *P. MIXTA* Nolte. Millook, Cornwall, 2, G. C. DRUCE.
906. *P. NORVEGICA* L. Alien. Millbrook, S. Hants., 11, F. RAYNER.
909. *ALCHEMILLA PRATENSIS* Schmidt. Near Tring, Herts., 20; Bucks., 24, G. C. DRUCE.
909. *A. ALPESTRIS* Schmidt. Near Bath, R. C. ALEXANDER, in *Edin. Bot. Soc. Trans.*, 1888, p. 100. A form intermediate between this and *minor*, Kenmore, Mid-Perth, 88, G. C. DRUCE.
909. *A. MINOR* Huds. (*FILICAULIS*.) Greetham Westwood, Rutland, 55 b, A. R. HORWOOD.
914. *AGRIMONIA ODORATA* Mill. Charterhouse, near Blackdown, Wiltshire, 6, H. S. THOMPSON, in *Journ. Bot.*, 1915, p. 10.
923. *ROSA ARVENSIS* Huds. Newton Don, Berwick, 81, *Proc. Roy. Soc. Edin.*, 1915, p. 232.
936. *R. MICRANTHA* Sm. Newhall Wood, Rutland, 55 b, A. R. HORWOOD.
943. *R. VILLOSA* L. (*MOLLIS*.) Holme, 28, *Fl. Norf.*
961. *PYRUS ARIA* Ehrh., var. *RUPICOLA* Syme. Moorley Hill, Leicester, 55, A. R. HORWOOD.
966. *CRATAEGUS OXYACANTHA* L., or *C. MONOGYNA* Jacq., var. *LENDENS* Druce. Near Hanslope, Bucks., 24; Twinstead, N. Essex, 10, G. C. DRUCE; Whetstone, Leicester, 55, A. R. HORWOOD.
var. *LACINIATA* (Wallr.). Near Castlethorpe, Bucks., 24, G. C. DRUCE.
967. *C. OXYACANTHOIDES* Thuill. Uppingham, Rutland, 55 b, A. R. HORWOOD; Melmerby, Cumberland, 70, C. WATERFALL, in *Rep. B.E.C.*, 143, 1914.
var. *ERIOCALYX* Druce. Thurnby, Leicester, 55, A. R. HORWOOD.

972. *COTONEASTER MICROPHYLLA* Wallich. On Yew Barrow, Furness Fells, altitude 600 feet, covering the steep-rock face for 50 feet square. Some of the branches are nearly half an inch thick; the nearest road is more than half a mile away, and there is no house near. L. Lancs., 69 b, June 1915, W. H. PEARSALL, in *lit.*

973. *AMELANCHIER CANADENSIS* Med. Alien. Near Lane End, Bucks., 24; wood near Ascot, Berks., 22, May 1915, G. C. DRUCE.

981. *SAXIFRAGA HYPNOIDES* L. Liddesdale, Roxburgh, 80, *Proc.* xv., 234, 1895.

982. *S. GRANULATA* L. Harford, S. Devon, 3, H. SMITH, in *Trans. Plymouth Field Club*, 18, 1914.

988. *S. STELLARIS* L. Liddesdale, Roxburgh, 80, *Proc.* xv., 234, 1895.

989. *S. UMBROSA* L. Alien. Ravine near Marsh Hall, Staffs., 39, W. L. B. RIDGE, in *Rep. N. Staffs. Field Club*.

1010. *SEDUM FABARIA* Koch. In a barley field, Twinstead, N. Essex, 19, N.C.R., September 1915, G. C. DRUCE.

1023. *S. STOLONIFERUM* Gmelin. Alien. Quarry near Arbroath, Forfar, 90, July 1915, quite naturalised. Shown me by R. and M. CORSTORPHINE.

1024. *S. VILLOSUM* L. Shippeth Dean, Haddington, 82, *Proc.* xx., 272, 1908.

1032. *MYRIOPHYLLUM SPICATUM* L. 27, *Fl. Norf.*

1039. *CALLITRICHE INTERMEDIA* Hoffm., var. *ANGUSTIFOLIA* (Hoppe). In a small piece of water on the shoulder of Ben Lawers, Mid-Perth, 88, Miss TODD, vide sp.

1042. *PEPLIS PORTULA* L. Bass Rock, Haddington, 82, *Proc.* vii., 15.

1047. *EPILOBIUM HIRSUTUM* × *MONTANUM* = × *E. ERRONEUM* Haussk. Near *hirsutum* in foliage, but with small flowers, Kilsby, Northants., 32, 1914, L. CUMMING, vide sp.

1047. *E. HIRSUTUM* L., forma *GLABRESCENS*. Upper surface of leaf shining, glabrescent. Bladon, Oxon, 23, August 1915, G. C. DRUCE.
1048. *E. PARVIFLORUM* × *ROSEUM* = *E. PERSICINUM* Reichb. Elsdon, Oxon, 23, with both parents, July 1915, G. C. DRUCE.
1049. *E. TETRAGONUM* × *PARVIFLORUM* = *E. WEISBURGENSE* F. Schultz, with both parents, Bladon, Wood, Oxon, 23, July 1915, G. C. DRUCE.
1049. *E. TETRAGONUM* L. 27, 28, *Fl. Norf.*
1052. *E. ROSEUM* Schreb. Exton, Rutland, 55 b, Earl of GAINSBOROUGH; Arbroath, Forfar, 90, 1915. There growing with *montanum* and affording *E. roseum* × *montanum* = *E. heterocaulis* Borbas, G. C. DRUCE.
1053. *E. LANCEOLATUM* Seb. & Maur. Alien. Garden weed, Galashiels, Selkirk, 79, Miss I. M. HAYWARD.
1054. *E. MONTANUM* × *PARVIFLORUM*. Melton Spinney, Leicestershire, 55, A. R. HORWOOD.
1057. *E. PALUSTRE* L. Exton, Rutland, 55 b, Earl of GAINSBOROUGH.
1058. *E. NUMMULARIFOLIUM* Cunn. Alien. Near Uckfield, Sussex, 14, July 1915, H. ROBERTS. vide sp.
1061. *OENOTHERA BIENNIS* L. Lymington, S. Hants., 11, J. F. RAYNER; Shawford, S. Hants., 11, *Winton Nat. Hist. Rep.*; Ruckley, near Shifnal, Salop, 40, 1890, Prof. BULLOCK, vide sp.
1065. *Oe. ODORATA* Jacq. Alien. Galashiels, Selkirk, 79, Miss I. M. Hayward. This is put as a sub-species of *Oe. mollissima* L. in Thellung *Fl. Adv. Montpel.*, 390, 1912.
- 1070 (3). *Oe. LONGIFOLIA* Jacq. Alien. Millbrook, S. Hants., 11, J. F. RAYNER.
1073. *CIRCÆA ALPINA* L. Windermere, L. Lancs., 69 b, G. C. DRUCE.

1087. *SMYRNIUM OLUSATRUM* L. Jedburgh, Roxburgh, 80, *Proc.* vi., 196.

1102 *AMMI VISNAGA* L. Bristol, 6, 1915, T. H. GREEN, vide sp.

1109. *PRIONITIS FALCARIA* Dumort. (*FALCARIA RIVINI* Host.). Alien. Near Sibford, on a dry bank by the roadside, Oxon., 23, 1915, JOSHUA LAMB, vide sp.

1127. *ANTHRISCUS SCANDIX* Beck. = *A. VULGARIS* Pers. Gala-shiels, Selkirk, 79, 1914, Miss I. M. HAYWARD, vide sp.

1132. *OENANTHE AQUATICA* Poir. Wood Head, Rutland, 55 b, A. R. HORWOOD.

1138. *OE. FISTULOSA* L., var. *TABERNÆMONTANI* (Gmel.) DC. Abingdon, Berks., 22, 1915, G. C. DRUCE.

1171. *CAUCALIS LATIFOLIA* L. Alien. Ware, Herts., 20, H. F. HAYLLAR, vide sp.

1175 (3). *CORNUS ALBA* Willd. Alien. Several bushes in a hedge far away from any house, near the estuary of the Dyenwy, Towy, Merioneth, 48. A. LEY, in *Rep. Bot. Rec. Club*, 41, 1875.

1178. *SAMBUCUS NIGRA* L., var. *LACINIATA* L. Near Eshton Hall, Gangrave in Craven, Yorks, 1915, Miss LINDSAY; in Torwoodlea Wood, Selkirk, 79, Miss I. M. HAYWARD, 1915, vide sp.

1179. *S. EBULUS* L. Wood border, Marten, S. Wilts., 8, C. P. HURST.

1182. *SYMPHORICARPOS RACEMOSUS* Michx. Alien. Plentiful as an undergrowth in woods near Tring, Herts., 20; Bucks., 24; Kenmore, Mid-Perth, 88, G. C. DRUCE.

1183. *LINNAEA BOREALIS* L. Gattonside, Wooden Hill, Roxburgh, 80, *Proc.* xvii., 198, 1900.

1194. *GALIUM ERECTUM* Huds. Shacklewell, Rutland, 55 b, A. R. HORWOOD.

1201. *G. TRICORNE* Stokes. Barrow, L. Lancs., 69 b, W. H. PEARSALL.

- 1202 (2). *ASPERULA GALIOIDES* M. Bieb. (*G. GLAUCUM* L.), *A. LAUCA* Bess., var. *GALIOIDES* (*Bieb. Fl. Taur. Cauc. i.*, 101). Thames side, Hampton Court, Middlesex, 21, *Rep. Bot. Rec. Club*, 17, 1874; 58, 1877.
1210. *A. ARVENSIS* L. Alien. Near Welbeck, Notts., 56, Mrs BRUMMOND, 1915, vide sp.; Colchester, 19, G. C. BROWN.
1215. *VALERIANA OFFICINALIS* L. 27, *Fl. Norf.*; Clipsham Wood, Rutland, 55 b, A. R. HORWOOD.
1222. *VALERIANELLA OLITORIA* Poll., var. *LASIOCARPA* Reichb. Siddesden, Wilts., 7, July 1915, Hon. Mrs G. BARING, vide sp.
1226. *V. RIMOSA* Bast. Hitchin, Herts., 20, Miss TODD, vide sp.
1229. *DIPSACUS SYLVESTRIS* Huds. Coldstream, Berwick, 81, *Proc. iii.*, 218.
- 1244 (3). *SOLIDAGO SEROTINA* Ait. Alien. Islet in Tweed, Dryburgh, Roxburgh, 80, Miss I. M. HAYWARD.
1249. *CALLISTEMMA CHINENSIS* (L.) Druce (vice *C. HORTENSIS* Cass.). Alien. Roxburgh, 80, Miss I. M. HAYWARD.
1255. *ASTER NOVI-BELGII*. Alien. Millbrook, S. Hants., 11, F. RAYNER; Brechin, Forfar, 90, R. & M. CORSTORPHINE.
1286. *PULICARIA PROSTRATA* Aesch. Great Bircham, 28, *Fl. Norf.*
1338. *ANTHEMIS TINCTORIA* L. Alien. Hertford, 20, H. F. HAYLLAR.
1339. *A. NOBILIS* L. Saham Toney, 28, *Fl. Norf.*
1353. *CHRYSANTHEMUM LEUCANTHEMUM* L. A form with the white ray-florets tubular, Worcester, 37, CARLETON REA, vide sp.
1356. *C. SEROTINUM* L. Alien. Waste ground, Hertford, 20; Marston, Oxon., 23; Arbroath, Forfar, 90.
1362. *MATRICARIA SUAVEOLENS* Buch. Roadwater, S. Somerset, 5, A. H. WOLLEY-DOD, in *Journ. Bot.*, 125, 1915; Ware, Herts., 20; King's Lynn Docks, 28, *Fl. Norf.*, Rev. E. B. BRACKENBURY.

1380. *ARTEMISIA BIENNIS* Willd. Alien. Herts., 20, Miss TROWER and G. C. DRUCE.

1386. *PETASITES ALBUS* Gaertn. Alien. Black Den, Forfar, 90, covering acres of ground, and elsewhere in the county; shown me by Mr and Mrs CORSTORPHINE.

1391. *SENECIO DORIA* L. Alien. Marston Brickyards, Oxon., 23, G. C. DRUCE.

1393. *S. AQUATICUS* Hill, var. *DUBIUS* Druce. Near Hambledon, S. Hants., 11, Miss HERSIE BUTLER, vide sp. It has somewhat more deeply cut leaves, and hairy achenes, and may prove to be *S. AQUATICUS* × *JACOBAEA*, but the inflorescence is that of the former species.

1396. *S. SQUALIDUS* L. Plentiful at Bletchley, Bucks., 24, and likely to spread along the L.N.W.R. track, G. C. DRUCE.

1400. *S. SYLVATICUS* L., var. *AURICULATUS* Meyer. Near Dalton, L. Lancs., 69 b, W. H. PEARSALL; the type, Glaston Cover, Rutland, 55 b, A. R. HORWOOD.

1402. *S. CINERARIA* DC. Alien. Sea shore, Christchurch, S. Hants., 11, J. LAMB, vide sp.

1415. *CARLINA VULGARIS* L. Shippeth Dean, Haddington, 82, *Proc.* xvii., 271.

1418. *ARCTIUM LAPPAL* L. Essendine, Rutland, 55 b, A. R. HORWOOD.

1420. *A. NEMOROSUM* Lej. Kirkby, Leicester, 55; Casterton, Rutland, 55 b; Kingston-on-Soar, Notts., 56, A. R. HORWOOD.

1421. *A. MINUS* Bernh. The Freewood, Rutland, 55 b, A. R. HORWOOD.

1434. *CIRSIIUM PALUSTRE* Scop., var. *FEROX* Druce. Near White Moor, Surrey, 17, G. C. DRUCE.

1445. *SAUSSUREA ALPINA* DC. Newcastleton, Roxburgh, 80, *Proc.* xv., 231, 1895.

1463. *CENTAUREA MELITENSIS* L. Alien. Banbury, Oxon., 23, 1914, J. LAMB, *vide* sp.
1465. *C. CALCITRAPA* L. Alien. Ware, Herts., 20, G. C. DRUCE : Galashiels, Selkirk, 79, Miss I. M. HAYWARD.
1494. *CREPIS BIENNIS* L. Watton, Norfolk, 28, F. ROBINSON : Chipsham, Rutland, 55 b, A. R. HORWOOD. *Crepis biennis* L. is stated in all books on British Botany to which I have access, and particularly in Arnold's *Sussex Flora*, 1907 edition, to be a rare plant in Great Britain, and to be found chiefly on limestone or chalk land. There is no record of it in Arnold from the greensand of the Rother valley between Pulborough and Midhurst, where it must surely have been observed by Mr Marshall when he lived at Graffham if it had been anything like as plentiful then as it is now. This year it is flowering in great profusion all round Midhurst, Selham, and Petworth, on sandy soils, particularly in grass-seeded fields, but also on waste land and road banks. It does not seem to propagate itself in permanent pasture or in the heath lands or wood lands. June 9, 1915, C. C. LACAITA.
1497. *C. CAPILLARIS* Wallr., var. *AGRESTIS* Druce. Newquay, Cornwall, 1, C. C. VIGURS, *vide* sp. ; Groby, Leicester, 55, Miss R. EVERARD.
var. *EFFUSA*. Near Kilworth, Leicester, 55, A. R. HORWOOD.
1512. *HIERACIUM AURANTIACUM* L. Alien. Caledowne, Ivybridge, &c., S. Devon, 3, H. SMITH, *l.c.* In a field on the edge of a wood between Hughenden and Naphill, Bucks., 24, 1915. Seen there ten years ago by Rev. E. B. BRACKENBURY, in *lit.* Previously found in the County by Mr A. WALLIS.
1535. *H. CENTRIPETALE* F. J. H. Ben Vorlich, Dumbarton, 99, E. S. MARSHALL, in *Journ. Bot.*, 160, 1915.
1574. *H. SUBULATIDENS* Dahlst., var. *CUNEIFRONS* Ley. Moira, Leicester, 55, A. R. HORWOOD.
1595. *H. ANFRACTIFORME* E. S. M. Ben Vorlich, Dumbarton, 99, E. S. MARSHALL, *l.c.*

1600. *H. ACROLEUCUM* Stenstr. Moorely Hill, Leicester, 55, A. R. HORWOOD, in *lit.*

1601. *H. PINNATIFIDUM* Lönnr., var. *VIVARIUM* Lönnr. Swithland, Leicester, 55, W. BELL.

1614. *H. DIAPHANOIDES* Lindb. Moira, Leicester, 55, A. R. HORWOOD.

1641. *HYPOCHÆRIS GLABRA* L. Woodhall Spa, S. Lincoln, 53, A. R. HORWOOD, in *lit.*

1643. *LEONTODON AUTUMNALIS* L., var. *SORDIDA* Bab. Ettrick, Selkirk, 79; Arbroath, Forfar, 90, G. C. DRUCE.

1645. *TARAXACUM LAEVIGATUM* DC. (*ERYTHROSPERMUM*). Uppingham, Rutland, 55 b, A. R. HORWOOD.

1648. *LACTUCA VIROSA* L., var. *INTEGRIFOLIA* Gray. Furness Abbey, L. Lancs., 69 b, G. C. DRUCE.

1652. *L. ALPINA* Benth. Seen in flowering bud in Forfar, 90. Alien; in a sunk fence on the border of a park, probably removed from the shrubbery, with Iris roots, as there are radical leaves of the sow thistle among the shrubs, Wetmore Onibury, Salop, 40, Mrs LUCE, vide sp. et ex W. A. HARFORD.

1662. *TRAGOPOGON ORIENTALIS* L. I brought a root from the railway near Wolvercote, Oxon., 23, which has flowered and seeded in my garden. Dr Thellung refers it to this species, and plants are distributed by me this year. G. C. DRUCE.

1663. *T. PRATENSIS* L., var. *GRANDIFLORA* Syme. Long Ashton, Gloucester. Mrs and NOEL SANDWITH. Florets pale sulphur-yellow, half as long again as phyllaries. The type at Woodhall Spa, S. Lincoln, 53; Ketton, Rutland, 55 b, A. R. HORWOOD.

1672. *CAMPANULA LATIFOLIA* L. West Winch, 28, *Fl. Norf.*; Woodhall, Haddington, 82, *Proc.* ix., 219.

1673. *C. TRACHELIUM* L. Alcombe, S. Somerset, 5, A. H. WOLLEY-DOD, in *Journ. Bot.*, 127, 1915.

1676. *C. PERSICIFOLIA* L. Alien. Glen Tilt, E. Perth, 89, recorded by F. B. WHITE in *Scot. Nat.*, 301, 1878.
1685. *VACCINIUM MYRTILLUS* × *VITIS-IDAEA* = *V. INTERMEDIUM*othe. Coniston Old Man, L. Lancs., 69 b, Mr PEARSALL, Jun., and H. ADAMSON.
- 1691 (3). *GAULTHERIA SHALLON* Pursh. Alien, N. America. Completely naturalised and seeding freely over a large area of a wood near Leysmill, Forfar, 90; shown me by Mr and Mrs CORSTORPHINE; Coltalloch, Argyll, 98, Prof. SOMERVILLE.
1695. *ERICA TETRALIX* L. Alien. Luffenham, Rutland, 55 b, R. HORWOOD.
1707. *PYROLA ROTUNDFOLIA* L. Prunside Bog, Newcastleton, Roxburgh, 80, *Proc.* xv., 1898.
1709. *P. MINOR* L. I added this to Wigton, 74, in 1882, as I saw it by the Cree. Sir HERBERT MAXWELL writes in *Nature*, 562, 915, saying it had appeared in what was once Dowalton Loch, in an open space among *Salix caprea*, covering nearly an acre, and its occurrence there is remarkable, as it is not known elsewhere in the vicinity.
1736. *LYSIMACHIA NUMMULARIA* L. Dunglass and Biel. Haddington, 82, *Proc.* ix., 436.
1740. *TRIENTALIS EUROPAEA* L. Aikengall, Haddington, 82, *Proc.* xx., 272, 1908.
1742. *ANAGALLIS FEMINA* Mill. Near Duns, St. Abbs, Berwick, 81, *Proc.* xv., 225, 1896.
1745. *CENTUNCULUS MINIMUS* L. Margins of Esthwaite, L. Lancs., 69 b, August 1915, G. C. DRUCE and W. H. PEARSALL.
1747. *SYRINGA VULGARIS* L. Alien. About Watton, Norfolk, 28. A very frequent ingredient in the hedgerows in this area. F. ROBINSON and G. C. DRUCE.
1751. *VINCA MINOR* L. Near Stockwell Hall, S. Essex, 18, Hon. Mrs SAVILE; Clanfield, S. Hants., 11, Miss DRUMMOND and

Miss H. BUTLER ; Twinstead, N. Essex, 19, G. C. DRUCE. Looking native in all three places.

1757. *CENTAURIUM RAMOSISSIMUM* (Pers. as *ERYTHRAEA*) Druce = *C. PULCHELLUM*. This requires to be confirmed for the vice-counties, Som. S., 5 : Worcester, 37, ? extinct ; Carnarvon, 49 ; and Flint, 51.

1763. *GENTIANA AMARELLA* L. Between Tay and Tummel, Mid-Perth, 88, Miss TODD, vide sp.

var. *PRAECOX* Raf. Long Ridge, Wilts., Lady KATHLEEN THYNNE and G. C. DRUCE.

var. *ULIGINOSA* Willd. Golspie, E. Sutherland, 107, G. C. DRUCE.

1765. *G. CAMPESTRIS* L., forma. Small plant, 5 cm. high ; flowers 2 cm. long ; brighter and darker blue than the type, Ben Bhrackie, E. Perth, 89, 1915, G. C. DRUCE.

1777. *POLEMONIUM CAERULEUM* L. Alien. Billacombe, S. Devon, 3, *Trans. Plymouth Field Club*, 18, 1914.

1787. *LAPPULA ECHINATA* Gilib. Alien. Lunan, Forfar, 90, R. & M. CORSTORPHINE and G. C. DRUCE ; Watton, Norfolk, 28, F. ROBINSON.

1789 (3) *BENTHAMIA LYCOPSIODES* Lindl. (*AMSINCKIA*). Ware, Herts., 20, H. F. HAYLLAR.

1789 (5). *B. INTERMEDIA* Druce. Alien. Ware, Herts., 20, 1915, Miss TROWER and G. C. DRUCE.

1791. *SYMPHYTUM TUBEROSUM* L. Derriford, S. Devon, 3, H. SMITH, *l.c.*, 1913 ; Westacre, 28, *Fl. Norf.*

1801. *ANCIUSA HYBRIDA* Tenore. Alien. Ware, Herts., 20, H. F. HAYLLAR.

1802. *A. AZUREA* Mill. Alien. Croxton, Leicester, 55, A. R. HORWOOD ; Ware, Herts., 20, Miss TROWER.

1810. *ASPERUGO PROCUMBENS* L. Broughton, Lincs., 1701-2, PRYME, J. Britten in *Journ. Bot.*, 310, 1915 ; Ware, Herts., 20, G. C. DRUCE and H. F. HAYLLAR.

1820. *MYOSOTIS COLLINA* Hoffm. Ketton, Rutland, 55 b, A. R. HORWOOD: Dunion, Jedburgh, 80, *Proc.* vi., 292.
1821. *M. VERSICOLOR* Sm., var. *BALBISIANA* (Jord.). Ketton, Rutland, 55 b, A. R. HORWOOD.
1827. *ECHIU M PLANTAGINEUM* L. Millbrook, S. Hants, 11, F. RAYNER.
1839. *CUSCUTA EPITHYMUM* Murr. Staffs., 39, *Rep. N. Staffs. Field Club*, 94, 1912-13.
1840. *C. TRIFOLIUM* Bab. Hedderwick Hill, Haddington, 82, *Proc.* viii., 533.
1853. *LYCIUM HALIMIFOLIUM* Mill. Alien. Pennanshiel, Berwick, 81, *Proc.* iv., 155.
1860. *VERBASCUM PHLOMOIDES* L. Offington by Broadwater, Essex, 13, October 1836. Correspondence of C. C. BABINGTON.
1862. *V. THAPSUS* L. Trow and Makerston Crag, Roxburgh, 10, *Proc.* ix., 476.
1863. *V. VIRGATUM* Stokes. Alien. Dryburgh, Roxburgh, 80, Miss I. M. HAYWARD.
1866. *V. LYCHNITIS* L. Billacombe, S. Devon, 3, H. SMITH, 1866, 1913.
1877. *LINARIA PURPUREA* Mill. Furness Abbey, L. Lancs., 69 b, C. DRUCE.
1886. *L. CYMBALARIA* Mill. On the shingle in large patches, Laying Island, S. Hants., 11, May 1915, Miss H. BUTLER and C. DRUCE.
1893. *SCROPHULARIA ALATA* Gilib. Native, near Shalbourn, Wilts., 8, and extending there into Berks., 22. A new record for both counties, in the latter of which I predicted (*Fl. Berks.*, 636) would occur. Here it hybridises with *S. aquatica*, see *Rep. B.E.C.*, 1915, 1914. Its discovery is due to the perseverance of our member,

C. P. HURST; Withington, E. Gloucester, 33, 1915, W. G. GREENWOOD, in *lit.*

1889. *MIMULUS MOSCHATUS* Dougl. Alien. Bickleigh, Brixton, S. Devon, 3, H. SMITH, *l.c.*, 1914.

1913. *VERONICA ALPINA* L. This was found by me on Ben Lawers in company with Mr T. F. Richards in 1888 as a solitary specimen. The record was doubted by Mr P. Ewing (*Summit Flora of the Breadalbanes*), who said "I feel confident that this does not occur." It has, however, recently been refound by Mr D. A. Haggart on Ben Lawers, and incidentally shows the danger of making too sweeping assertions. G. C. DRUCE.

1954. *RHINANTHUS STENOPHYLLUS* Druce. Creech Hill, N. Somerset, 6, E. S. MARSHALL, in *Journ. Bot.*, 128, 1915; Callam Lane, Leicester, 55, A. R. HORWOOD.

var. *MONTICOLA* Druce. Duns, Berwick, 81; Betty Hill, W. SUTHERLAND, 108; Glen Dole, Forfar, 90, G. C. DRUCE.

1956. *R. BOREALIS* Druce. Ben Vorlich, Dumbarton, 99, E. S. MARSHALL, in *Journ. Bot.* 160, 1915; Glen Phee, Forfar, 90, plentiful; Farr Sands, sea level, E. Ross, 106, G. C. DRUCE.

1960. *MELAMPYRUM HIANS* Druce. Furness, L. Lanes., 69 b, W. H. PEARSALL; Castle Douglas, Kirkeudbright, 73, Miss CHARTERS, ex A. R. HORWOOD; near Blairgowrie, E. Perth, 89, G. C. DRUCE.

1970. *OROBANCHE AMETHYSTEA* Thuill. Aldeburgh, E. Suffolk, 25, 1913, G. C. DRUCE.

1974. *LATHRAEA SQUAMARIA* L. Haddington, 82, *Proc.* x., 5.

1976. *UTRICULARIA MAJOR* Schmid. Restennet, Forfar, 90, R. & M. CORSTORPHINE.

1977. *U. OCHROLEUCA* Hartm. Near Tummel Bridge, Mid-Perth, 88, R. & M. CORSTORPHINE and G. C. DRUCE.

1989. × *MENTHA ALOPECUROIDES* (Hull). Twinstead, N. Essex, 19, G. C. DRUCE; Heathpool Lynn, Cheviot, 68, *Proc.* vii., 252, 1874; Tyne, E. Linton, Haddington, 82, *Proc.* xx., 187.

1993. × *M. PIPERITA* (L.), var. *VULGARIS* (Sole). Near Roydon, Herts, 20. Since Linnaeus described it as a species, strictly speaking suppose his name ought to be in brackets, G. C. DRUCE. Also at Willesley, Leicester, 55, A. R. HORWOOD, in *lit.*
1996. × *M. VERTICILLATA* (Huds.), var. *ACUTIFOLIA* (Sm.). Near Middleton, N. Essex, 19, September 1915, G. C. DRUCE.
1997. × *M. GENTILIS* (L.). Bradford Dene, Cheviot, 68, *Proc. i.*, 139; Primside Mill, Roxburgh, 80, *Proc. i.*, 139.
1999. × *M. RUBRA* (Sm.). Near Little Maplestead, Essex, 19, G. C. DRUCE; near Withington, E. Gloucester, 33, W. J. GREENWOOD, *lit.*; Caldecote, Cambridge, 29, Miss TODD, vide sp.
2010. *SATUREIA GRANDIFLORA* Scheele. Near the Hotel, Great Langdale, Westmoreland, 29, October 1915; doubtless adventitious, vide sp., ex A. S. MONTGOMRY.
2012. *S. NEPETA* Scheele. Heron, 1915, not seen there for many years, T. W. ATTENBOROUGH, in *lit.*: Lakenham, 27, *Fl. Norf.*: Chipsham, Rutland, 55 b, A. R. HORWOOD.
2013. *S. ACINOS* Scheele. Oxendean Duns, Berwick, 81, *Proc. i.*, 300 ("only one locality," *Top. Bot.*).
2016. *CLINOPODIUM VULGARE* L. Pressmennan, Haddington, 82, *Proc. x.*, 470.
2017. *MELISSA OFFICINALIS* L. Alien. Walsingham, Norfolk, 88; Millbeck, Cumberland, 70, 1898, Prof. BULLOCK, vide sp.
2023. *SALVIA PRATENSIS* L. Near Saddlecombe, Sussex, Miss ROBINSON, vide sp.; near Shawford, S. Hants., 11, *Rep. Winch. N. H. Soc.*; Exton, Rutland, 55 b, Earl of GAINSBOROUGH.
2025. *S. NEMOROSA* L. Alien. King's Lynn, W. Norfolk, 28, Rev. E. B. BRACKENBURY, teste Kew.
2031. *S. VERTICILLATA* L. Alien. Caterham, Surrey, 17, Hon. Mrs HANBURY TRACY: Hoddesdon, Herts., 20, Miss TROWER; Millbrook and Netley, S. Hants, 11, J. F. RAYNER.

2039. DRACOCEPHALUM PARVIFLORUM Nuttall. Springfield, Boswell, Chelmsford, A. G. GRIPPER, ex Miss ROBINSON, vide sp.; Roydon, Herts., 20, shown me by Miss TROWER; near Glasgow, 77, A. Webster, vide sp.

2056. × STACHYS AMBIGUA (Sm.) Aere, 27, *Fl. Norf.*

2059. S. ANNUA L. Alien. Hitchin, Herts., 20, J. E. LITTLE; near Lunan Bay, Forfar, 90, 1914, R. & M. CORSTORPHINE.

2064. GALEOPSIS LADANUM L. Near S. Helens, Old Cambus, Berwick, 81, *Proc.* iii., 257.

2069. LAMIUM MACULATUM L. Sutton Courtney, Berks., 22, May 1915, Miss N. LINDSAY and G. C. DRUCE.

2098. PLANTAGO MEDIA L., var. LANCEOLATIFORMIS Druce. Watlington, Oxon., 23; Hambledon, S. Hants., 11, G. C. DRUCE.

2103. HERNIARIA GLABRA L. Dowlaw Dean, Berwick, *Proc.* i., 248, 1841. See also *Ann. Nat. Hist.*, 155, 1842, W. MARSHALL. ?Casual or error.

2110. AMARANTHUS RETROFLEXUS L. Alien. Pyrford, Surrey, 17, Lady DAVY.

2120. CHENOPODIUM HYBRIDUM L. Pickworth, Rutland, 55 b, Miss WITCHER.

2121. C. URBICUM L. Near Privett, S. Hants., 11, Mrs SANDWICH, in *lit.*

2124. C. ALBUM L., var. PRAEACUTUM (Murr). Oxford, 23, G. C. DRUCE.

2125. C. LEPTOPHYLLUM (Moq.) Coulter. Alien. Sibford, Oxon., 23, J. LAMB, vide sp.; Ware, Herts., 20, G. C. DRUCE.

2127. C. GLAUCUM L. Near Petersfield, S. Hants., 11, Mrs SANDWICH, in *lit.*

2130. C. AMBROSIODES L. Alien. Twerton, N. Somerset, 6, T. H. GREEN, vide sp.

2135. *ROUBIEVA MULTIFIDA* Moq. Alien. Bristol, 6, T. H. GREEN, vide sp.
2145. *ATRIPLEX TATARICA* L. Alien. Bristol, 6, T. H. GREEN ; Ware, Herts., 20, G. C. DRUCE.
2191. *POLYGONUM CUSPIDATUM* S. & Z. Alien. Millbrook, S. Hants., 11, J. F. RAYNER ; Botley, Oxon., 23 ; Tayside, Kenmore, Mid-Perth, 88, G. C. DRUCE.
2195. *RUMEX MAXIMUS* Schreber. Leaf specimen showing the blade cordate, not attenuated into petiole. Great Bedwyn, N. Wilts., C. P. HURST ; at Old Alresford and Easton, N. Hants., 12, G. C. DRUCE.
2195. *R. HYDROLAPATHUM* Huds. Cumberland, 70, *Trans. Camb. and Westm. Assoc.*, 212, 1883-4 ; Eshington Park, Shawdon Hill, Cheviot, 68, *Proc.* xii., 177, xix., 1904. ? native.
2210. *R. ACETOSELLA* L., var. *MULTIFIDUS* DC. Alien. Docks, Otherlithie, W. H. GRIFFIN, vide sp.
- 2210 (2). *R. SCUTATUS* L. Alien. Roadside, Bowness, Westmoreland, 69, 1898, Prof. BULLOCK, vide sp.
2212. *ASARUM EUROPAEUM* L. Near Frilsham, Berks., 22, discovered by Mr R. H. HOOKER. It grows in some quantity in wood-land ; there is a tradition of a keeper's cottage being in the vicinity.
2215. *DAPHNE MEZEREUM* L. Alien? Wood near Ivybridge, Devon, 3, H. SMITH, in *Trans. Plymouth Field Club*, 18, 1914.
2223. *EUPHORBIA PLATYPHYLLOS* L. Colonist. Causton, 27, *Norf.* ; garden weed, Oxford, 23, G. C. DRUCE.
2229. *E. ESULA* L. Alien? Bickleigh, S. Devon, 3, H. SMITH, ; Mornhull, near Blandford, Dorset, 9, 1915, Lady DOUIE, vide sp. ; on an island in the Tweed, Dryburgh, Roxburgh, 80, 1914, Miss M. HAYWARD, vide sp.
2230. *E. CYPARISSIAS* L. On a chalky hill outside Dover, Kent, 3, Miss TODD, 1915, vide sp. ; Warren Bottom, widely spread over a space of quite half a mile, in rough fields far from houses, forming

numerous large patches, near Great Oakley, N. Hants., 12, D. H. SCOTT, *vide sp.*

2231. *E. PARALIAS* L. Brancaster, 28, *Fl. Norf.*, a solitary record.

2242. *MERCURIALIS PERENNIS* L., var. *OVATA* Mitt. Ravenstone, Leicester, 55, MRS HATCHETT, ex A. R. HORWOOD.

2246. *ULMUS WHEATLEYI* Hort. Longleat, S. Wilts., 8, G. C. DRUCE.

2246. *U. STRICTA* Lindley. Leicester, 55, A. R. HORWOOD. This, Prof. Henry (*Co. Louth Archaeological Journal*, 1914) says, is native and produces ripe fruit in Brittany. The English Elm, he says, is of Lusitanian origin, having entered England by the Severn Valley, crossing the Cotswolds into the Thames Valley, and southwards to the Isle of Wight. It seeds freely at Aranjuez in Spain, but not in the colder atmosphere of Madrid. It is always reproduced, he says, by suckers in England.

2251. *URTICA PILULIFERA* L. Thetford, 28, *Fl. Norf.*

2253. *PARIETARIA RAMIFLORA* Moench, var. *SIMPLEX* (Bach), comb. nov. Conway Church, Carnarvon, 49, Prof. BULLOCK.

2256. *BETULA TOMENTOSA* Reith (*PUBESCENS*). Copt Oak, Leicester, 55, A. R. HORWOOD.

2263. *QUERCUS CERRIS* L. Planted, Bladon Wood, Oxon., 23, G. C. DRUCE.

2264. *Q. ILEX* L. Seedling plants in shingle, Hayling Island, S. Hants., 11, Miss H. BUTLER and G. C. DRUCE.

2268. × *SALIX ALOPECUROIDES* Tausch. Shawell, Leicester, 55, A. R. HORWOOD.

2269. × *S. VIRIDIS* Fries. Near Wilstone, Bucks., 24, G. C. DRUCE.

2274. *S. SMITHIANA* (Willd.) Bedwyn Brailes, Wilts., 8, C. P. HURST.

2275. \times S. REICHARDTI A. Kern. Near Chadlington, Oxon., 23, C. DRUCE.
2276. S. AMBIGUA (Ehrh.) Doell. Worplesdon, Surrey, 17, J. DAVY.
2279. S. NIGRICANS \times PHYLICIFOLIA. Seascale, L. Lancs., 69 b, D. LUMB and G. C. DRUCE; Glen Dole, Forfar, 90, G. C. DRUCE.
2289. POPULUS CANESCENS Sm. Swaffham, 28, *Fl. Norfolk*.
2294. P. LAURIFOLIA Ledeb. Alien. Near Sheen, Surrey, 17; Wembury Park, Oxon., 23, G. C. DRUCE.
2294. P. TACAMAHACCA Mill. Alien. Millbrook, S. Hants., 11, F. RAYNER; Sheriff Hales Wood, Salop, 40, Prof. BULLOCK; Seascale, L. Lancs., 69 b, D. LUMB; Ettrick, Selkirk, 79, G. C. DRUCE.
- 2298 (2). VALLISNERIA SPIRALIS L. Alien. Still in great plenty in Reddish Canal, Miss M. TALBOT, vide sp.
2301. MALAXIS PALUDOSA Sw. Roydon, 28, *Fl. Norfolk*. Not rare in Glen Clova, Forfar, 90; already recorded for Forfar, 90. R. & M. HORSTORPHINE.
2310. GOODYERA REPENS Br. Ramshaw Wood, Cheviot, 68, *Proc. v.*, 279; Ewart Park, Cheviot, 68, *Proc. xvi.*, 255.
2313. CEPHALANTHERA DAMASONIUM Druce. Biddesden, Chute, W. Wilts., 7, Hon. Mrs G. BARING, see *Fl. Wilts.*
2323. ORCHIS USTULATA L. Bovisand, S. Devon, 3; Wembury, S. Devon, 3, H. SMITH, in *Trans. Plymouth Field Club*, 18, 1914.
2325. O. LATIFOLIA L. 27, Roydon, 28; *Fl. Norfolk*.
2326. O. PRAETERMISSA Druce. Luffenham, Rutland, 55 b, A. R. HORWOOD, vide sp.; Gordon Moss, Berwick, 81, *Proc. ix.*, 293.
2331. O. HIRCINA Cr. In a chalk pit near Chichester, W. Sussex, 13, Rev. Preb. BURDON, in *lit.*; on the estate of the Duke of Richmond and Gordon, near Goodwood, W. Sussex, 13, F. BROCK,

see *Gard. Chron.* 77, 108, 122, 1915. It had previously been recorded from Boxley in 1909.

2338. *HABENARIA GYMNADENIA* × *VIRIDIS*. Winchester, S. Hants., 11, first noticed in 1911 and still persisting, R. QUIRK, vide sp. ; a most beautiful plant.

2339. *H. ALBIDA* Br. Near Morwick Mill, Cambo, Cheviot, 68, *Proc.* xiii., 287 ; Gala Park, Selkirk, 79, *Proc.* x., 278 ; Langton Lees, Berwick, 81, *Proc.* v., 300.

2340. *H. VIRIDIS* Br. Exton, Rutland, 55 b, Earl of GAINSBOROUGH ; near Newcastleton, Roxburgh, 80, *Proc.* xvi., 278, 1898.

2353. *HERMODACTYLUS TUBEROSUS* Mill. Stogumber, S. Somerset, 5, E. S. MARSHALL in *Journ. Bot.*, 130, 1915.

2357. *CROCUS ALBIFLORUS* Kit. (*VERNUS* All.). Milverton, S. Somerset, 5, E. S. MARSHALL, *l.c.*

2362. *GLADIOLUS ILLYRICUS* Koch. Naturalised in sandy field, La Grève d'Azette, Jersey, 1915, T. W. ATTENBOROUGH, in *lit.*

2363 (2). *TRITONIA CROCOSMIFOLIA* Nicholson. Alien. Millbrook, S. Hants., 11, J. F. RAYNER ; Galashiels, Selkirk, Miss I. M. HAYWARD.

2382. *RUSCUS ACULEATUS* L. Sandringham, 28, *Fl. Norf.* (? planted) ; apparently quite wild on a hill by the north of Grandtully, Mid-Perth, 88, R. & M. CORSTORPIINE.

2385. *POLYGONATUM MULTIFLORUM* All. In a wood near Tring, 24, new to North Bucks., G. C. DRUCE.

2390. *ASPHODELUS FISTULOSUS* L. Alien. Bristol, 6, T. H. GREEN ; Watton, Norfolk, 28, F. ROBINSON, vide sp.

2396. *ALLIUM VINEALE* L. Lochton, Roxburgh, 80, *Proc.* x., 254.

2401. *A. TRIQUETRUM* L. Alien. Bickleigh, S. Devon, 3, H. SMITH, *l.c.*, 21, 1913.

2403. *A. OLERACEUM* L. Tweedside, Kelso, Roxburgh, 80, *Proc.* ii., 255.
2414. *ORNITHOGALUM NUTANS* L. Near Hughenden, Bucks., 24, H. Clarke, *vide sp.*; in a cultivated field, Milton Lilbourn, Pewsey, Wilts., 7, Miss I. M. HAYWARD, in *lit.*
2418. *FRITILLARIA MELEAGRIS* L. Ovington, Norfolk, 28, F. ROBINSON, in *Rep. B.E.C.*, 163, 1914; also in a wood, 20 feet above water level, near Fairford, Prof. BOULGER, in *Agric. Students' Gazette*, December 1914.
2420. *GAGEA LUTEA* Ker-Gawl. Cheadle, Staffs., 39, Mrs HEYWOOD, in *Rep. N. Staffs. Field Club*, 94, 1912-13.
2429. × *JUNCUS DIFFUSUS* (Hoppe). Crantock Plain, Cornwall, A. R. HORWOOD, *vide sp.*; Shacklewell, Rutland, 55 b, A. R. HORWOOD; Tweedside, Selkirk, 79, Miss I. M. HAYWARD, *vide sp.*
2431. *J. BALTICUS* Willd. Lytham, Lancs., 60, E. S. MARSHALL, *Journ. Bot.*, 91, 1915.
2432. *J. FILIFORMIS* L. Loch Leven Side, Kinross, 85, T. F. HOGGITT, *vide sp.*; a most interesting record, its second Scottish station; [Countess Crag, Redewater, Cheviot, 68, *Proc.* xvi., 261, 1898. ???]
2433. *J. SUBNODULOSUS* Schrank. Shacklewell, Rutland, 55 b, A. R. HORWOOD.
2439. *J. COMPRESSUS* Jacq. Brancaster, Roydon, 28, *Fl. Norf.* suppose the restricted plant.
2441. *J. TENUIS* Willd. Pathway by the Avon under Leigh Woods, N. Somerset, 6, 1914-15, Mrs SANDWICH, in *lit.*
2442. *J. RANARIUS* Perr. & Song. Seascale, L. Lancs., 69 b, J. C. DRUCE and D. LUMB; Loch Leven, Kinross, 85; Sands of Barry, Forfar, 90, G. C. DRUCE.
2450. *JUNCOIDES (LUZULA) NEMOROSA* Morong (*L. ALBIDA* DC). Alien. Longleat, Wilts., 8, Lady K. THYNNE and G. C. DRUCE, 1915.

2462. SPARGANIUM ERECTUM L. (NEGLECTUM Beeby). 27, *Fl. Norf.*; W. Norfolk, 28; Twinstead, N. Essex, 19; Esthwaite, L. Lancs., 69 b, G. C. DRUCE.
2463. S. RAMOSUM Huds. 27, 28, *Fl. Norf.*
2465. S. NATANS L. (AFFINE). Horning, 27, Stow Bedon, 28, *Fl. Norf.*
2469. ACORUS CALAMUS L. Lynn, Norfolk, 28, Gough's Camden.
2475. WOLFFIA ARRHIZA Wimm. Ashcutt Heath, Brent Knoll, Shapwick, N. Somerset, 6, Mrs SANDWICH, in *lit.*
2478. ELISMA NATANS Buch. Adventitious. Canal, Ashby Oakthorpe, Shackerstone, Leicester, 55, A. R. HORWOOD; Mow Cop, Staffs., 39, W. L. B. RIDGE, in *Rep. N. Staffs. Field Club*, 156, 1914-15. A recent immigrant.
2482. TRIGLOCHIN MARITIMUM L., var. EXANGULARE Reichb. Penpoll Creek, Gannel, Cornwall, 1, C. C. VIGURS, vide sp.
- [2484. SCHEUCHZERIA PALUSTRIS L. Northumberland Coast, ?; Berwick, 81, *Proc.* xii., 395, 1888.]
2485. POTAMOGETON NATANS L. Banff, 94, DICKSON, *Guide*, ex A. BENNETT, in *Journ. Bot.*, 237, 1915. Is this restricted *natans*?
2486. P. POLYGONIFOLIUS Pourr. Notts., 56, CARR, ex *Potamogetons of the British Isles*. [J. B. 1915 - 237]
2488. P. COLORATUS Hornem. W. Lancs., 60, WILSON, *l.c.* [i.e. J. B. 1915, 237]
2489. P. ALPINUS Balb. L. Lancs., 69 b, W. H. PEARSALL, *l.c.*; " Murder Moss, Roxburgh, 80, *Proc.* xix., 263, 1905.
2493. P. HETEROPHYLLUS Schreb. Murder Moss, Roxburgh, 80, *Proc.* xix., 263; Westernness, 97, G. WEST. I saw it near Mallaig in 1907.
2495. × P. NITENS (Web.) Hebrides, 110, DUNCAN, *l.c.* [i.e. J. B. 1915, 237]
2497. P. ANGUSTIFOLIUS B. & P. (ZIZII). E. and W. Inverness, 96 and 97, G. WEST, *l.c.*

2498. *P. LUCENS* L. E. and W. Inverness, 96 and 97, G. WEST ;
 Faithness, 109, D. LILLIE ; Hebrides, 110, WATSON, *l.c.*
2501. *P. PRAELONGUS* Wulf. Warwick, 38, C. WATERFALL ;
 Radnor, 43, Miss E. ARMITAGE ; N. Aberdeen, 93, J. ROY, *l.c.*
2502. *P. PERFOLIATUS* L. Merioneth, 48, JONES, *l.c.*
2503. *P. CRISPUS* L. Easterness, 96, G. WEST, *l.c.*
2503. × *P. COOPERI* Fryer. Notts., 56, CARR, *l.c.*
2506. *P. OBTUSIFOLIUS* M. & K. Westerness, 97, G. WEST, *l.c.*
2508. *P. PUSILLUS* L. Cardigan, 46, SALTER, *l.c.*
2510. *P. TRICHOIDES* C. & S. Mid-Perth, 88 (White Moss),
 MATTHEWS, *l.c.*
2511. *P. INTERRUPTUS* Kit. Bedford, 30, SANDERS, *l.c.* Noticed
 by me in 1877 in that county.
2513. *P. MARINUS* L. Ayr, 75, TRAIL ; Stirling, 86, KIDSTON, *l.c.*
2517. *ZANNICHELLIA PALUSTRIS* L. Pickworth, Rutland, 55 b,
 A. R. HORWOOD.
2521. *ZOSTERA NANA* L. Blakeney, Norfolk, 28, OLIVER, in
Journ. Ecol. i., 13.
2531. *ELEOCHARIS ACICULARIS* Br. Swaffham, 28, *Fl. Norf.*
2538. *SCIRPUS CAESPITOSUS* L., var. *GERMANICUS* (Palla). White
 Moor, Surrey, 17, G. C. DRUCE.
2543. *S. FILIFORMIS* Savi. Holme, 28, *Fl. Norf.*
2547. *ERIOPHORUM PANICULATUM* Druce. Stibbington, Hunts.,
 31, Rev. M. J. BERKELEY (as *E. pubescens*), *Brit. Fl.* v., 1836.
2569. *CAREX STRIGOSA* Huds. Abundant at Longleat, Wilts, 8.
 See *Fl. Wilts.*
2570. *C. HELODES* Link. Foxbury, Wilts., C. P. HURST, vide sp. ;
 Shippeth Dean, Haddington, 82, *Proc.* xx., 271, 1898.

2573. *C. DISTANS* L. Wilstone, Bucks., 24, G. C. DRUCE; Gun-green, Berwick, 81, *Proc.* vii., 255.

var. *ALPINA* Drejer. Glen Phee, Forfar, 90, G. C. DRUCE.

2575. *C. FULVA* Host. Great Bedwyn, Wilts., 7, C. P. HURST.

2576. *C. FLAVA* L. 28, *Fl. Norf.*

var. *OEDOCARPA* And. Great Bedwyn, Wilts., 7, C. P. HURST.

2576. *C. LEPIDOCARPA* Tausch. Sutton Broad, Norfolk, 27, *New. Phyt.* ii., 322.

2577. *C. OEDERI* Retz. Roydon, 28, *Fl. Norf.*

2588. *C. FLACCA* Schreb., var. *STICTOCARPA* (Sm.) Druce. Glen Phee, Forfar, 90, G. C. DRUCE.

2589. *C. PALLESCENS* L. Shacklewell, Rutland, 55 b, A. R. HORWOOD. The sub-var. *undulata* (Kunze) common in Glen Phee, Forfar, 90, R. & M. CORSTORPHINE and G. C. DRUCE.

2600. *C. ELATA* All. Abundant in the water meadows at Easton, N. Hants., 12, G. C. DRUCE and Miss FRESHFIELD; Esthwaite, L. Lincs., 69 b, W. H. PEARSALL and G. C. DRUCE.

2611. × *C. AXILLARIS* Good. Coquet, Cheviot, 68, *Proc.* viii., 214.

2618. *C. PARADOXA* Willd. Hockham, W. Norfolk, 27, F. ROBINSON, in *Rep. B.E.C.*, 171, 1914. Very abundant there.

2626. *C. RUPESTRIS* Bell. Ben Bhrackie, E. Perth, 89, barren, but unmistakably this species, which is new to this vice-county, G. C. DRUCE.

2632. *PANICUM CRUS-GALLI* L. Alien. Pomphlett, S. Devon, 3, H. SMITH, in *Trans. Plymouth Field Club*, 18, 1914.

2639. *SETARIA VIRIDIS* Beauv., var. *MAJUS* Koch. Alien. Hertford, 20, Miss TROWER and G. C. DRUCE.

2640. *S. GLAUCA* Beauv. Alien. Tunbridge Wells, Kent, 16, C. P. HURST, *vide sp.*

2646. *TRAGUS RACEMOSUS* Scop. Alien. Galashiels, Selkirk, 79,
Miss I. M. HAYWARD, vide sp.
2650. *PHALARIS ANGUSTA* Nees. Alien. Bristol, 6, T. H.
GREEN, vide sp.
2667. *ALOPECURUS AEQUALIS* Sobol. Near Heckfield, N. Hants.,
Thought to be extinct in S. Hants., and not previously recorded
for the North, G. C. DRUCE, 1915.
2694. *CALAMAGROSTIS CANESCENS* Druce. Wembury, S. Devon,
H. SMITH, in *Trans. Plymouth Field Club*, 18, 1914; near Dalton,
Lanes., 69 b, D. LUMB.
2697. *DEYEUXIA NEGLECTA* Kunth. Marsh near Watton, Nor-
folk, 28, F. ROBINSON, in *Rep. B.E.C.*, 172, 1914.
var. *HOOKERI* (Syme) Druce. Plentiful in a marsh with *Calama-
grostis canescens* and *Carex paradoxa*. Mr Robinson showed me this
most interesting plant in W. Norfolk, where he was the first to notice
it. Mr A. Bennett has named it *Hookeri*, although it differs some-
what in facies from the plant I gathered near Toome Bridge on Lough
Lough. It had not previously been recorded for Britain.
2712. *DESCHAMPSIA FLEXUOSA* Beauv., var. *VOIRLICHENSIS* Mel-
ville. Ben Lawers, Mid-Perth, 88. This differs from *montana* by
having two to three florets in the spikelets. I should therefore
prefer to call it *forma voirlichensis* (Melv.) G. C. Druce.
2720. *AVENA SATIVA* L. Alien. Millbrook, S. Hants., 11, J. F.
RAYNER.
2723. *A. PUBESCENS* L. Blofield, 27, *Fl. Norf.*: Uppingham,
Rutland, 55 b, A. R. HORWOOD.
- 2731 (2). *ELEUSINE AEGYPTIACA* Desf. (*DACTYLOCTENIUM*). Alien.
Bristol, 6, T. H. GREEN.
2732. *SIEGLINGIA DECUMBENS* Beauv., var. *LONGIGLUMA*. Surrey,
17, Lady DAVY and G. C. DRUCE.
2737. *CYNOSURUS ECHINATUS* L. Alien. St. George's Hill,
Surrey, 17, Lady DAVY, vide sp.

2742. KOELERIA ALBESCENS DC. Deal, E. Kent, 15, W. C. BARTON, in *Rep. B.E.C.*, 173, 1914, but requires confirmation.

2750. MELICA UNIFLORA Retz. Woodhall, Haddington, 82, *Proc.* ix., 219.

2762. POA NEMORALIS L. Hunstanton, 28, *Fl. Norf.*: Glaston, Rutland, 55 b, A. R. HORWOOD.

2779. FESTUCA RIGIDA Kunth. Linhead, Berwick, 81, *Proc.* iii., 258.

2784. F. HETEROPHYLLA Lam. Probably alien. Biddesden, Wilts., 7, Hon. Mrs G. BARING and G. C. DRUCE.

2801. BROMUS ERECTUS Huds. Sidestrand, 27, *Fl. Norf.*: Ketton, Rutland, 55 b, A. R. HORWOOD.

2827. × AGROPYRON HACKELII Druce. Lunan, Forfar, 90. Here *repens*, one of the parents, had a long inflorescence. This character was shown in the hybrid. R. & M. CORSTORPHINE and G. C. DRUCE.

2828. A. PUNGENS R. & S. Brancaster, 28, *Fl. Norf.* I have also specimens from Hunstanton in my herbarium. Thames bank, Kew, Surrey, 17, C. E. BRITTON.

2845. LEPTURUS FILIFORMIS Trin. Alien. Galashiels, Selkirk, 79, Miss I. M. HAYWARD, *vide* sp.

2850. HORDEUM MARINUM Huds. Pomphlett, S. Devon, 3, H. SMITH, in *Trans. Plymouth Field Club.*

2858. ELYMUS EUROPAEUS L. Pease Dene, Berwick, 81, *Proc.* xi., 206.

2860. JUNIPERUS COMMUNIS L. Horning, 27, *Fl. Norf.* Not native.

2872. EQUISETUM HYEMALE L. Ditchingham, etc., 27, *Fl. Norf.*

2882. ASPLENIUM VIRIDE Huds. Liddesdale, Roxburgh, 80, *Proc.* xv., 234, 1895.

2886. *A. RUTA-MURARIA* L. Existed till quite recently on the wall of the Friends' Meeting-House, close to Wandle Bridge, Wandsworth, 17, J. E. CLARKE, in *Gard. Chron.*, 21, 1915.
2892. *POLYSTICHUM ANGULARE* Roth. Cawledge Wood, Alnwick, Leveiot, 68; Dunglass Dean, Haddington, 82, *Proc.* i., 61, 1834.
- [2894. *P. LONCHITIS* Roth. Moongee, Whitadder, Berwick, 81, *Proc.* x., 610?]]
2895. *ONOCLEA SENSIBILIS* L. Alien. Near Plemont, Jersey, naturalised, T. W. ATTENBOROUGH, vide sp.
2897. × *DRYOPTERIS ULIGINOSA* (Kuntze). Hickling, 27, *Fl. Norfolk.*
2898. *D. SPINULOSA* Kuntze. Longleat, Wilts., 7, G. C. DRUCE; near Bedwyn, Wilts., 8, C. P. HURST, vide sp.
2906. *CYSTOPTERIS FRAGILIS* Bernh. Alien. Harleston, etc., 27, *Fl. Norfolk.*
2911. *CETERACH OFFICINARUM* DC. Renton House, Berwick, 81, *Proc.* ix., 445.
2917. *HYMENOPHYLLUM PELTATUM* Desv. Newcastleton, Roxburgh, 82, *Proc.* xvi., 273.
2923. *AZOLLA FILICULOIDES* Lam. Alien. R. Lea, Ware, Herts., 10, Miss TROWER; S. Essex, 18, J. E. LITTLE; Chichester, W. Sussex, 13, Rev. Preb. BURDON.
2931. *LYCOPodium SELAGO* L. Mendips, Somerset, 6, 1915, NOEL SANDWICH.
2951. *CHARA HISPIDA* L. Haweswater, W. Lancs., 60, W. H. PEARSALL.
2952. *C. POLYACANTHA* Braun. With above, W. H. PEARSALL.

NOTES ON THE FLORA OF NORTH LANCs. (69 b)

BY W. H. PEARSALL.

Ranunculus arvensis L., sporadically at Dalton 1915. I had no previous record of it for this area.

The peculiar Batrachian distributed in 1913 [Ref. No. 380] could not be found this year in consequence of the drying up of the ditch.

Fumaria officinalis, var. *minor* Haussk. (teste W. H. Pugsley). "The fruits are rather too broad and truncate, and the flowers have the two outer petals too little dilated about the apex" for *Wirtgeni*.

Tilia platyphyllos Scop., comparatively rare, Sowerby Wood, and also near the eastern shore of Lake Windermere, between Beech Hill and Newby Bridge.

Medicago lupulina L., var. *scabra* Gray, frequent on the limestone at Birkrigg.

Rosa spinosissima L., sand dunes at Askam and Sandscale, and also on the limestone of Hampsfell, Grange.

Drosera anglica Huds., has been recorded for N. Lancs., but I have not seen it during twenty years' field-work, and am of opinion that *D. longifolia* L. has been mistaken for it through hurried or incompetent examination.

I have similarly failed to find *Callitriche palustris* L. (*C. verna* L.) at any of its recorded stations. In Low Water—on Coniston Old Man—the only species I can discover are *C. intermedia* Hoffm. and *C. stagnalis* Scop. In Urswick Tarn I have only met with *C. intermedia* Hoffm.

Circaea alpina L., stony shores at the head of Coniston Lake.

Galium tricorne Stokes, is well established on railway ballast near the Cavendish Dock, Barrow, and this year appeared also at Dalton with *Asperula arvensis* L.—new to the vice-county.

Solidago Virgaurea L.—a form near var. *angustifolia* Gaud., occurs on the shores of Lake Windermere and on one of its islands, Grassholme. Mr Druce agrees—"Nearer this than type, but differs in having more prominent teeth and a broader leaf."

Senecio sylvaticus L., var. *auriculatus* Sm., frequent on railway banks near Woodland and Haverthwaite.

Crepis paludosa Moench, locally common in glens above Hawkshead, and also in Mary Glen, Coniston.

Tragopogon pratensis L., var. *minus* (Mill). The type, which is recorded, I have not yet seen.

The hybrid *Vaccinium Myrtillus* L. \times *Vitis-idea* L., was gathered by Mr R. S. Adamson and my son on Coniston Old Man at 2000 feet in 1914.

A fire on the Rusland Moss in the same year nearly destroyed the rare *V. Vitis-idea* L., but I now find the species flourishing in small isolated patches on the most elevated parts of the Moss.

Centunculus minimus L., is rare with us, but may be found on the sandy margins of several of our lakes. Mr Druce and the writer gathered it at Esthwaite Water last August.

Atropa Belladonna L.—Our local habitats have been extensively "raided" in consequence of its enhanced value due to war conditions.

Veronica Anagallis L., var. *anagalliformis* Bor., is the common form in Low Furness along the Gleaston Beck and on Roosecote Moss. It differs from book descriptions in having only the pedicels, the backs of the sepals, and the tops of the fruits glandular.

Lathraea Squamaria L., in flower on the roots of sycamore in Rusland Valley and near the Ferry, Windermere, in several fine colonies last April.

Utricularia major Schmidel, in tarns on Hawkshead Moor and Colthouse Heights. I gathered flowering specimens over 2 feet long in 1914, but this year they are much shorter. Similarly with *U. intermedia* Hayne, var. *ochroleuca* Hartm., in Coniston Lake. It is much less locally luxuriant than usual, and I had some difficulty in finding specimens for Mr Hunnybun. The plants never flower in this habitat, as the water is far too deep. *U. minor* L., frequent in peat-bog drains, but is rarely found many seasons in the same place, as the drains or cuttings so soon become choked with vegetation. The recorded *U. vulgaris* L., I have not yet seen.

Both *Prunella vulgaris* L., Sea Wood, Bardsea, and *Ajuga reptans* L., at Sandscale, are found with pure white flowers.

Plantago media L., is one of many species frequent on the limestone of W. Lanes., as at Silverdale, but absent from the same geological formation a few miles distant in N. Lanes. The same difference is seen in adjacent parts of N. Lanes. itself. The estuary of the R. Leven is crossed by a viaduct having an identical limestone formation at each end. On the E. we get *Helianthemum canum* Baumg., *Galium asperum* Schreb., *Spiraea Filipendula* L., *Spiranthes*

spiralis Koch, *Sesleria caerulea* Ard., and *Orchis pyramidalis* L., but on the same limestone at the western end of this viaduct these species do not occur.

Scleranthus annuus L., is rare with us, but good colonies of it may be seen on stony cart-tracks at Low Hay Bridge and Far Sawrey.

The following Orchids were gathered at Ravensbarrow, near Cark, during 1915 and confirmed by Mr G. C. Druce:—*O. Fuchsii*, *O. O'Kellyi*, and *O. maculata* L., var. *trilobata* Bréb. (see Rouy, xiii., 153). *O. praetermissa* is locally frequent at Ewedale, near Ulverston.

Allium Schenoprasum L., still flourishes at two stations on Cartmell Fell.

Sparganium ramosum Huds., var. *neglectum* (Beeby), is abundant along the Black Beck supplying Esthwaite Water.

I have given considerable attention to the Pondweeds during recent years, and the following is a list of our N. Lancs. species to date (1915):—

Potamogeton natans L., ubiquitous. *P. polygonifolius* Pourr., common; var. *cordifolius* (Asch. et Graeb.), Woodland Fell; var. *pseudo-fluitans* Syme, Higher Laith Tarn. *P. alpinus* Balb., Esthwaite Water and Blelham Tarn; var. *angustifolius* (Asch. et Graeb.), Rusland. *P. gramineus* L., Windermere Lake; var. *longipedunculata* (Mérat), Esthwaite Water (rare in Europe, common in the Great Lakes of America, especially in Lake Erie). *P. nitens* Weber, R. Leven, below Low Wood Bridge. *P. angustifolius* Presl (= *P. Zizii* Koch), Coniston Lake. *P. lucens* L., Windermere Lake, Coniston Lake. *P. praelongus* Wulf., Windermere Lake, in water up to 24 feet deep; Coniston Lake. *P. perfoliatus* L., Lakes Windermere and Coniston, Esthwaite Water, Blelham Tarn. *P. crispus* L., common; var. *serratus* Huds., Esthwaite Water. *P. obtusifolius* M. & K., Esthwaite Water. *P. pusillus* L., common; var. *tenuissimus* M. & K., Esthwaite Water; var. *Sturrockii* Ar. Benn., Esthwaite Water (this looks like *P. pusillus* × *obtusifolius*, and produces no fruit with us, but Mr. Arth. Bennett informs me that it “produces good fruit in Perthshire and Anglesey.” I found the plant this year in Coniston Lake also); var. *Berchtoldi* (Fieber), High Dam. *P. pectinatus* L., till recently, only near the sea, in Cavendish Dock and Ormsgill Reservoir, Barrow; now also rapidly spreading in Urswick Tarn, a few miles inland. *P. deusus* L., Windermere Lake.

Ruppia maritima L., var. *rostellata* (Koch), S. Walney and
 ampside.

Zannichellia palustris L., railway ponds near Cavendish Dock,
 arrow. *Zannichellia maritima* Nolte, pond near Old Park Wood.

Zostera marina L., var. *angustifolia* Horn., S. Walney.

Najas flexilis R. & S., Esthwaite Water.

Hydrilla verticillata Presl. var. *pomeranica* (Reichb.).

The two last-named species are still growing vigorously in
 Esthwaite Water, and were seen by Mr G. C. Druce during August
 1915. Notwithstanding the reported finding of traces of a flower on
 one of the plants distributed last year, my son and I, who have
 critically examined every plant so far collected, are of opinion that
 the plants do not produce flowers here but propagate solely by means
 of the winter-buds they so freely produce. This preference for vege-
 tative reproduction is seen also, though to a lesser extent, in the
 other linear-leaved aquatics of this water—*P. Sturrockii*, *P. obtusi-*
folius, *P. pusillus*, and *Callitriche autumnalis*. The *Najas flexilis*—
 alone of this remarkable association—produces abundant fruits, and
 is therefore dominant over large areas. During 1915 I carefully
 examined all the fish-ponds and tarns on the adjacent Colthouse
 Leights, also Blelham Tarn and that part of Lake Windermere near
 the mouth of the Cunsey Beck (which drains Esthwaite Water), but
 no further trace of either *Najas* or *Hydrilla* was discovered.

Scheuchzeria palustris L., is locally abundant round Hawes Water,
 Silverdale (v.-c. 60), just over our boundary, but extremely rare in
 similar situations with us. Even more remarkable is the case of
Phragmites communis L., which grows luxuriantly on the shores of the
 same tarn, but is entirely absent in the adjoining N. Lanes. area.

Mr D. Lumb and myself have devoted much time to the study of
 the distribution of the genus *Carex* in North Lancashire, and submit
 the following list to date (1915). No stations are given for the more
 common species:—*C. Pseudo-cyperus* L., rare, seen in Roudsea Wood
 only; *C. acutiformis* Ehrh., *C. vesicaria* L., *C. inflata* Huds.; *C. lasio-*
carpa Ehrh., rare, Esthwaite Water; *C. hirta* L. and var. *spinosa*
 Mort., *C. sylvatica* Huds., *C. helodes* Link., *C. binervis* Sm., *C. dis-*
tans L., *C. fulva* Host., *C. flava* L., *C. extensa* Good., *C. caryophylla*
 Lat., *C. pilulifera* L., *C. flacca* Schreber, *C. pallens* L., *C. panicea* L.,
C. elata All.; *C. turfosa* Fries, Lakeside, Windermere Lake;
C. Goodenowii Gay and var. *juncea* Fr., and var. *stenocarpa* Kük.,

C. leporina L., *C. echinata* Murr., *C. remota* L., *C. canescens* L., *C. vulpina* L.; *C. muricata* L., rare, Rusland, marshy ground near Humphrey Head and moor above Esthwaite Hall; *C. paniculata* L.; *C. diandra* Schrank, infrequent, Urswick Tarn; *C. disticha* Huds., not common, Urswick Tarn and Roudsea Wood; *C. arenaria* L., *C. pulicaris* L., *C. dioica* L. The previous records for *Carex* are very unsatisfactory—often merely the vague localities given in the Westmoreland Note-Book—and we have been unable so far to confirm those for *C. gracilis* Curt., *C. aquatilis* Wahl., or *C. limosa* L.

Among the Ferns, *Osmunda regalis* L., *Ceterach officinarum* DC., *Phegopteris Polypodioides* Fée, and *P. Dryopteris* Fée are becoming more scarce through inexcusable vandalism, but so far the very rare *Asplenium septentrionale* Hoffm. has escaped extinction. I saw half-a-dozen vigorous plants in August last. I have no record for *Dryopteris montana* Kuntze, but it is plentiful on the Hawkshead and Coniston moors.

The Characeæ are represented by *Nitella opaca* Ag., *N. flexilis* Ag., *Chara vulgaris* L. (and var. *longibracteata* Kütz), and *C. fragilis* Desv.—all widely distributed and abundant.

NOTES ON THE AQUATIC VEGETATION OF HAWES WATER, SILVERDALE.

BY W. H. PEARSALL.

Hawes Water is situated in the extreme north of the major portion of Lancashire, near the boundary of Westmoreland. It is included in vice-county 60 of *Watson's Topographical Botany*, and the carboniferous limestone district of which it forms part has long been classic ground to workers in natural science.

Through the courtesy and co-operation of Mr. F. W. Smalley of Challan Hall, I recently made a preliminary examination of the aquatic vegetation in the tarn and can report the following species:—*Potamogeton lucens* L. *Potamogeton obtusifolius* M. & K. *Potamogeton Friesii* Rupr. *Hippuris vulgaris* L.; var. *fluviatilis* Web. *Nymphaea lutea* L. *Castalia alba* Wood. *Sparganium minimum* Fr. *Chara vulgaris* L., var. *papillata* Wallr. *Chara fragilis* Desv., sub-sp. *delicatula* Braun. *Chara polyacantha* Braun. *Chara hispida* L., sub-

rudis Brann. The Characeae are in considerable quantity and much encrusted. Mr. J. A. Wheldon informs me that both *C. tyacantha* and *C. hispida* are new to W. Lanes. (v.c. 60), and that the former is a new record for Lancashire.

LIST OF CASUAL AND ALIEN PLANTS FROM HYTHE QUAY, COLCHESTER, 1911-1914.

BY G. C. BROWN.

- C.S.R.—On cotton seed refuse. W.G.—On waste ground.
 r.—On dredgings from R. Colne, deposited on Sewage Farm, Hythe Quay.
157. *Alyssum incanum* L.; W.G. 184. *Sisymbrium altissimum* L.; W.G. 209. *Brassica Tournefortii* Gouan; C.S.R. 228. *Ruca sativa* Mill.; C.S.R. 258. *Vogelia paniculata* Hornem.; C.S.R. 268. *Rapistrum rugosum* All.; C.S.R. 269. *R. rugosum* All., var. *Linnaeanum* B. & R.; C.S.R. 273. *Erucaria sagroides* Halac., Ref. No. 716, *Rep. B.E.C.*, 120, 1914; C.S.R. 277. *Raphanus sativus* L., *Rep. B.E.C.*, 451, 1913; W.G. 331. *Sponouria Vaccaria* L. 342. *Silene gallica* L., Ref. No. 120, *Rep. B.E.C.*, 458, 1913; W.G. 456. *Malva parviflora* L.; C.S.R. 54. *Medicago sativa* L.; C.S.R. 571. *M. tribalooides* Desr.; C.S.R. 76. *M. turbinata* Mill.; C.S.R. 579. *M. luppacea* Desr.; C.S.R. 92. *M. sulcata* Desf.; C.S.R. 597. *Melilotus indica* All., Dr. and W.G. 610. *Trifolium stellatum* L.; C.S.R. 622. *T. vesupianum* L.; W.G. 667. *Coronilla scorpioides* (*Ornithopus*); C.S.R. 701. *Vicia peregrina* L.; C.S.R. 721. *Lathyrus Cicera* L.; C.S.R. 26. *L. Aphaca* L. 1090. *Bupleurum rotundifolium* L.; C.S.R. 101. *Ammi majus* L.; C.S.R. and W.G. 1130. *Foeniculum vulgare* Mill.; C.S.R. and W.G. 1157. *Coriandrum sativum* L. 166. *Caucalis daucoides* L.; C.S.R. 1201. *Galium tricorne* Stokes; C.S.R. 1210. *Asperula arvensis* L.; C.S.R. 1344. *Anthemis muricata* Guss., for the first time in Britain; C.S.R. 344. *A. ruthenica* M. Bieb; W.G. 1362. *Matricaria suaveolens* Michx.; C.S.R. 1357. *Chrysanthemum coronarium* L., Ref. No. 28, *Rep. B.E.C.*, 146, 1914; C.S.R. 1399. *Senecio viscosus* L. 411. *Calendula arvensis* L.; C.S.R. 1425. *Carduus pycnocephalus* L.; C.S.R. 1467. *Centaurea pallescens* Del., forma *hyalo-*

lepis Gugler, Ref. No. 627, *Rep. B.E.C.*, 148, 1914. 1485. *Rhagadiolus edulis* Gaertn.; C.S.R. 1742. *Anagallis foemina* Mill.; C.S.R. 1824. *Lithospermum arvense* L. 2095. *Plantago Lagopus* L., Ref. No. 717, *Rep. B.E.C.*, 157, 1914; C.S.R. 2122. *Chenopodium murale* L.; C.S.R. and W.G. 2251. *Urtica pilulifera* L. (type); C.S.R. 2640. *Setaria glauca* Beauv.; W.G. 2651. *Phalaris canariensis* L.; W.G. and Dr. 2653. *P. minor* Retz.; W.G. 2654. *P. paradoxa* L.; W.G., Dr. and C.S.R. 2718 (2). *Avena sterilis* L.; C.S.R. 2794. *Bromus rigidus* L. (*maximus*); C.S.R. 2803. *B. unioloides* H.B.K., *Rep. B.E.C.*, 175, 1914; W.G. 2816. *B. squarrosus* L.; C.S.R.

ALIENS FROM COLCHESTER DISTRICT.

BY G. C. BROWN.

627. *Trifolium hybridum* L., var. *elegans* (Savi), brick pits, Great Bentley. 635. *T. agrarium* L., clover field, West Bergholt. 683. *Vicia varia* Host, cornfield, Virley; brick pits, Great Bentley. 1058. *Epilobium nummularifolium* R. Cunn., var. *pedunculare*, Castle Park, Colchester (introduced with pot plants?). 2636. *Panicum miliaceum* L., Manningtree Station.

ALIENS FROM NOTTS.

At Kingston-on-Soar, *Malva pusilla* With.; *Erodium moschatum* Ait.; *Trigonella caerulea* (L.) Druce; *Trifolium lappaceum* L.; *Poterium polygamum* W. & K.; *Ammi majus* L.; *Sideritis montana* L.; *Plantago indica* L. (*arenaria*); *Amaranthus retroflexus* L.; *Chenopodium Vulvaria* L.; *C. opulifolium* Schrad.; *C. murale* L.; *Hordeum jubatum* L. At Newark, Rev. A. Handel Smith, *Crambe orientalis* L. At Trent Meadows, Notts., *Matricaria decipiens* C. Koch., and 2153 (10), *Oxyria amaranthoides* L.

A. R. HORWOOD, in *lit.*

CORRECTIONS, ETC.

Report 1914, p. 47. In first line, for "*Lesban*," read "*Sesban*."

Report 1914, p. 145. *Pimpinella Sariifraga* L., var., W. C. Barton. The specimens seem to be *Silans pratensis*.

Report 1914, p. 166. For "*Coldisham*," read "*Coldingham*."

Report 1914, p. 168. *Scirpus fluitans* L. The expression, one of the rarest species, refers to the County of Oxford, not to its general occurrence in Britain, where it is widely spread and locally abundant.

For the following I am indebted to the kindness of the United States Department of Agriculture, Bureau of Plant Industry, Washington:—

Report 1913:

- p. 413. ANEILEMA MALABARICUM (L.) Merrill Phillip. Journ. Science Bot. 7, 232, 1912.
- p. 414. ARGANIA SPINOSA (L.) Skeels.
- p. 414. ASPARAGUS ASPARAGOIDES (L.) W. F. Wight Cent. Diet. Suppl. 2339, 1909.
- p. 414. BARRINGTONIA ASIATICA (L.) Kurz Pr. Rep. Pogn. App. A. 65, 1875.
- p. 416. CHIOCOCCA ALBA (L.) Hitchcock Mo. Bot. Gard. Rep. 4, 94, 1893.
- p. 424. SONNERATIA CASEOLARIS (L.) Engler in E. & P. Pilanz. Nacht. i., 26, 1897.
- p. 425. SYZYGIUM CUMINI (L.) Skeels U.S. Dept. Bu. Pl. Ind. Bull. 248, 25, 1912. See *Eugenia Cumini* Druce.

Report 1913, pp. 360 and 475. ARCTIUM NEMOROSUM Lej.

I have carefully read the new note on *Lappa vulgaris* Hill, &c. This divergence of opinion is quite incomprehensible to me. I see only two possible explanations:—

- 1st. Might the second edition of the *Veg. Syst.* (the only one which is accessible to me) be different from the first? [No.]
- 2nd. Might there be between English and Swiss botanists a divergence in the distinction and the limitation of the species?

In Switzerland (see Schinz et Keller *Fl. der Schweiz*, 3rd edition, 569, 1909) we distinguish *Arctium Lappa* and *A. nemorosum* as follows :—

A. Lappa, whole inflorescence corymbose, involucre green. *A. nemorosum*, whole inflorescence elongated, racemose, the upper heads only near together, the phyllaries (at least the interior ones at their summit) red. Now Hill's plate represents the whole inflorescence as corymbose, and the involucre is green, even according to Hill's text. I have therefore not a word to change from what we have said in the quarterly *Natf. Ges. Zurich*, lviii. (1913), 90 not. Mr Evans speaks of a variety *pycnanthum* (unknown to me) of *A. nemorosum*, which appears to approach *A. Lappa* in its denser inflorescence ; but I think that this var. always has the involucre more or less reddish, contrary to Hill's description of his *Lappa vulgaris*. A. THELLUNG.

The genus *Amsinckia* Lehmann of 1831 is antedated by that of *Benthamia* Lindley Nat. Syst. 24, 1830. His *Benthamia* of the *Bot. Register*, t. 1579, 1833, is now sunk in *Cornus* L. ; and Richard's *Benthamia* of 1828 is now merged into *Habenaria*, leaving *Benthamia* Lindley 1830 available for the Boraginaceous genus, which has the following species :—

BENTHAMIA Lindley Nat. Syst. 241, 1830, vice *Amsinckia* 1831.

B. angustifolia (Lehm. Del. Sem. Hort. Hamb. 1831) Druce
Brit. Pl. List Add. 1908.

B. arenaria (Suksd. in Deuts. Bot. Monats. 133, 1900) comb. nov.

B. barbata (Greene in *Erythraea* ii., 192, 1894) comb. nov.

B. basistaminea (Cesati in *Atti. Acc. Sc. Nap.* v., 1873) comb.
nov.

B. campestris (Greene Man. Bot. San. Franc. Bay 262, 1894)
comb. nov.

B. carnosa (Jones Contr. West. Bot. viii., 35) comb. nov.

B. collina (Greene *l.c.* 1894) comb. nov.

B. echinata (A. Gray in *Proc. Am. Acc.* x., 54, 1874) comb. nov.

B. grandiflora (Kleebe, ex Greene, *l.c.*, 1894) comb. nov.

B. humifusa (Walp. in *Nov. Act.* xix., 371, 1843) comb. nov.

B. hispida (Suksd. *l.c.* 134, 1900) comb. nov.

B. idahoensis (Jones Contr. *l.c.* xii., 58, 1908) comb. nov.

B. intermedia (Fisch. & Meyer Ind. Sem. Hort. Petr. ii., 26,
1836) Druce in *Rep. B.E.C.* 25, 1911.

- B. lycopsioides* Lindley *l.c.*
B. maritima (Eastw. in Proc. Calif. Acad. Ser. III., i., 110)
 comb. nov.
B. mexicana (Mart. & Galiot in Bull. Acc. Brux. xi., 1844) comb.
 nov.
B. micrantha (Suksd. *l.c.* 134, 1900) comb. nov.
B. microcarpa (Greene in Erythraea ii., 191, 1894) comb. nov.
B. parviflora (Heller in Muhlenbergia ii., 313, 1907) comb. nov.
B. pustulata (Heller *l.c.* 243, 1906) comb. nov.
B. retrorsa (Suksd. *l.c.*) comb. nov.
B. spectabilis (Fisch. & Meyer *l.c.*) Druce Brit. Pl. List *l.c.*, 1908.
B. St Nicolai (Eastw. *l.c.* 1, 109) comb. nov.
B. tessellata (A. Gray in Proc. Ann. Acad. x., 54, 1874) comb.
 nov.
B. vernicosa (Hook. & Arn. Bot. Beech. Voy. 370) comb. nov.

BOOKS IN PREPARATION

THE VEGETATION OF YORKSHIRE. Its History and Associations in the lines of Botanical Survey, based on the Geologic and Phytogeologic remains: being an examination into the sources, the presence or passing of the Floristic Constituents—their When and How and Where: being also a Supplement to previous "Floras" of York, and a list of the Localities and Species, newly classified, new to the County or some of its river basins since 1888, by F. ARNOLD LEES. The Brambles by A. E. Bradley. Demy 8vo., about 500 pages. Subscription 12/6 net. London: A. Brown & Sons, 5 Farringdon Avenue, E.C. This important work is unfortunately being held up owing to the inadequacy of the response to subscribe copies. May we press upon our members to support the publication.

THE FLORA OF NOTTINGHAMSHIRE by Professor CARR is nearing completion.

A NEW FLORA OF SHROPSHIRE is offered to subscribers at 10/6. Orders may be sent to Mr E. S. Cobbold, Church Stretton, Salop.

FLORA OF OXFORDSHIRE. The second edition by G. CLARIDGE DRUCE is in preparation, being published by the Clarendon Press, Oxford. Subscription price 15/-.

THE FLORA OF BUCKINGHAMSHIRE by G. CLARIDGE DRUCE is also in preparation by the Clarendon Press. Subscription price 15/-.

PERSONAL NOTES.

MR E. W. HUNNYBUN, 1 Phillipps Avenue, Exmouth, who is making a series of drawings of British plants for the *Cambridge British Flora*, would be much obliged if members would assist him in obtaining some of his *Desiderata*, a list of which, with other information, will be gladly supplied by him. He will defray the cost of transmission and supply tins for the plants.

PROF. J. PERCIVAL, The Pyghtle, Northcourt Avenue, Reading, would be much obliged if members will kindly supply seeds and fruits of British plants. Members willing to assist are asked to communicate with the foregoing member direct.

LADY DAVY, Wintergreen Wood, Pyrford, Surrey, wants fresh specimens of *varieties* of the British orchids.

MRS ADAMS, F.L.S., 14 Vernon Road, Edgbaston, and Miss TROWER, Stansteadbury, Ware, Herts., are painting British plants. Would members who are willing to assist in supplying specimens kindly let them know? The latter specially needs British *Rubi*, named by Rev. W. M. Rogers.

F. J. HANBURY, Esq., Brockhurst, East Grinstead, is anxious to have seeds of rare British species. He will defray all expenses.

W. NORWOOD CHEESMAN, Esq., J P., The Crescent, Selby, York, will be glad to receive or exchange specimens of *Mycetozoa*.

The Society is greatly indebted to the Director and Staff of the Royal Gardens, Kew, and to the Keeper and Staff of the British Museum Herbarium for much assistance, as well as to our foreign

experts. Mr F. N. Williams, Mr E. D. Marquand, Mr R. H. Corporphine, and the Rev. F. Bennett have also very kindly rendered assistance.

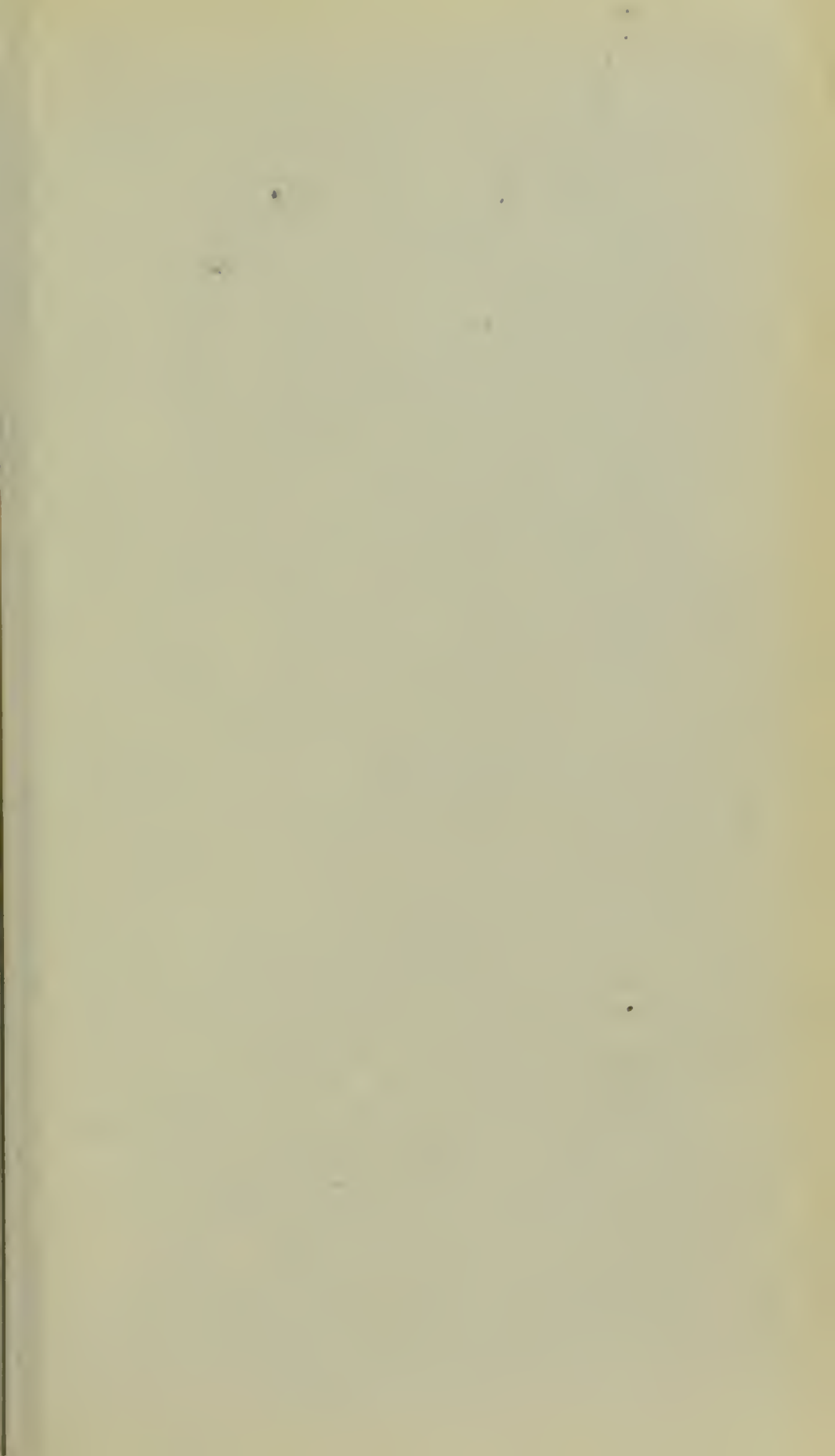
Members having any spare copies of the *Report* for 1912, or any copies of *Reports* anterior to 1879, are asked to kindly send them to the Secretary, who will defray the cost of transmission.

The Society offers its sincerest condolence to Prof. I. Bayley Balfour and Mrs Balfour on the loss of their only son at the front; his geniality and charm and intellectual attainments marked him out for a brilliant career.

With best wishes,

I am yours very sincerely,

G. CLARIDGE DRUCE.



THE BOTANICAL SOCIETY
AND EXCHANGE CLUB
OF THE BRITISH ISLES.

REPORT FOR 1915

OF THE

BOTANICAL EXCHANGE CLUB
(CONVENIENTLY ABBREVIATED REP. B.E.C.)

BY THE

EDITOR AND DISTRIBUTOR,
A. R. HORWOOD, F.L.S.

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The Subscription, 7s 6d per annum, and Non-Contributing Members' Subscription of 5s per annum, become due on January 1, 1917, and should be sent to

G. CLARIDGE DRUCE,
YARDLEY LODGE,
9 CRICK ROAD, OXFORD.

Cheques for three or four years in advance would save much trouble and expense in postage.

Parcels for 1916 should be sent post paid, on or before 11th December 1916, to D. LUMB, Esq., and W. H. PEARSALL, Esq., DALTON-IN-FURNESS.

The Editor and Distributor for 1917 will be C. E. BRITTON, Esq., 70 ADELA AVENUE, NEW MALDEN, SURREY.

PRINTED BY T. BUNCLE & Co., ARBROATH.

November 1916.

REPORT OF THE DISTRIBUTOR FOR 1915.

THE WAR AND THE CLUB'S ROLL OF HONOUR.

Several members of the Club have responded to the country's call upon them, either for medical service or the trenches. I received lieutenant Vigurs's parcel just as he was off to join a R.A.M.C. unit. No doubt before another distribution takes place many more members will be in khaki, and the Club generally will wish all fighting members godspeed and a safe return, with health and honour.

NUMBER OF PLANTS SENT IN.

There was some increase in the number of plants sent in over last year's total, 8153 plants being distributed. A large share of the work of collecting, &c., fell, as will be seen, to the Secretary and Distributor. It would be far more satisfactory if all members would send in more material so that they may be thereby entitled to a good turn parcel. A score of plants contributed is hardly an adequate turn for a parcel of anything between 100 and 1000 specimens! Where a species is *not in danger of being diminished* by collecting it so freely—a cause of extinction I fear—members should send as many sheets as they can of a rare or interesting plant.

NATURE OF MATERIAL CONTRIBUTED.

As regards the character of the material, a note of warning must be sounded if the Club is to serve its special purpose—the study of critical species, and the advancement of British systematic botany. This year a very undue proportion of quite common species was sent in; and it is very difficult for a Distributor to know what to do with such material, one member indeed writing to protest against this. There is something to be said therefore for the re-issue of a desiderata list, although that may have an opposite effect and diminish the number of plants sent in, common plants being more variable than rare species.

Of critical genera, most were fairly well represented, *e.g.* *Ranunculus* (*Batrachium*), *Erophila*, *Bursa*, *Viola*, *Rubus*, *Crataegus*, *Senecio*, *Hieracium*, *Symphytum*, *Euphrasia*, *Thymus*, *Chenopodium*, *Salicornia*, *Amus*, *Populus*, *Orchis*, *Juncus*, *Potamogeton*, *Carex*, *Koeleria*, *Festuca*, *Lomium*. No specimens of *Saxifraga*, *Apium*, *Arctium*, *Limonium*, or *Galatice* were contributed. More attention might be devoted to the following genera:—

<i>Fumaria.</i>	<i>Sagina.</i>	<i>Rosa.</i>	<i>Tragopogon.</i>
<i>Barbarea.</i>	<i>Medicago.</i>	<i>Pyrus.</i>	<i>Veronica.</i>
<i>Cochlearia.</i>	<i>Potentilla.</i>	<i>Epilobium.</i>	<i>Rhinanthus.</i>
<i>Polygala.</i>	<i>Alchemilla.</i>	<i>Callitriche.</i>	<i>Melampyrum.</i>

<i>Mentha.</i>	<i>Polygonum.</i>	<i>Orchis.</i>	<i>Agrostis.</i>
<i>Laminum.</i>	<i>Rumex.</i>	<i>Allium.</i>	<i>Glyceria.</i>
<i>Plantago.</i>	<i>Salix.</i>	<i>Sparganium.</i>	<i>Poa.</i>
<i>Atriplex.</i>			

Some new forms are described by the Secretary and the Rev. E. S. Marshall based upon material sent to the Club this year. A number of aliens and other plants new to the British Isles have been sent, and a list will be found in Mr Druce's *Report*.

I hope that an innovation that I have made will be followed up by my successors. I have suppressed in the *Report*, save in one unavoidable instance I believe, all comment upon the character of a member's specimens. The Club exists to further the study of the British flora, the characters of the species and varieties met with, not to dilate upon Mr So-and-So's "abominably dried material!" It is offensive remarks like these that bring a Club into disrepute, and discourage present or prospective members.

SUBMITTAL OF ENTIRE SETS TO REFEREES

There are some genera, such as *Erophila*, *Capsella*, *Viola* (*Melanium*), *Rubus*, *Senecio*, *Hieracium*, *Euphrasia*, *Thymus*, *Salicornia*, &c., that often grow intermixed. It would save much uncertainty and obviate the often curiously contradictory opinions in the *Report* as to a particular species if *all* the specimens were sent to the Referee instead of one sheet out of a set. It would involve a little more trouble, but it would ensure greater certainty, afford more (and often variable) material to work upon, and be more satisfactory both to the Referee and the contributor. Difference of opinion will always exist (Is any one ever sure of the absolute?), but by the above plan mixture of gatherings would be eliminated.

BOXES FOR CLUB CONTRIBUTORS.

My experience, as Secretary of the Lichen Club for some ten years, has shown me that for purposes of exchange it is an excellent plan to procure for each member a set of stout strawboard or cardboard boxes, with the edges strengthened with canvas and clips, to send in contributions and to forward the return parcel. I offer this suggestion, which members can adopt if they like, and send a card to the Secretary, who could make the necessary arrangements, decide the size, &c., of the boxes. It would prevent material from being damaged in transit either way; and that to the Herbarium maker is a point to consider carefully. Many parcels (that have in the past arrived damaged or saturated) would thus be additionally protected.

CATALOGUES AND MEMBERS' DESIDERATA.

A distributor should try to benefit the Club generally by his experience during a year's term of office (Why not *two* years, as in

ost Exchange Clubs?) by endeavouring to discover any defects in the arrangements, and, if possible, to remove them.

The worst difficulty that has to be dealt with is the shyness of members towards sending in their marked lists. Out of thirty-two contributors I had fifteen lists to work from. I had enquired in every case, I believe, what special desiderata each one had in asking for the list when it did not arrive with a parcel. I thus had to imagine in some fifteen cases what each of those members might or might not be supposed to need, and I can add that the task was by no means easy. It is gratifying to feel that one seems apparently to have succeeded, for in all but one case the acknowledgments of the return parcels were couched in more than grateful terms.

A special note as to the genera or species most desired sent with the marked list is especially helpful to the distributor, as is such a memo. as "No aliens wanted!"

SYSTEMATIC STUDY OF GENERA.

As our stock of referees, if one may so speak of these benefactors of British botany, is never inexhaustible, and as some come and go, and the interest in a group may thus die out, it seems to me that it would be an advantage if some systematic plan of organisation could be drawn up whereby each contributing member might specially study one or two genera, either in his own district or elsewhere, with a view to acting later, if he so desire, as referee. There is plenty of talent in the Club as well as outside it, and it would, I think, tend to "speed up" the work of the Club and make for its greater usefulness if this plan could be adopted.

CIRCULATION OF BOOKS AND PAPERS.

Could not the Club, as a corporate body, undertake to set in motion a means for the exchange of the new works and monographs that are constantly coming out, and which perhaps only a few members are privileged to see? The Secretary's *Report* affords a basis as to what is published. If members would send in to him the names of the books they want to consult, as well as the names of books they would lend, a sort of exchange could be arranged. Such a plan, indeed, follows as a corollary of the last suggestion. Older works might be loaned to the Society for the use of members by institutions or individuals possessing copies. A small extra sum, to cover postage, &c., might be charged to members of such a book circle. Current botanical journals might be circulated by the same means.

MICRO-SPECIES AND VARIETIES.

So much ground has been broken already by Bateson, De Vries, and others showing the endless chains of intermediates, species in the

making, &c., that there is ample material to work upon in the endeavour to elucidate the path of evolution and its meaning.

One object the Club might pursue is to trace the various forms that centre around each type, and to discover in what manner and under what conditions they have originated.

Thus we should approach nearer to the reality of what a species or a variety, &c., actually is. At present we do not know. We need, as Professor Trow wrote me, to study plants much as the chemist does sugars. Indeed, he is right.

STUDY OF THE HABITAT.

Since it is a well-established fact that the environment does affect the plant, and that variation can be induced by an alteration of soil, &c.; and, *vice versa*, that one can determine the stability of a species or variety by cultivating it, it is very important that as much information as possible be gathered about the *habitat*, so that the status of a particular specimen may be studied with due perspective in relation to the known conditions. Mr Arthur Bennett raises this point in commenting on the specimens of *Juncus tenuis* submitted to him from two new areas (originally it was found by Don at Clova), and emphasises the need for stating what grew with it, and what were the conditions of the *habitat*. As an ecologist, I would ask to be allowed to state my firm view that the *habitat* is of the greatest importance, and systematic botany can only be advanced on sound lines by making a collateral study of ecology, or, in other words, systematists must study more and more in *the open*.

Exact details of the soil, situation, aspect, altitude, water content, are most important, and throw a valuable light upon plant distribution. These may with advantage be stated upon herbarium labels.

REFEREES.

For the examination of critical specimens the Club is indebted to Messrs E. G. Baker, W. Barclay, Arthur Bennett, Drs Bucknall and Drabble, Mrs E. S. Gregory, Messrs James Groves, W. P. Hiern, A. B. Jackson, the Revs. E. F. Linton and E. S. Marshall, Messrs H. W. Pugsley, the Rev. W. Moyle Rogers, Mr C. E. Salmon, Dr A. Thellung, Dr A. H. Trow, Messrs J. A. Wheldon and J. W. White, as well as other Club members who have contributed to the *Report*.

DESIDERATA.

Mr W. C. Barton asks to see any specimens of *Thymus ovatus* or *T. serpyllum*, *Juncus bufonius*, *Lychnis dioica*, *Geranium Robertianum* varieties, especially variations from type and Scotch and Irish forms.

Dr Little is interested in *Potentilla* and *Erophila*. The Distributor would be glad to see any forms of *Capsella* or *Crataegus*. He is also

desirous of obtaining a series of photographs of British plants in their *habitat*, or enlarged photos with sections of the flower or other details.

A. R. HORWOOD,

Editor of Report and

Distributor for 1915.

LEICESTER MUSEUM,

March 17, 1916.

Postscript.—October 12, 1916. The proofs of this Report have reached me whilst in khaki, so that I am away from specimens and references; hence I hope unavoidable imperfections will be generously overlooked.—A. R. H.

LIST OF PARCELS RECEIVED.

	No. of Specimens.
Bailey, Charles, <i>M.Sc., F.L.S.</i>	53
Barclay, W.,	23
Barton, W. C., <i>M.A.</i>	646
Bickham, S. H., <i>F.L.S., J.P.</i>	303
Britton, C. E.,	109
Brown, G. C.,	449
Chester, G.,	82
Comber, John,	186
Corstorphine, Mr and Mrs R. H.,	229
Cryer, John,	126
Cumming, L., <i>M.A.</i>	87
Druce, G. Claridge, <i>M.A., J.P.</i>	946
Horwood, A. R., <i>F.L.S.</i>	1220
Jackson, A. Bruce,	20
Little, J. E., <i>M.A.</i>	87
Lumb, D.,	94
Marshall, Rev. E. S., <i>M.A., F.L.S.</i>	236
Melvill, J. Cosmo,	101
Pearsall, W. H.,	186
Riddelsdell, Rev. H. J., <i>M.A.</i>	531
Rilstone, F.,	58
Robinson, F.,	780
Roper, Miss Ida, <i>F.L.S.</i> ,	255
Salmon, C. E., <i>F.L.S.</i>	44
Shoolbred, W. A.,	32
Travis, W. G.,	20
Vigurs, C. C., <i>M.D.</i>	134
Waterfall, Charles, <i>F.L.S.</i>	465
Webster, Alfred,	11
Wheldon, J. A., <i>F.L.S.</i>	350
White, J. W., <i>F.L.S.</i>	193
Wilson, A., <i>F.L.S., F.R.Met.S.</i>	97
Total,	8153

Thalictrum minus L., var. *collinum* (Wallr.). [Ref. No. 161.]
y bank, Foulden Common, Norfolk, Aug. 22, 1915.—F. ROBINSON.

Anemone Pulsatilla L. [Ref. No. 100.] Dry bank, Devil's Dyke,
Wymark, April 21, 1915.—Coll. Miss WELLSMAN; comm. F.
ROBINSON.

Myosurus minimus L. Bretford, Warwick, April 19, 1912.
Established for four or five years in a damp depression of a meadow
the Avon, but seems to have disappeared.—L. CUMMING.

Ranunculus repens L., var. *reptabundus* (Jord.). Cult. Chepstow
origin, Dalwhinnie, June 1915. I send a few more specimens of this
marked variety. It keeps quite distinct in cultivation, flowers little,
it spreads remarkably quickly by long and numerous "runners." See
Report, 443, 1913.—W. A. SHOOLBRED.

Ranunculus repens L., near var. *villosus* Lamotte. Between
Otle and Walton, S. Lancs., v.-c. 59, June 9, 1915.—J. A. WHELDON.
The variety is described in Rony & Foucaud's *Flore de France*, i.,
10; "Tige et pétioles couverts de poils moins longs et étalés."—G.
DRUCE.

Ranunculus bulbosus L., var. *duroniensis* Druce. St Ouen's Bay,
Plymouth, May 10, 1915.—Coll. F. W. ATTENBOROUGH. "Not an
extreme form, but may go to it. My original gathering had some-
what larger flowers and the bases of the leaves more hairy."—
G. DRUCE.

Ranunculus Lingua L. Edge of Hatchmere, Delamere Forest,
Northamptonshire, v.-c. 58, July 30, 1915.—C. WATERFALL.

Ranunculus Flammula L., forma *minima* Ar. Benn. (*Ann. Scot.
Nat. Hist.*, 227, 1904). Damp sand, Ainsdale, S. Lancs., v.-c. 59,
July 13, 1915. Grows in intricate, depressed tufts, the stems often
densely overlapping each other and closely appressed to the ground.
The whole plant is rather succulent, and it seems almost worthy of a
higher rank than that of *forma*. Its peculiar habit is not well shown
in dried specimens.—J. A. WHELDON. "Small states: not per-
manently distinct."—E. S. MARSHALL.

Ranunculus fluitans Lam. Near Cropstone, Leicester, June 3,
1915. The flowers were as large as in *floribundus* or *peltatus*. It
grew in shallow water of a slow-flowing stream on a stony bottom,
and in bulk formed a mass of flowers with a few floating leaves.
The fruit was ill-developed.—A. R. HORWOOD. "Yes, but a more slender
plant, with shorter leaf-segments, than the river form: somewhat

approaching *Bachii*."—G. C. DRUCE. "*R. fluitans* Lam. ; young."—W. P. HIERN. "Mr Groves has since written that a more mature specimen I sent him later, with glabrous fruit, settles the question, and that it is *R. fluitans*."—A. R. HORWOOD.

Ranunculus trichophyllus Chaix. [Ref. No. 11989.] Osney, Oxon, April 1893. Teste J. Freyn. I doubt this being *trichophyllus*, and suggest it may be *heterophyllus*, var. *submersus* Bab., but I will endeavour to get more perfect specimens. The weak collapsing branches seem to take it away from *trichophyllus*.—G. C. DRUCE. "Cf. *R. submersus*."—W. P. HIERN. "Too young."—J. GROVES.

Ranunculus trichophyllus Chaix. Ditch on sand dunes, Freshfield, S. Lancs., May 28, 1915.—J. A. WHELDON. "Yes, I believe it is a new county record for 59."—G. C. DRUCE. "Yes."—W. P. HIERN. "This certainly looks like *R. trichophyllus*, but the carpels when young have only a very few bristles, and when mature are quite glabrous, instead of bearing an abundance of persistent bristles as is usual with that species."—J. GROVES.

Ranunculus peltatus × *trichophyllus*. Farm pond between Chipping Sodbury and Wickwar, West Gloucester., April and May 1915. Very satisfactory examples, it seems, of a remarkable hybrid, growing with both parents in a piece of water where no other *Batrachium* is present. Often when one finds what is pretty certainly a hybrid amongst these plants one can only guess at its origin ; but in this case the parentage is clear. The *peltatus* plant is considered by Mr Groves, who has examined the specimens, to be nearest that form which is usually referred to *floribundus*. I would like to draw attention to the peculiarly erect peduncles in this hybrid. They often remain upright and nearly parallel with the stem after flowering. This character is shared by *submersus*, as I find it about Bristol, and is regarded by Mr Groves as in itself strong evidence of hybridity, stronger even than the undeveloped carpels which are sometimes abortive from other causes.—J. W. WHITE. "*R. triphyllus* Wallr."—W. P. HIERN. "I do not see evidence of either parent, nor indeed of hybridity. The achenes are plump and well-developed on my specimens. It suggests to me a 'fat' form of *R. heterophyllus* Web., creeping in shallow water over a deep muddy bottom. The carpels are glabrous. One would have expected to see some of the characters of *R. trichophyllus* in such a hybrid—hispid carpels, capillary leaves, small flowers with abortive fruit. I find it equally difficult to see any character which connects it with *R. peltatus*."—J. A. WHELDON.

Ranunculus trichophyllus Chaix, var. *radians* Revel = *heterophyllus* Freyn. [Ref. No. O.815.] Thame, Oxon, May 1915. I have known it in this locality for sixteen years. Revel named it as a

species in his *Not. Ran. Batr.*, p. 8, where he gives a figure. Rouy takes it synonymous with *R. Petiveri*, var. *major* Koch.—G. C. DRUCE. "Flowers too small and peduncles too long. Looks more like *heterophyllus*."—H. J. RIDDELSDELL. "Yes, but *R. heterophyllus* var. non Weber = *R. trichophyllus*, var. *radians*."—ED. "Large flowers, numerous stamens, well-developed floating leaves and globular receptacle all appear to me against *R. trichophyllus*. With regard to the receptacle, Babington described it as globular, but Rouy separates *Baudotii* and *R. trichophyllus* from all the other species by their ovoid or sub-conical receptacle. My dried examples would incline me to consider Babington's description correct."—J. A. WHELDON. "*R. radians* Revel."—W. P. HIERN. "I should say *R. heterophyllus*: the flowers seem much too big for *R. trichophyllus*."—J. GROVES. "Certainly not *R. trichophyllus*; must belong to *heterophyllus*."—W. WHITE.

Ranunculus Drouetii F. Schultz. Pond, Scraftoft, Leicester, April 1904, fide H & J. Groves.—A. R. HORWOOD. "Yes."—W. P. HIERN.

Ranunculus — ? Pond, Burbage, Leicester, May 1906.—A. R. HORWOOD. "Apparently *R. Drouetii* F. Schultz, but no expanded flowers."—W. P. HIERN. "I should say *R. pellatus*."—J. GROVES.

Ranunculus Drouetii F. Schultz. Stonton Wyville, Leicester, May 26, 1906. Flowers small, the size of *R. Drouetii* F. Schultz, but leaf-segments not generally collapsing, and slender.—A. R. HORWOOD. "Yes."—J. GROVES. "*R. trichophyllus* Chaix (small)."—W. P. HIERN.

Ranunculus — ? Quarry pool at Wickwar, West Gloucester, May 1915. A strongly marked handsome plant which I cannot assign to any of our described species. Mr James Groves agrees that but for the floating leaves it might rank as a big form of *trichophyllus*. The short rigid peduncles, strongly curved below, and then quite straight, suggest that species. On the other hand it could be referred to *heterophyllus* were it not that the submerged leaves are decidedly rigid and non-collapsing. The plant shows no sign of hybridity, and no other water-buttercup inhabits the pools where it grows."—J. W. WHITE. "I should refer this to *R. heterophyllus* Weber, var. *triphyllus* Hiern, with bristly carpels."—W. H. PEARSALL. "A deep water form of *R. heterophyllus* Weber. These appear to have strongly hispid carpels. I have noticed that in this species they are often entirely glabrous, or show varying degrees of hispidity."—J. A. WHELDON. "Is it not *radians* Revel?"—G. C. DRUCE. "Compare the Hunstanton plant = *R. heterophyllus* Fr., or *R. trichophyllus*, var. *radians* Revel."—ED. "*R. radians* Revel."—W. P. HIERN.

Ranunculus peltatus Schrank, mud form approaching var. *truncatus* (Koch). Cropstone Reservoir, Leicester, June 12, 1905. —A. R. HORWOOD. "Apparently a mud form of *R. floribundus* or of *R. triphyllus*."—W. P. HIERN.

Ranunculus floribundus Bab. Pond between Yate and Wickwar, West Gloucester, May 3, 1915. Mr Groves writes:—"Your plant agrees with what we have so referred. *R. floribundus* seems to occupy a position between *peltatus* and *heterophyllus*, and is not easily separable from either."—J. W. WHITE. "My specimen has the tapering peduncles, contiguous petals, and club-shaped stigmas of *R. peltatus* Schrank."—W. H. PEARSALL. "*R. floribundus* Bab."—W. P. HIERN and G. C. DRUCE.

Ranunculus peltatus Schrank, var. *pseudofluitans*, or *R. fluitans* Lam. [Ref. No. O.60.] Frilsham, Berks, May 1915. In a chalk stream, in great quantity and in magnificent flower, but the petals drop very quickly, and their beauty was lost to a great extent in drying, although I had paper close by. It is a very noticeable plant, which I hesitate to put to *peltatus*, while the submerged leaves seem scarcely long or stout enough for *R. fluitans*, and the floating leaves too pronounced. The mud form of this plant shows greater affinities with *R. peltatus*.—G. C. DRUCE. "*R. fluitans* Lam."—W. P. HIERN. "A wonderfully luxuriant form of *R. peltatus*. I hope Mr Druce may be able to get it in fruit. The flowers are the largest I have seen."—J. GROVES.

Ranunculus sphaerospermus Boiss. Cuxham, Oxon, June 1915. This is the same plant as commented on in *Rep. B.E.C.* 227, 1912. Probably *penicillatus* from other localities may be this plant.—G. C. DRUCE. "*R. sphaerospermus* Boiss. and Blanche."—W. P. HIERN. "A good example of what I understand as Hiern's form *sphaerospermus*, but whether *R. sphaerospermus* Boiss. and Blanche I cannot say. It seems to me quite as good a species as the others. I do not at all agree with Mr Druce in placing it with *R. peltatus*."—J. GROVES.

Ranunculus Ficaria L., nov. var. *sinuata* mihi. (with type for comparison). Ratcliffe, Leicester, April 29, 1908. A comparison between the sinuate-margined plant and the type shows, even in the dried state, how distinct they are. These examples are perhaps fairly extreme, and one may frequently meet with forms that are somewhat intermediate, but the Ratcliffe plants had a distinct habit of their own. The type is a compact rosette type of plant. This variety is a stoloniferous plant. Stoles are shown in some examples creeping over the ground and rooting at intervals. Fresh plants spring up at the branching of the stoles and in the axils of the main stem. These plants also formed a continuous bed as in the case of other stoloni-

ous plants. The type usually grows in small scattered clumps, then continuous multiplied by bulbils or tubers. *Planta stolonifera* stands; foliis dentatis, sinuatis, apice acuto, basi rariter incumbente. A. R. HORWOOD.

Caltha palustris L., var. *Guerangerii* (Bor.). Marsh by the river Adlestrop, v.-c. 33, May 21, 1915. The sepal character was not well marked, but the long stigma and peculiar shaped follicle were characteristic. The plants wanted careful selection, as many intermediates between the variety and the type were present. The type is much commoner than the variety.—H. J. RIDDELSDELL. "My specimens having no sepals lack the chief distinguishing features of the variety."—G. C. DRUCE.

Corydalis claviculata DC. [Ref. No. 151.] Climbing through horse, Holt Lows, August 2, 1915.—F. ROBINSON.

Fumaria capreolata L., var. ? [Ref. No. 155.] Cultivated land among peas and on hedgebanks near Ormsby, Norfolk, August 15, 1915.—F. ROBINSON. "This is a lax form of *F. muralis*, sub-sp. *Boraei* Pugsley."—H. W. PUGSLEY and E. S. MARSHALL.

Fumaria capreolata L. (1) Hedgebank above Pwllycroggan Woods, near Colwyn Bay, Denbigh, v.-c. 50, June 22, 1915; and (2) Hedgebank near Llanellian, near Old Colwyn, August 28, 1915.—C. WATERFALL. "Is not this *F. purpurea* Pugsley?"—E. S. MARSHALL. (1) This is the Welsh plant described (*Fumaria in Britain*) as *Fumaria muralis* Sond., sub-sp. *Boraei* Pugsley, var. *britannica*, sub-var. *longibracteata*; (2) This is *F. capreolata* L., var. *Babiingtonii* Pugsley (a weak shade form).—H. W. PUGSLEY.

Fumaria Vaillantii Lois., var. *Charini* Rony and Foucaud. [Ref. No. 121.] Sainfoin field, Threxton, Norfolk, June 17, 1915.—F. ROBINSON. "The sheet forwarded shows two plants of *F. officinalis*, one apparently var. *Wirtgeui* Haussk., and the other a form with small sepals, but in other respects nearer the type. The accompanying packet of fruits is mixed, and includes *F. Boraei*, &c."—H. W. PUGSLEY. "*F. officinalis* certainly."—H. J. RIDDELSDELL.

Fumaria parviflora Lam., var. *acuminata* Clavaud. [Ref. No. 120] Sainfoin field, on light soil, Threxton, Norfolk, June 13, 1915.—F. ROBINSON. "This is rather an early flowering state of *F. parviflora*. In the var. *acuminata* the corolla is more broadly winged and more tinged with pink, while the fruits are less globular, and more attenuate upwards."—H. W. PUGSLEY.

Barbarea arcuata Reichb. Near Loch Fithie, Forfar, July 17, 1915.—R. & M. CORSTORPINE. "*B. vulgaris*, var. *arcuata* Fries

(*B. arcuata* Reichb), but not extreme."—A. B. JACKSON. "My example has no ripe pods, but it looks correctly named."—C. E. SALMON.

Cardamine flexuosa With. (*C. sylvatica* Link), b. *umbrosa* (Gren. & Godr.) Very luxuriant by Rea Brook, Meole Brace, Salop, May 1915. Gathered in May, after a winter during which this stream, important as a tributary of the Severn, had two or three times been in excessive flood. The plants are, perhaps for this case, more luxuriant than I have ever seen the species previously.—J. COSMO MELVILL. "I do not think this will pass for the var. *umbrosa*. The leaflets are too narrow and not sufficiently angular, and the margins are rather entire than toothed and cut. Is it not the typical plant, the var. *genuina* Gren & Godr.? The specimens received are certainly not 'very luxuriant' (as the label says). They are nothing like so strong growing as examples of this var. that I have from the south-eastern counties."—C. E. BRITTON. "My examples agree well, I think, with the var."—ED.

Alyssum alyssoides L. Severn bank, Laurence Weston, West Gloucester, v.-c. 34, May 6, 1915.—Miss IDA M. ROOPER.

Erophila —? [Ref. No. 97.] Dry bank under beech tree, Watton, Norfolk, April 14, 1915.—F. ROBINSON. "Perhaps *E. vestita* Jord., which is a very hairy state of *E. leptophylla*. Note the very hairy calyx and leaves."—J. A. WHELDON.

Erophila —? [Ref. No. 98.] Old ant hills on heathy ground, Ovington, Norfolk, April 12, 1915.—F. ROBINSON. "I believe this to be what I have called *E. virescens* Jord."—E. S. MARSHALL. "*E. brachycarpa* Jord."—J. A. WHELDON.

Erophila verna E. Meyer, var. *majuscula* (Jord.) Widdy Bank pastures, Teesdale, v.-c. 66, May 25, 1915. In abundance. Petals veined, and exceeding the sepals. Hairs 2-3-fid., silicules rounded at top, obovate-oblong. Twelve fruits examined contained on an average thirty-four seeds each.—J. CRYER.

Erophila majuscula Jord.? [Ref. No. 882.] Cornfield, Alphamstone, N. Essex, v.-c. 19, May 16, 1915. Silicules 6.5—7 × 2.5—3mm. Seeds about 20 in each loculus. Hairs bifid. Habit and characters of restricted *E. majuscula* Jord., but number of seeds less than 30 in all the loculi examined.—G. C. BROWN. "I should name these [Ref. Nos. 882 and 884] *E. verna* (*vulgaris* DC.)."—E. S. MARSHALL. "Yes, *E. majuscula* Jord. Jordan describes the leaves as longly narrowed into the petiole, as shown in these examples. The flowers much exceeding the calyx, broader silicule (3mm.) and prominent style

dily separate it from *E. occidentalis* and *E. stenocarpa*."—J. A. WHELDON.

Erophila (*Majuscula* section). [Ref. No. 884.] Cornfield, Althamne, N. Essex, v. c. 19, May 16, 1915. Silicules 5—6 × 2.5—3mm. Seeds 25—30 in loculus. Hairs bifid.—G. C. BROWN. (See note under 882.) "I think this is somewhat intermediate between *E. majuscula* and *E. occidentalis*, perhaps nearer the latter in having eading pedicels and a very depressed style, but the silicules are piently 3mm. wide, whereas Jordan describes those of his plant as y 2mm."—J. A. WHELDON.

Erophila (*Leptophylla* section). [Ref. No. 883.] Cornfield, Althstone, N. Essex, v. c. 19, May 16, 1915. Silicules 6.5—7.75 × 1.75—2.5mm. Seeds about 20. Hairs bifid. There is considerable variation in the form of the silicules on each plant.—G. C. BROWN. cannot separate this from No. 882. Typical *E. leptophylla* has culcs 2 mm. wide; these are 3mm. Trifid hairs can readily be nd, although they are less numerous, and a greater proportion id than in No. 882. The leaves are not, in the best developed plant it, either narrowly linear-lanceolate or entire as described by rdan."—J. A. WHELDON.

Erophila. [Ref. No. O.9.] Stadhampton, Oxon, May 1915.—G. C. DRUCE.

Erophila. [Ref. No. O.10.] Stadhampton, Oxon, May 1915.—G. C. DRUCE. "*E. praecox* DC."—E. S. MARSHALL.

Erophila. [Ref. No. C.13.] Marston, Oxon, May 1915.—G. C. DRUCE.

Erophila. [Ref. No. O.7.] Cassington, Oxon, May 1915.—G. C. DRUCE.

Erophila. [Ref. No. O.6.] Yarnton, Oxon, May 1915.—G. C. DRUCE. "*E. praecox* DC."—E. S. MARSHALL.

Erophila. [Ref. No. C.10.] Stanton St John, Oxon, May 1915.—G. C. DRUCE. "*E. praecox* DC."—E. S. MARSHALL.

Erophila. [Ref. No. C.12.] Stanton, Oxon, May 1915.—G. C. DRUCE. "*E. praecox* DC."—E. S. MARSHALL. "The few seeded ant with strongly recurved pedicels belongs to stirps *brachycarpa* rd., but is more robust and shorter than usual, and with longer licules. It might perhaps be labelled *E. praecox* (agg.)."—J. A. WHELDON.

Cochlearia. The Lurgies, salt-water marsh, near Montrose, v.-c. 19, June 20, 1915. This plant is neither characteristic of *C. officinalis* nor *C. anglica*, var. *Hortii*, amongst both of which it grows. Might it be a hybrid of these two?—R. & M. CORSTORPHINE. "My specimen agrees very well with a plant I gathered in a salt marsh near Tain, 1891. They differ from typical *C. officinalis* in the truncate (or very slightly cordate) radical leaf-bases; but the capsules and styles are normal. So far as I remember *C. anglica* did not occur at Tain, and I think that both are *officinalis* forms rather than hybrids."—E. S. MARSHALL. "The only features in which this differs from our common N. West coast *C. anglica* are the slightly shorter style and the larger petals. I think it is a form of *C. anglica* and not a hybrid. In collecting *Cochlearia* the primordial leaves should be shown if possible, and those have nearly always disappeared in fruiting plants. They are not present in these examples. The leaves of these plants could be exactly matched on undoubted *C. anglica* in parts of the Lancashire coast where *C. officinalis* does not occur."—J. A. WHELDON.

Cochlearia alpina Wats. Widdy bank pastures, Teesdale, v.-c. 66, altitude 1250 feet. In abundance, May 27, 1915.—J. CRYER. "Yes."—E. S. MARSHALL.

Sisymbrium Sophia L. Waste ground near Freshfield, edge of sand dunes, S. Lancs., v.-c. 59, August 28, 1915.—C. WATERFALL. "Yes; put in the genus *Descivirania*, in the American Check List."—G. C. DRUCE.

Sisymbrium orientale L. Fallow (after potato clamps), Gt. Wymondley Rd., Hitchin, Herts., v.-c. 20, June 23, 1915.—J. E. LITTLE. "Yes. Unless in fruit this can easily be taken for *S. Irio*, the London Rocket, to which it bears a general resemblance; but the pedicels of the latter are at least one-fourth the length of the pods."—J. W. WHITE and G. C. DRUCE.

Sisymbrium Irio L. [Ref. No. 104.] Marston, Oxon, August 1915.—G. C. DRUCE. Garden weed, Watton, Norfolk, May 4, 1915. This plant appeared as a weed in my garden four years ago, and has come up ever since. This year it is abundant.—F. ROBINSON. "Yes."—G. C. DRUCE.

Sisymbrium Thalianum (L.) Druce, *forma*. Cuxham, Oxon, April 1915. A small stiff form growing on a brick wall with *Erophila*, which it mimics in habit.—G. C. DRUCE.

Couringia orientalis Dum. = *Erysimum orientale* Mill. [Ref. No. 123.] Cultivated land, Watton, Norfolk, June 13, 1915.—F. ROBINSON.

es, *Coumringia orientalis* Dum. This is not included in *Fl. Norfolk*, p. 53.—G. C. DRUCE. "Also from mangel field, Lambourne, 1. August 1915."—F. RILSTONE. "Yes."—G. C. DRUCE.

Brassica Rapa L. [Ref. No. 666.] Yarnton, Oxon, June 1915.—G. C. DRUCE. "Yes."—A. THELLUNG.

Brassica elongata? [Ref. No. 139.] Cultivated land, Watton, Norfolk, July 3, 1915.—F. ROBINSON. "Not *elongata*, but a form of *ca*."—G. C. DRUCE.

Crucifer. On building land, formerly sand hills, off All Saints' Road, St Anne's-on-the-Sea, N. W. Lanes., v.c. 60, August 29, 1908.—C. BAILEY. "*Brassica elongata* Ehrh., var. *integrifolia*."—H. J. RIDDELSDELL.

Crucifer. On waste ground, formerly sand hills, east and west of Saints' Road, St Anne's-on-the-Sea, N. W. Lanes., v.c. 60, July 1908.—C. BAILEY. "*Brassica elongata* Ehrh., var. *integrifolia*."—H. J. RIDDELSDELL.

Brassica [Ref. No. 130.] Cultivated land, Watton, Norfolk, June 29, 1915.—F. ROBINSON. "The yellow-flowered form of *Eruca sativa* Lam. Is it distinct from the white-flowered form?"—J. A. BELDON. "*Eruca sativa* Lam."—C. E. BRITTON.

Diploturis muralis DC. [Ref. No. 168.] Railway line, Sahamney, Norfolk, September 12, 1915.—F. ROBINSON. "Yes."—G. C. DRUCE.

Bursa pastoris Weber. A point to remember in the determination of *Capsella* varieties is that the plant must be mature; if not, the lower ones will exhibit a great amount of variation, and more than one form will occur on the same raceme, the lower ones being less mature than the upper. There is another point that should be considered. One or two specimens do not so well exhibit the characters of a variety as a whole series, presuming the whole series belongs to the same variety. So far as my own set goes, and the others also sent to the author, I have of course seen the whole series of each form sent, and am in this case in a better position to say if the set exhibits variation *per se*, or if the individual specimens are all typical. Unfortunately in procuring, as I wished to do, a full set of examples of Cott's forms, I was unable to obtain as good material as I should have liked owing to the lateness of the season, but in spite of that the sets sent out are fairly typical, and though in some cases not beyond dispute, I think my determinations may stand. In elucidating the different forms I have had the advantage of comparison with

Mott's type specimens, and my specimens tally with his descriptions and the specimens which are based upon them.

As many members may not have access to his descriptions they are given below :—

Section A.—Radical leaves mostly lyrate to pinnatifid.

var. 1.—*Gracilis*. Radical leaves rather thin, lyrate or pinnatifid, capsule small, obovate, notch very shallow or none.

var. 2.—*Densifolia*. Radical leaves firm, short, closely pinnatifid in a dense rosette, capsule forming nearly an equilateral triangle, notch shallow, lateral margins convex. On walls and in dry places.

var. 3.—*Stenocarpa-lyrata*. Radical leaves thin, toothed or lyrate, capsule long, narrow obovate, notch moderate, lateral margins convex, lobes not divergent.

var. 4.—*Stenocarpa-coronopifolia*. Radical leaves thin, pinnatifid, pinnæ acute with the front margins toothed, capsule long, narrow obovate, notch moderate, lateral margins convex, lobes not divergent.

var. 5.—*Brachycarpa*. Radical leaves rather firm, toothed, lyrate or pinnatifid, capsule forming an equilateral triangle, notch shallow, lateral margins straight. This may perhaps be the typical form.

Section B.—Radical leaves mostly entire or toothed, rarely pinnatifid.

var. 6.—*Rubellæformis*. Radical leaves rather firm, entire or toothed, capsule forming an isosceles triangle, notch moderate, lateral margins concave, giving to the lobes a slightly recurved appearance. In the true *rubella* the recurved character of the lobes is more distinctly marked.

var. 7.—*Macrophylla*. Radical leaves thin, pale green, 3 inches to 6 inches long, $\frac{1}{2}$ to 1 inch broad, lanceolate or oblanceolate, entire or toothed, capsule forming an isosceles triangle, large, notch deep, lateral margins slightly convex, lobes not very divergent.

var. 8.—*Bifida*. Radical leaves thin, scarcely so large as in the last, almost entire, capsule large, forming an isosceles triangle, notch deep, lateral margins straight, lobes widely divergent.

See *Flora of Leicester*, 1886, pp. 16-18, with figure of the seven forms of the silicules.

Though I have examined a good deal of *Capsella* mainly from similar soils, since there is no doubt that soil differences play a great part in their variation, I shall be glad to see fresh material from any part of the country.—A. R. HORWOOD.

Capsella Bursa-pastoris Med. Garden weed, Dalton-in-Furness, v.-c. 23, August 30, 1915.—D. LUMB. "This I put to *bifida*."—G. C. DRUCE. "This is quite typical of the sub-species *Capsella bifida* Hobkirk, probably a 'good' species. I have seen examples that I would refer this form from the Canary Islands and Australia."—C. E. BRITTON. "I agree that these specimens should go to *bifida*, though the lateral margins are very frequently convex, as in *macrophylla*, and the emergent lobes are recurved as in *rubellaeformis*. It is a more robust form than the latter."—ED.

Capsella agrestis Jord. Cultivated fields, Kirkby, S. Lanes., v.-c. 23, June 10, 1914.—J. A. WHELDON. "I put this, for the time, under *bifida*, as a form with somewhat-cut leaves."—G. C. DRUCE. "This is not Jordan's *agrestis* but the plant we know as var. *bifida* (Mott) = sub-sp. *C. bifida* Hobkirk. *C. agrestis* Jord. is clearly a plant of the *densifolia* and *coronopifolia* affinity, distinguished by the deeply divided leaves and much narrower silicles."—C. E. BRITTON. "This plant agrees well with a specimen collected by Mott, and called 'intermediate between *macrophylla* and *bifida*.' One or two of the other specimens agree with *bifida*, but on the whole the resemblance to *macrophylla* which has sometimes radical leaves of the pinnatifid type."—ED.

Bursa pastoris Weber *Capsella Bursa pastoris* Medic, var. *agginton*, on garden paths, v.-c. 23, September 10, 1915. Much sturdier than usual; many adpressed stellate hairs on stem and leaves, many long caducous simple or forked or stellate hairs on calyx. The stellate hairs appear sometimes even on the sepals and capsules. The dark purple hue of buds, stems, sepals, extending even to the petals and seed vessels is very striking, especially in young plants. The greenness seems to disappear (nearly wholly) from the stem adjacent to the developed seed vessels, but not above and below. The capsules are often malformed and the whole plant dwarf, owing to an infestation with aphids. But many of the plants are quite free from the pest, and often make good and normal growth. H. J. RIDDELSDELL. "No satisfactory conclusion can be drawn from a study of these plants, representing as they do, a pathological condition, probably induced by the yeomycete *Cystopus candidus* which is apparent on the leaves. The simple sepals and short purple-tinted petals, mass of clustered flowers, in which the silicles are simultaneously emerging (apparently utilised in the unopened flowers), all point to abnormality, otherwise far as the shape of leaves and silicles allow, this form is related to the sub-species *Capsella bifida* Hobkirk."—C. E. BRITTON. "I would call this var. *rubellaeformis* (Mott). It is certainly an unusual form, but in this genus there are endless forms and states. On a single stem the capsules may approximate to all the prescribed forms of the species as based on mature examples, though themselves exhibit-

ing all stages of maturity, which is only an example of the well-known principle of recapitulation. Most of the entire-leaved types exhibit more hairiness than the forms with lyrate or other types of divided foliage. The particular form of hairiness and its distribution is certainly unusual. The above identification is based on a study of the entire set sent. Considered individually, some of the sheets might perhaps be referred to var. *brachycarpa* or those with pinnatifid radical leaves to *macrophylla*. There are many capsules in which the lateral margin is straight, a character of var. *bifida*. But each plant exhibits the recurved character of the valves pointing to *rubellaeformis*. The purplish tinge is most well-marked as a rule in var. *brachycarpa*, from which this var. is not far removed. There seems, however, to be a mixture here."—ED.

Bursa (Capsella) pastoris Weber. [Ref. No. 933.] Botley, Oxon, July, 1915. This comes to var. *bifida* (Mott), and to this probably goes No. O. 801), Oxford. This seems to be a distinct species which comes true from seed.—G. C. DRUCE. "These should be placed under *brachycarpa*, of which they have the characteristic purplish-tinged silicules. On Mott's type the silicules are not uniformly equilateral, and the Botley plants vary in the same manner. The habit is very distinct, with short and small rosette leaves, and sub-patent stem leaves, and racemes longer than the stem."—ED.

Bursa (Capsella) pastoris Weber. [Ref. No. O.801.] Oxford, July 1915.—G. C. DRUCE. (See note *infra*.) "With the large macrophyllous foliage and distant silicules on long pedicels this plant approaches nearest *macrophylla*, but the silicules are not well developed in the larger examples, and the smaller fuller fruited specimens resemble, on the one hand, the Wigginton plants, being somewhat intermediate, and on the other the Kirkby plants. They are intermediate between *macrophylla* and *bifida*, or perhaps *rubellaeformis*."—ED.

Bursa (Capsella) pastoris Weber. [Ref. No. O.963.] Abingdon, Berks, July 1915.—G. C. DRUCE. (See note *infra* by Mr Britton.) "These are excellent examples of Mott's *densifolia*."—ED.

Bursa (Capsella) pastoris Weber. [Ref. No. O.995.] Hailey, Oxon, July 1915.—G. C. DRUCE. (See note *infra* by Mr Britton.) "These are intermediate types, difficult to place definitely. They exhibit affinity to *macrophylla* in the long convex-sided silicules with shallow notch, and less divergent lobes, but these are less frequent than the straight or concave-sided silicules with distinctly recurved lobes. I regard this plant, with its pinnatifid radical leaves, as an intermediate between *macrophylla* and *rubellaeformis* with but distant relationship to *bifida*."—ED.

Bursa pastoris Weber, var. *densifolia* (Mott). [Ref. No. B. 33.]
 ubble and potato field, Syston, Leicester, November 25, 1915.—A. R.
 HORWOOD. "Yes, I agree that this must go to Mott's *densifolia*,
 which I take to be sub-sp. *Capsella stenocarpa* of Hobkirk."—C. E.
 BRITTON. "These plants were mature, and a pure stock, without any
 mixture, as occurs sometimes. The silicules are longer than broad,
 with a shallow notch as in the type."—ED.

Bursa pastoris Weber, var. *densifolia* (Mott). [Ref. No. B.11.]
 Scraptoft, Leicester. [Ref. Nos. B.8 and B.18.] Humberstone,
 Leicester, December 5, 1915.—A. R. HORWOOD. "An accidental
 mixture of forms here, no doubt. The smaller plant is certainly
 Mott's *densifolia*, but the larger one is, I believe, a pinnatifid-leaved
 variety of *Capsella bifida*. Plants that I refer to Mott's *densifolia*
 occur in Canada and the United States."—C. E. BRITTON. "There
 may have been some intermediates here, but the gatherings were for
 the most part pure, with silicules little if anything longer than broad,
 and with long racemes, and small mainly dentate radical and stem
 leaves, undoubtedly coming under *brachycarpa*, which, when at all
 variable, shows superficial resemblance to *densifolia*, but in that the
 silicules are much longer than broad, the plants are normally twice as
 tall, and the radical leaves are generally divided, and not entire."—ED.

Bursa pastoris Weber, var. [Ref. No. B.12.] Scraptoft, Leicester,
 December 5, 1915. These are small examples of probably *brachycarpa*,
 but growing on a cinderpath with little soil they were very small
 though well in fruit. They may be provisionally placed there, though
 they may turn out to be a small form of *rubellaeformis* to which they
 bear some resemblance in the concave lateral margins and rather
 divergent lobes.—A. R. HORWOOD.

Bursa pastoris Weber, var. *brachycarpa* (Mott.) [Ref. Nos. B.7.
 17.] Humberstone, Leicester, December 5, 1915.—A. R. HORWOOD.
 Two plants on this sheet; the smaller looks abnormal, and the
 larger is not *brachycarpa* Mott, but a small form of *C. bifida* Hob-
 kirk."—C. E. BRITTON. "There is no affinity between these plants
 and *bifida*, the notch being far too shallow, and the lateral margins
 are mostly convex, whilst the silicules are nearly always as broad as
 long, whereas in *bifida* the notch is deep, the lateral margins are
 straight, the silicule is longer than broad, and as a general rule the
 foliage is much larger or of the macrophylloid type, whereas here the
 leaves are as in *brachycarpa* or *rubellaeformis*."—ED.

Bursa (Capsella) pastoris Weber. [Ref. No. 931.] Chute, Wilts,
 July 1915. This goes to var. *densifolia* (Mott), with which Mr C. E.
 Britton agrees, and to this he would refer O.963 from Abingdon,
 Wilts., and O.995 from Hailey, Oxon.—G. C. DRUCE. "Yes, I should

place these under *densifolia*, though the foliage is more characteristic of *stenocarpa-coronopifolia*."—ED.

Bursa pastoris Weber, var. *bifida* (Crépin). [Ref. Nos. B.9 and B.19.] Humberstone, Leicester, December 5, 1915.—A. R. HORWOOD. "Yes, I think it is quite likely that the plants sent from the same locality under the name of *rubellaeformis* are likewise *bifida*."—C. E. BRITTON. "Not as typical *bifida* as I should like to have sent. There is one characteristic of *bifida* which may help to identify it. It is by no means a common form, in fact scarce. As a rule it does not occur in numbers, but where it grows it is generally free from admixture with other forms, and so can be readily discriminated"—ED. "This is not my experience with *bifida*."—G. C. DRUCE.

Bursa pastoris Weber, var. *rubellaeformis* (Mott). [Ref. No. B.4.] Waste ground, Humberstone, Leicester, Nov. 28, 1915.—A. R. HORWOOD. "May be *rubellaeformis*, but it is not typical; the lateral margins of the silicles are not conspicuously excavate, nor are the silicles sufficiently attenuate at the base. There is a considerable suggestion of *C. bifida* Hobkirk about these plants. Mott's name of *rubellaeformis* is rather inappropriate, as there is very little resemblance to *C. rubella* Reuter. This latter has been reported from Britain, but I have not seen any form that I would refer to Reuter's species. De Crespigny's plant from Cliftonville, Brighton, 1883, referred to *rubella* is certainly not that."—C. E. BRITTON. "I agree with Mr Britton that this is not typical *rubellaeformis*, some of the plants at any rate being far too large and robust for that form, which is, like *brachycarpa*, a small species. It is also too large for *bifida*, and may have some strain of *macrophylla* in it. I consider it an intermediate between the two, with the habit and foliage of *macrophylla* and the inflorescence of *rubellaeformis*."—ED.

Bursa pastoris Weber, var. *rubellaeformis* (Mott). [Ref. Nos. B.14, B.20.] Humberstone, Leicester, December 5, 1915.—A. R. HORWOOD. "It is very difficult to decide whether one is not dealing with *C. bifida* Hobkirk. I have seen similar plants labelled by Mott '*bifida* tending towards *rubellaeformis*.' *Rubellaeformis*, though probably to be placed under *C. bifida* as a var., when well-marked is an easily recognised form, and I have seen plants that I would place to it from such remote places as Palestine and Sikkim."—C. E. BRITTON. "The var. *rubellaeformis* is a common form, in contradistinction to *bifida*, which is rare. The former grows with other varieties, and is a most variable plant, which presents, in some of its states, some difficulty in determining it, as there is little doubt that other varieties may show a resemblance to it in the fruit characters whilst manifestly distinct in other respects. Moreover, if one can speak of hybrid Capsellas, it is not unlikely that it is crossed with the

her dominant forms such as *brachycarpa*, *densifolia*, and *macrolylla*. In this case B. 14 is pretty typical but approaches *brachycarpa*. B. 20 is nearest the typical form."—ED.

Bursa pastoris Weber, var. *stenocarpa-coronopifolia* (Mott). [Ref. Nos. B.26 and B.35.] Kibworth, Leicester, December 1915. Radical leaves showing the characteristic early linear leaflets. Coll. Miss M. WURFON; comm. A. R. HORWOOD. "Leaves alone are insufficient to determine Mott's variety."—G. C. DRUCE. "Leaves of this type pinnatifid, with distant segments consisting of a broader basal portion, irregularly dentate on the interior margin, and with the anterior margin entire and prolonged into a narrow entire lobe two or three times longer than the basal portion, is characteristic of the form called by Mott *stenocarpa-coronopifolia*. However, it is impossible to discriminate by the form of the radical leaves alone between the vars. *cuneata* and *stenocarpa-coronopifolia*, as these two, as well as *densifolia*, grade into each other."—C. E. BRITTON. "As radical leaves may often be found which are puzzling, I thought a few which had been definitely traced to parent plants of a known form might help to enable one to differentiate between the three forms which can be confused—*densifolia* and the two forms of *stenocarpa*. In my experience *cuneata* has undivided radical leaves as a rule."—ED.

Bursa pastoris Weber, var. *stenocarpa-lyrata* (Mott). [Ref. No. B.6.] Humberstone, Leicester, December 5, 1915.—A. R. HORWOOD. "No fruits on my specimen, but not, I think, *stenocarpa-lyrata*."—G. C. DRUCE. "This is certainly not the plant designated by the phrase *stenocarpa-lyrata* by Mott (scarcely a varietal name!) Mott's type agrees with his description in possessing long narrow obovate capsules with the lateral margins convex and with the lobes not divergent. The capsules of this plant are triangular, with a tendency for the lobes to diverge. I believe this plant to be a pinnatifid-leaved var. of *C. bifida* Hobkirk."—C. E. BRITTON. "Mott's *stenocarpa-lyrata* as defined by him differs from *stenocarpa-coronopifolia* in the form of the radical leaves. In *lyrata* they are thin, toothed or lyrate; in *coronopifolia* they are thin, pinnatifid, pinnae acute, with the front margins toothed. The leaves in *bifida* are almost entire, as type specimens show. Comparison between the two forms of *lyrata*, as the type specimens prove, makes the form distributed somewhat intermediate between the two, some of the leaves having pinnae with no teeth on the front margin, whilst others have many. It is therefore right to refer this to an intermediate, as might have been stated on the labels. The silicules belong to the *stenocarpa* type, longer than broad, with shallow notch."—ED.

Bursa pastoris Weber, var. *stenocarpa-coronopifolia* Mott. [Ref. No. B.1.] Narborough. Accepting the validity of the segregates

recognised by Jordan, Hobkirk, Mott, and others, it is hardly consistent to place the above and other forms under (or as equivalent to) var. *agrestis*. If this be done then the included forms must be dropped, or merged under a name which combines them *sensu lato*. But I maintain that *B. pastoris*, var. *densifolia*, *stenocarpa* (with its forms *coronopifolia* and *lyrata*) are distinct. The former has a basal rosette of leaves which rarely have a large terminal lobe. The whole plant is greyer, more hairy than *stenocarpa*, in this respect resembling *macrophylla*. Also var. *densifolia* is a smaller plant, and its habitat different. The texture is different. Most plants that one would refer to *stenocarpa* are transparent bright green, and usually the stems are much branched; in *densifolia* they are solitary or dichotomous only. These are differences not noted in the original descriptions, but enable one in the field to discriminate with a fair degree of certainty between the allied varieties. Moreover I think the published descriptions are good enough to regard them as sufficient bases for distinction, and to warrant the separation of the named forms. But in the near future they may require some revision. A point to notice in dealing with *Capsella* forms is the change undergone by the silicles in the process of drying, or when immature or in old age. The series of silicles in a complete raceme needs to be studied in the light of the probable trend of evolution of these forms; and to determine the character of the mature silicle of any particular form of plants when a raceme of wholly mature silicles is not available, one needs to examine a fair series of individuals of presumably or certainly the same variety. On waste ground, since the plant seeds freely one can usually find a fairly large colony of the same form, with numerous individuals that can be brought under the same form, and if the characters are noted on the spot, they will be found to be more reliable than diagnoses drawn up from dried material. In the process of drying shrinkage and contortion take place in these geometrically shaped capsules which may make a curve that was convex become straight or nearly so, and a straight line concave, and so on. There is a tendency towards a tortion of the corners of the valves which takes place in forms not really referable to *rubellaeformis* where the basal angles of the obtriangular (if one can use this term) silicle are recurved.—ED.

Bursa pastoris Weber, var. *stenocarpa* Crépin, f. *coronopifolia* (Mott). [Ref. No. B.3.] Stubble field, Narborough, Leicester, October 1915. This is one of the tall robust types of *Capsella*, which form one extreme of the var. with the short small plants with very bifid capsules at the other end. The var. *stenocarpa* has well marked capsules which are fairly uniform; but the foliage varies between that of a typically lyrate leaf and the present form, which seems to be the dominant one.—A. R. HORWOOD.

Bursa pastoris Weber, var. *stenocarpa-coronopifolia*. [Ref. No.

1.] Narborough, Leicester, October 1915. — A. R. HORWOOD. Yes, this is the form called by Mott *steuocarpa-coronopifolia*, and rich should, I think, be placed under Jordan's *agrestis* as a variety. This plant is not the same as Hobkirk's sub-sp. *C. steuocarpa*, which is rather *densifolia* Mott. This plant shows in a very clear manner what I have pointed out in the case of *bifida*, namely, that the earliest formed silicules differ in shape from those formed later. When this occurs it will perhaps be best to ignore the shape of the earliest silicules and to consider those formed later. In the plant before me the silicules are rather deeper lobed than usual, but this alone is a trivial character, and the rosette of radical leaves, pinnatipartite, with stant, narrow, acute to acuminate segments, is fairly characteristic. When well marked, as in this case, the aspect is so distinct as to almost suggest that this form constitutes a good species, but I am confident this var. shades into *cuneata* and *densifolia*."—C. E. BRITTON. "Var. *cuneata* belongs to quite a different section of *Capsella*, and is allied to *bifida*. It has entire leaves and a different habit, being a small plant with few small leaves. *Densifolia* is a hairy thick-leaved plant, not thin and transparent as in *steuocarpa*. The capsule is shorter with a shallower notch."—ED.

Bursa pastoris Weber, var. *cuneata* Mott. [Ref. No. B.5.] Waste ground, Humberstone, Leicester, November 28, 1915.—A. R. HORWOOD. "I agree. It is, I think, but a form of *C. agrestis* Jord."—C. E. BRITTON. "The var. *cuneata* is allied to *C. bifida* and *C. rubellaeornis*, and has nothing to do with the pinnatifid-leaved, long-fruited forms, robust, and three times as tall, which as *steuocarpa* and *densifolia* appear to be included in *agrestis* as an aggregate."—ED.

Coronopus verrucarius M. & S. [Ref. No. 91.] Meadow land, Watton, Norfolk, September 14, 1914. I take this to be the form of *C. procumbens* growing on much-trodden land.—F. ROBINSON. "Yes."—ED. "Yes: but the correct name is *C. procumbens* Gilibert, *verrucarius* as a trivial being inadmissible."—G. C. DRUCE.

Lepidium heterophyllum Benth., var. *canescens* Gren. and Godr. Barmouth Junction, v. c. 48, August 10, 1915.—W. C. BARTON.

Lepidium [*heterophyllum* Benth.], var. *papillosum* Dunn. Roadside bank, Wareham, Dorset, v. c. 9, June 16, 1915.—Miss IDA M. ROPER.

Thlaspi arvense L. [Ref. No. 103.] Wheat field, Castleacre, Norfolk, May 28, 1914.—F. ROBINSON.

Rapistrum Linnaeanum B. & R. Waste ground, Epsom, v. c. 17, July 4, 1915.—W. C. BARTON. "This may be right, but it is certainly

different from plants from St Anne's-on-the-Sea, so named and distributed by Mr Bailey in 1907. I have nothing which quite matches Mr Barton's plant."—H. J. RIDDELSDELL.

Helianthemum canum Baumg. Limestone rocks, Little Orme, facing Llandudno, v.-c. 49, June 30, 1915.—C. WATERFALL.

Viola Riviniana Reichb., var. *nemorosa* N. W. & M. Under Hanging Hill, Lansdown, N. Somerset. v.-c. 6, May 13, August 24, 1915.—Miss IDA M. ROPER. "Has the compact habit and less developed calycine appendages of f. *nemorosa*. I have followed Neuman in reducing the status."—E. S. GREGORY.

Viola lactea × *Riviniana*. Orig. Tidenham, v.-c. 34; cult. October 14, 1915. This identification should be written with a query, as may be seen by a reference to Mrs Gregory's handbook. I have happily been able to assist her to a decision by sending a root of this plant to grow at Cambridge. The present specimens show the plant in the autumn state, with the minute autumn flowers. The locality at Tidenham produces some six or seven species of *Viola*, and no doubt hybrids in many degrees occur.—H. J. RIDDELSDELL. "Yes"—E. S. GREGORY.

Viola canina L., var. ——. [Ref. No. 143.] Selworthy Beacon, S. Somerset, v.-c. 5, alt. 800 ft., April 15, 1915.—W. C. BARTON. "From the long-fringed lower stipules and the long, narrow antherspurs, I judge these little plants to be nearer to *V. Riviniana* than to *V. canina*. A later, more mature gathering, is necessary to complete the diagnosis."—E. S. GREGORY. "Three small specimens which I believe (judging by habit, stipules, spur, &c.) are not *V. canina* but *V. Riviniana*, f. *minor*."—H. J. RIDDELSDELL.

Viola. [Ref. No. 165.] Heath-land, among gorse, Seaming Fen, Norfolk, September 2, 1915.—F. ROBINSON. "*V. canina*, var. *erice-torum* in its autumn state. Plants in the flowering stage would well complete Mr Robinson's specimens."—E. S. GREGORY. "*Viola canina* × *Riviniana*, I believe."—E. S. MARSHALL.

Viola odorata, forma. Lane, Wraxall, N. Somerset, v.-c. 6, March 24, August 13, 1915. Not a free bloomer, flowers small, scented, of a deep purple, with clear white eye, and very short hooked spur. Sepals margined with white, ciliate at base. Leaves hairy, the petioles with spreading hairs.—Miss IDA M. ROPER. "Evidently, I think, the *sub-odorata* form of *V. hirta* × *odorata*. Note, in confirmation, the spreading hairs."—E. S. GREGORY. "Not a form of *odorata*, but a hybrid × *hirta*."—J. W. WHITE.

Viola hirta × *odorata*. Alveston Common, West Gloucester, March 7, May 7, 1914.—J. W. WHITE. "A fine example of *V. hirta* × *odorata* (× *collina*) = *V. collina* Besser."—E. S. GREGORY.

Viola odorata × *hirta* = *V. permixta* Jord. [Ref. No. 829.] Clayey bank, near Edwardstone Church, W. Suffolk, v.-c. 26, April 11 and June 24, 1915. This seems to agree with Mrs Gregory's description of *British Violets* fairly well, except that the stolons are in some cases rather longer and the underground stems rather lighter in colour than one would expect.—G. C. BROWN. "Yes, *V. hirta* × *odorata* = *V. permixta* Jord. Unfortunately on the specimen sent for criticism the roots of late leaves lack stolons."—E. S. GREGORY.

Viola hirta × *odorata* [*Riviniiana* Reich. × *sylvestris*.] West Hill, Traxall, N. Somerset, v.-c. 6, March 31, August 13, 1915.—Miss IDA ROPER. "For these plants Miss Roper sent the wrong set of labels, a slip which I am sorry was not rectified before the plants were distributed."—ED. "I asked Miss Roper to explain her label, so inapplicable to examples of *V. odorata* × *hirta*, and learnt that, having written several sets of labels for various gatherings, she had in this instance inadvertently made use of the wrong ones."—J. W. WHITE. "*Viola odorata* × *hirta*."—E. S. GREGORY.

Viola variata Jord? Cult. fields on Simmonswood Moss, S. Lanes., v.-c. 59, June 26, 1915. Growing with *Viola Lloydii* × *segetalis*?—A. WHELDON. "I should like to have had the whole plant. Did it show tufted growth below? If so it is *variata*."—E. DRABBLE.

Viola Lloydii Jord. Cult. fields, Simmonswood, S. Lanes., v.-c. 59, June 26, 1915.—J. A. WHELDON. "The flowers seem very small for this."—W. H. PEARSALL. "Yes, *Lloydii*."—E. DRABBLE.

Viola Lloydii Jord., var. *insignis*. [Ref. No. 4072.] Abundant in wet fields, Melvich, W. Sutherland, v.-c. 108, July 15, 1915. Also seen in uncultivated ground near Strathy and Altnaharra. Named by Dr E. Drabble.—E. S. MARSHALL.

Viola Lloydii × *segetalis*? Cult. ground on Simmonswood Moss, S. Lanes., v.-c. 59, June 26, 1915. This was a very large plant bearing 93 robust flowering stems, growing with *V. Lloydii*, *V. lepidota*, and a narrow-leaved *arvensis* plant which I thought was *V. segetalis*. Specimens of this latter are sent. This hybrid may be the same as the Cockersham Moss *Viola carpatica*, but I cannot compare it, as Dr Drabble has my original examples. Dr Borbas thought his plant was a hybrid.—J. A. WHELDON. "The specimens do not show the lower parts. If the plant is annual it is apparently *V. Lejeunii*, but in the absence of the roots I cannot say definitely. *V. carpatica* Borbas can

hardly stand. There is no sign of hybridity in our English plants so named by Prof. Borbas."—E. DRABBLE.

Viola Deseglisei Jord. Cornfield, Urswick, v.-c. 69b, August 13, 1915.—W. H. PEARSALL. "The very deeply-cut leaves seem to place this under *subincisa* Jord. I have not seen British specimens before. *Subincisa* is probably merely a form of *segetalis*."—E. DRABBLE.

Viola arvensis Murray, var. *agrestis* Jord. Stubble field, Narborough, Leicester, October 23, 1915.—A. R. HORWOOD. "*V. agrestis*."—E. DRABBLE.

Viola derelicta Jord. [Ref. No. 4070.] Oat field, Melvich, W. Sutherland, v.-c. 108, July 15, 1915. Confirmed by E. Drabble.—E. S. MARSHALL.

Viola Lejeunii Jord. Growing in great quantity on peat, Deer Dyke Moss v.-c. 69b, July 24, 1915. The species is widely distributed here.—W. H. PEARSALL. "Yes."—E. DRABBLE.

Viola ruralis Jord. [Ref. No. 865.] Cornfield, Alphamstone, N. Essex, v.-c. 19, May 2, 1915. A new county record for v.-c. 19—G. C. BROWN. "Yes, large flowered *ruralis*."—E. DRABBLE. And No. 866, cloverfield, Shelley, W. Suffolk, v.-c. 26, May 20, 1915.—G. C. BROWN. "Yes, the stipules are by no means unusually leaflike."—E. DRABBLE. Also sent from Silverdale, v.-c. 60, May 20, 1914. Growing in very thin soil on rocks of carboniferous limestone, associated with *Potentilla verua*, *Orchis morio*, *Orchis mascula*, and *Erophila verna*, altitude 30 feet.—J. CRYER. "Yes, *ruralis*."—E. DRABBLE.

Viola arvensis Murray, var. *subtilis* (Jord.). Stubble field, Narborough, Leicester, October 23, 1915, and Normanton, near Bottesford, Leicester, May 21, 1915.—A. R. HORWOOD. "Both typical *ruralis*."—E. DRABBLE.

Viola arvensis Murray, var. *segetalis* (Jord.). Syston, Leicester, November 25, 1915.—A. R. HORWOOD. "Not *V. segetalis*."—W. H. PEARSALL. "*Segetalis*; the very broad obtuse lower leaves suggest *obtusifolia*; but the upper parts are sufficient to place the plant under *segetalis*."—E. DRABBLE. Also from Simmonswood, S. Lanes., v.-c. 59, June 26, 1915.—J. A. WHELDON. "No, this is *subtilis*."—E. DRABBLE.

Viola arvensis Murray, var. *obtusifolia* (Jord.). Stubble-field, Syston, Leicester, November 25, 1915.—A. R. HORWOOD. "*Agrestis*; the lower leaves are more rounded and the branches more tufted than usual."—E. DRABBLE.

Viola arvensis Murray, var. Hightown, S. Lincs, v.-c. 54, May 14, 1914.—J. A. WHELDON. "*V. Deseglisei*."—E. DRABBLE.

Dr Drabble says that he is only responsible for the names of *Viola elanum*) specimens he has seen himself.—ED.

Polygala calcarea F. Schultz. Naunton Seven Springs, v.-c. 33, May 28, 1915.—H. J. RIDDELSDELL. "Not yet observed on the site of Rutland, where *P. oxyptera* is not uncommon with *P. vulgaris* and *P. serpyllacea*."—ED. "Since this was written I have found it in Rutland and also in Leicestershire."—ED.

Saponaria Vaccaria L. [Ref. No. 129.] Cultivated ground, Sutton, Norfolk, June 20, 1915.—F. ROBINSON. "Yes."—G. C. DRUCE.

Silene Cserei Baumgart. Ironwork, Askam, August 28, 1915. Determination made by Mr G. C. Druce. See *Rep. B.E.C.* 9, 1914: 5, 1910.—D. LUMB. "Yes, the plant extends into Asia Minor, so that 'Turkish Barley' may have been its source of introduction."—G. C. DRUCE.

Silene annulata Thore? [Ref. No. 4163.] Alien. Abundant in the fields of *Trifolium incarnatum* L., near Milverton, v.-c. 5, Somerset, May 25, 1915. Annual, viscid, rather glaucous; flowers light rose. Known for several years to Messrs B. & M. Falcon. I do not know *S. annulata*, which Rouy and Foucaud in *Flore de France*, 1893, regard as a variety of *S. cretica* L., distinguished by its most globular capsules and shorter carpophores.—E. S. MARSHALL. I think this comes under the polymorphic *S. cretica* L., a native of the East of Europe. Rouy and Foucaud reduced Thore's *annulata* to a variety, and it is not even mentioned by Williams in his "Revision of the genus *Silene*," although he reduces *S. lychnidiflora* Otth. (synonymous with *S. annulata*) to a synonym of *S. cretica*."—G. C. DRUCE.

Silene anglica L. [Ref. No. 92.] Turnip-field, Saham Toney, Norfolk, October 8, 1914. This is now an abundant weed of cultivated ground here. It has spread with great rapidity in the neighbourhood during the last two or three years. Some specimens were only just coming into flower on this date, October 8, 1914.—F. ROBINSON. Also near High Hall Wood, Woodhall Spa, Lincolnshire, September 16, 1915. In S. Lincolnshire it is not uncommon in sandy fields on the Kimmeridge clay and kindred soils with *Filago minima*, *Leranthus annuus*, *Silene noctiflora*, *Spergula sativa*, *Ornithopus rpusillus*, &c.—A. R. HORWOOD. "Yes."—G. C. DRUCE.

Silene nutans L. Limestone crags, Little Orme, Carnarvon, v.-c. 1, June 30, 1915.—C. WATERFALL.

Cerastium tomentosum L. Chadlington, Oxon, May 1915.—G. C. DRUCE.

Cerastium arvense L. Wigginton Heath and Rollright, v.-c. 23, May 1915. Frequent with *Saxifraga granulata* along the high ground (c. 800 ft.) which divides Oxfordshire and Warwickshire.—H. J. RIDDELSDELL. "The same association occurs in Leicestershire, where the former grows at 700 ft. on the Marlstone, on hilly pasture, with *S. granulata* at a somewhat lower elevation, 650 ft., on Mid Lias Shales. Dunn includes *Cerastium arvense* in his *Alien Flora*, but it seems to me, in view of the above facts, on very slender grounds. On the oolite in Rutland it grows in rough *Brachypodium pinnatum* and *Bromus erectus* pasture with other typical oolite plants in profusion. Occasionally where ground has been ploughed up it is found with colonists, but like other native plants that equally persist, such occurrence is no ground for assuming the species is not native."—ED.

Cerastium vulgatum L., var. *holosteoides* Fr. In turf, Rowberrow Bottom, on Mendip, N. Somerset, v.-c. 6, May 18, 1915. Stamens 10.—Miss IDA M. ROPER. "Fries described the variety as 'glabrum, caule alterno latere pubescente.' My Perth specimens agree with this well enough; it is a much larger plant than the Mendip form, which has hairy leaves and sepals, and some of the stems are hairy all round."—E. S. MARSHALL. "Although on the stems of some of these specimens the pubescence is condensed into a line, and although not very dissimilar to others so named from inland stations, yet I can scarcely identify them with the tidal plant to which in Britain the name *holosteoides* was first given. That is a robust subglabrous plant with large flowers, and with much more definite lines of pubescence on the stem. The foliage of this plant is much too hairy for *holosteoides*."—G. C. DRUCE. "This interesting plant certainly seems to come very near *holosteoides* Fries, of which it has the stem pubescence, if it is not actually that, but the whole plant is rather hairy. I have much better *holosteoides* from near Alford, Aberdeenshire, collected by Mrs Wedgwood, in which the leaves are practically glabrous."—C. E. SALMON.

Cerastium vulgatum L., f. *macropetalum*. Easton, N. Hants, May 1915.—G. C. DRUCE.

Cerastium pumilum Curtis. Steep Holme, Somerset, May 1909.—G. C. DRUCE. And Snowhill, v.-c. 33, and Lyneham Camp, v.-c. 23, May 1915. A very rare plant in Oxfordshire. The E. Gloucestershire locality seems to be previously unrecorded.—H. J. RIDDELSDELL. "Hitherto not found on the oolite of the North Midlands."—ED.

Stellaria neglecta Weihe, var. *umbrosa* (Opiz). [Ref. No. 860.]

dge bank, Oldham, West Suffolk, v.-c. 26, June 8, 1915. Stamens
—G. C. BROWN. "A form of *S. media*, I think; seeds much too
all for *S. neglecta*."—E. S. MARSHALL. "Yes, the seeds have acute
percles, i.e., *S. umbrosa* Opiz."—G. C. DRUCE. "I believe correctly
med. Seeds acutely tubercled, pedicels and calyx glabrous."—C. E.
SALMON.

Stellaria neglecta Weihe. [Ref. No. 861.] Hedge bank, Stoke-
-Nayland, W. Suffolk, v.-c. 26, May 20, 1915.—G. C. BROWN. "I
l to see any perceptible differences in the seeds of these specimens,
, this and the previous specimen. The glabrous pedicels and sepals
m to be the best distinguishing characters of the former var.
umbrosa." [Ref. No. 860.]—W. G. TRAVIS. "Yes."—E. S. MARSHALL.

Arenaria serpyllifolia L., a. *scabra* Fenzl. Sandy roadside in the
mes, Freshfield, S. Lanes., v.-c. 59, July 19, 1914.—W. G. TRAVIS.
If this is meant for the type, it is not the typical form in this
untry, at any rate in the Midlands."—ED. "Is not this *A. lept-*
idos?"—E. S. MARSHALL. "Yes, I make this the type; the var.
stula (Martr. Don.), Rouy and Foucaud *Flore de France*, iii., 240.
ith green foliage, pubescent not glandular, and with open branches
ad long pedicelled fruiting branches, I have from Salisbury Crags."—
. C. DRUCE.

Sagina scotica Druce. Glen Phee, Forfar, August 1915. In the
gardener's Chronicle, 1000, 1860, Shirley Hibberd thus alludes to a
tant which is probably *scotica*, as the true *saginoides* is not likely to
e the one he had in mind. "*Spergula saginoides* is a British plant
almost as abundant in Scotland as the renowned Heather, and a com-
panion plant of rocky slopes and rocky hollows. During the winter
his preserves its green hue unhurt by frost or damp, and it is a shade
arker in colour than *pilifera*, [In *Index Kewensis pilifera* is said to
e = *subulata*,] and like it produces myriads of starry, snow-white
owers, one-half the size of *pilifera*. . . . It is as much at home on
and or gravel as *pilifera* is on heavy loam or clay. . . . It is only
n the circumference that it can make lateral growth. It is as fond
f the roller as *pilifera*, and the firmer the ground is kept after the
irst dressing the faster will it grow."—G. C. DRUCE.

Spergularia rupestris Lebel. Sea walls, Rhos-on-Sea, Denbigh-
hire, v.-c. 50, June 30, 1915.—C. WATERFALL. "Yes, and a new
ounty record."—G. C. DRUCE. "This plant Rouy calls *S. Lebeliana*,
as the name *rupestris* had apparently been appropriated, previous to
Lebel, for an entirely different plant."—C. E. SALMON. "The *Index*
Kewensis cites two *Spergularia rupestris* other than that of Lebel, one
of Fenzl which is = *rubra*, the other of Cambessedes = *villosa*; there-
fore unless there is still another claimant to the name there is no

reason to give a new name. Moreover, Lebel himself called it *rupicola* in his *Rev. Sperg.*, and this name would have priority over Rouy's *Lebeliana*, and was adopted by Babington in his *Manual* and in *E.B.* under t. 2977."—G. C. DRUCE.

Spergularia media Presl, (= *S. marginata* Kitt.) var. On the sea cliffs, Arbroath, Forfar, August 1915. Sent in order to show the stout rootstock, which I think is perennial.—G. C. DRUCE. "This seems to be *S. marginata* Kittel (= *S. media* Presl), with calyx and pedicels strongly glandular, but is not, I presume, var. *glandulosa* Druce, which has (*Hayward's Pocket-book*) 'stem and leaves strongly glandular.' This is not so in this Arbroath plant."—C. E. SALMON.

Polycarpon tetraphyllum L. [Ref. No. 106.] Paignton, near Torquay, May 22, 1915.—F. ROBINSON.

Claytonia alsinoides Sims. (= *C. sibirica* L.). Astley Hall, near Chorley, S. Lancs., v.-c. 59, May 20, 1915. Flowers white.—Coll. F. G. GEORGE; comm. J. A. WHELDON. "*C. sibirica* L., var. or forma *alsinoides*."—G. C. DRUCE.

Malva sylvestris L., var. *eriocarpa* Boiss. [Ref. No. 185.] Weed in garden, Barmouth, Merioneth, v.-c. 48, August 27, 1915. Rouy describes it "Tiges et feuilles d'un vert pâle, pubescentes ou poilues, à pubescence apprimée; feuilles assez petites, à lobes étroits, à sinus assez profonds; carpelles poilus." The pubescence of my plant is not appressed, but otherwise it differs from type in exactly the points enumerated. Mr Druce gives his var. *lasiocarpa* as differing from type only in "fruit hairy." Is this the same plant? I found a similar plant near a corn mill at Calne, N. Wilts, v.-c. 7, a week later.—W. C. BARTON. "Why *eriocarpa*? So far from being woolly, the carpels of my specimens are perfectly glabrous."—J. W. WHITE. "Doubtless mixed up specimens, since mine has hairy carpels and closely resembles my *lasiocarpa*, which differs in facies from Mr White's Bristol plant. See *Rep. B.E.C.* 215, 1906."—G. C. DRUCE.

Malva parviflora L. [Ref. No. 94.] Little Ellingham, Norfolk, November 2, 1914.—F. ROBINSON.

Tilia platyphyllos Scop. Stokenchurch, Oxon, May 1915. This locality was given for a form of the Lime with red twigs by Bobart in Ray's *Synopsis*, 226, 1690, as "*Tilia foliis molliter, viminibus rubris, fructu tetragono*. It is known by the name of the Red Lime." One tree of it was noticed by Mr Bicheno in 1824. These specimens were gathered from a growth from an old stump. Bobart's plant was called *T. europaea*, var. *corallina*, by Aiton in *Hort. Kew.*, i.-ii., 229.—G. C. DRUCE. "No doubt right, though the hair on the under-leaf is much

ner than usual. Is the presence of hair an infallible guide here? Certainly the species varies much in this respect. I believe that scattered hairs are to be found on the under-leaf of *T. cordata*, apart from the tuft of hairs in the angles of the veins."—H. J. RIDDELSDELL.
 "Correct, but the foliage is immature."—A. B. JACKSON.

Tilia cordata Mill. Wood near Dolgelley, Merioneth, July 30, 1915.—W. C. BARTON.

Linum angustifolium Huds. Common land, on top of cliff, Lincombe, near Torquay, S. Devon, May 24, 1915.—F. ROBINSON.

Geranium phaeum L. Hedgerow near Barton Seagrave, Northants, v.-c. 32, June 9, 1915. Although this may probably, in the first instance, have been a garden escape, it has been known from this habitat for at least forty years.—G. CHESTER.

Geranium pusillum Burm. fil. Hedge bank, Denhalt Lane, near Burton point station, The Wirral, Cheshire, v.-c. 58, July 14, 1915.—C. WATERFALL. "This is *G. rotundifolium* L."—W. G. TRAVIS. "*G. rotundifolium*. See mucronate sepals, entire petals, and pitted seeds."—C. DRUCE.

Geranium lucidum L. Hedge bordering wood, Tintern, v.-c. 35, June 8, 1915. A form with paler and smaller flowers than usual.—H. J. RIDDELSDELL.

Erodium cicutarium L'Hérit., var. *pimpinellifolium* (Sibth.). Sandy field, Worplesdon, Surrey, v.-c. 17, September 1915.—J. COMBER. "Right, the character of the spots comes out admirably in the separate packet of petals, as described in *Rep. B.E.C.* 134, 1914."—H. J. RIDDELSDELL.

Impatiens biflora Walt. Banks of the Tillingbourne, below Chilworth, Surrey, August 1915.—J. COMBER.

Acer Pseudoplatanus L. (cotyledons). Rocky wood, near Hawarden, Flintshire, v.-c. 51, May 24, 1915, and parkland, Ashton Hayes, near Mouldsworth, Cheshire, v.-c. 58, May 13, 1915.—C. WATERFALL.

Ulex Gallii Planch. Tadmarton Camp, near Wigginton, Oxon, October 14, 1915. A few bushes among a large quantity of *U. europaeus*. *U. nanus* is recorded for this spot, possibly in error, though it does not follow because one species is present that the other is not. This, however, is the first record for this species from the locality. An interesting point is that *U. europaeus* was out in flower in some cases; and the scale at the base of the sepals showed so much varia-

tion in shape and size as to suggest crossing; but I saw no sign of hybridity. The whitish buds of *U. europæus*, and indeed the whole habit, were in strong contrast to *U. Gallii*.—H. J. RIDDELSDELL. “Yes, new to that area of the county.”—G. C. DRUCE.

Cytisus monspessulanus L. = *Genista candicans* L. (in parte). Freely seeding, and gradually becoming established in one or two places near Milford-on-Sea, S. Hants, May 26, 1915. This shrub I have noticed for over twenty-one years fruiting and seeding freely in spots near Milford-on-Sea, such as shrubberies and shady places not too remote from garden influence. That it has begun to extend itself, and will, I expect, every year assume greater tendency to run wild, I am assured by Dr O. Stapf, F.R.S., of Kew Herbarium, who kindly determined its name for me. He says that, originally an inhabitant of the Mediterranean area, it has begun to establish itself in Australia, New Zealand, India, and various parts of America. It stands our English vicissitudes of climate well. Not a showy plant if compared with other species of *Cytisus* and *Genista*, or indeed our native broom or gorse, it is difficult to say why it has in the past been planted here. It is, according to Rouy and Foucaud, *Flore de France*, iv., 1897, pp. 217-218. the *Genista candicans* L. in parte = *Cytisus candicans* Lamareck = *Teline candicans* Webb = *T. monspessulana* C. Koeh. The var. β . *Colmeiroi* = *Cytisus monspessulanus* L., var. *Colmeiroi* Briquet is smaller in all its parts and more hairy as to both inflorescence, calyx, and other parts. For this latter information I am indebted to Mr Adamson, of the Victoria University, Manchester.—J. COSMO MELVILL. “Yes, already recorded for Dorset. See *Rep. B.E.C.* 192, 1915. It seems likely to spread in Southern England.”—G. C. DRUCE.

Ononis maritima Dum. [= *O. repens* L., var. *prostrata* Bréb.]. Sand dunes, Ainsdale, S. Lancs., v.-c. 59, June 18, 1915.—J. A. WHELDON. “Gathered too early to see the length of pod. No spines. But it may be rightly named.”—H. J. RIDDELSDELL. “Brébisson described it as ‘pl. eouchée, très velue, feuilles courtes, fleurs peu nombreuses;’ which covers this plant, although one of the specimens is erect, with a slightly recurved apex.”—G. C. DRUCE.

Medicago sativa L. A small form which is absolutely prostrate. Sand dunes, Hall Road, S. Lancs., v.-e. 59, August 7, 1915.—J. A. WHELDON.

Medicago lupulina L., var. *Wildenowii* (Mérat). Kilby, November 7, 1915. In a clover field with *M. lupulina*, var. *eriocarpa*, but quite the dominant plant, and it appears to be the main form of the plant sown. The specimens from Syston were also from cultivated ground, a potato field, and exhibit variation in leaf form, being more or less

omboidal. In both varieties the glands and the hairs respectively disappear in drying or are less evident. The stalked glands of the Kilby plant at once attracted my unaided eye, being quite prominent.

—A. R. HORWOOD. "Yes."—G. C. DRUCE. Also sent from Syston, Leicestershire, November 25, 1915.—A. R. HORWOOD. "Yes."—G. C. DRUCE. "Var. *Willdenowiana* Koch; rather a slight variety. Koch says that his plant is *M. Willdenowii* of Bönninghausen, but not of Mérat, which only differs from the common plant by its stipules being absolutely denticulate or quite entire."—E. S. MARSHALL. Also from Woods station yard, Capenhurst, Cheshire, September 14, 1915.—C. VINTERFALL. "The glandular fruited form, which is var. *Willdenowiana* Koch, I believe. Mérat's plant, according to Mr Salmon, is something different. See *Rep. B.E.C.* 552, 1910."—A. B. JACKSON. "Yes, this is the plant with spreading gland-tipped hairs on pods. I think I should use the varietal name *Willdenowiana* Koch, whose description is very clear."—C. E. SALMON. "Yes."—G. C. DRUCE.

Medicago lupulina L., sub-var. *eriocarpa* Rouy and Fouc. Kilby, Leicestershire, November 7, 1915. This variety is distinct from the type in that the pods possess a more or less evenly hairy pericarp, the hairs being more abundant on some of the individual fruits than on others on the same fruit-stalk. According to *Rep. B.E.C.*, 552, 1910, this plant should be so named and not put under *scabra* Gray, where the fruits are tubercled.—A. R. HORWOOD. "Yes, I should say so."—C. E. SALMON. Also sent [Ref. No. 108] from Barmouth, Merioneth, p. c. 48, August 14, 1915. Rouy states that the type has a glabrous legume, and describes his var. *eriocarpa* "Légume pubescent ou velu; plante ordinairement fortement pubescent-soyeuse." The common English plant of the chalk downs has somewhat hairy pods, though the hairs tend to disappear as the fruit ripens; but it is scarcely "pubescent soyeuse." Syme gives "pod glabrous or slightly pubescent." Mr Druce in the Handbook gives "*c. scabra* Gray, pod rough with simple hairs"; but Gray describes var. *scabra* "Legumen . . . rough with many tubercles," and I find no tubercles on these pods. A more hairy plant was growing on the stonework of Carnarvon Castle. I found var. *Willdenowii* Boenn. (non Mérat) = Rouy's sub-var. *glandulosa* Neih. at Barmouth with glandular hairs on stem, leaves and petioles. See *Rep. B.E.C.* 552, 1910.—W. C. BARTON. "Neither in the Barmouth nor in the Kilby plants sent to me is there a divergence from type amounting to a varietal character. Many, even of the green pods, are glabrous: others have a few hairs, but nothing that, in my opinion, deserves a special name. There is no approach to a woolly clothing."—E. S. MARSHALL. "Yes, this is the plant, with more or less appressed non-glandular hairs on legumes. Beyond this it does not differ from type. Apparently it must go under Rouy's sub-var. *eriocarpa*."—C. E. SALMON. "Neither of these gatherings (Barmouth, Kilby) show more than a few scattered hairs

upon the fruit. The carpels of Mr Horwood's plant are practically glabrous."—J. W. WHITE.

Anthyllis Vulneraria L. Showing states from dry and moist sand dunes, Hightown, S. Lanes., v.-c. 59, July 9, 1915.—J. A. WHELDON.

Lotus corniculatus L., var. *villosus* Sér. Great Western Beach, Newquay, June 23, 1915.—C. C. VIGURS. "In the *Prodromus*, ii., 214, De Candolle thus describes the variety: 'caulibus foliisque villosis erectis.' The specimens do not agree so well with this as with his definition of var. *crassifolius* Pers.: 'pilosus, foliolis ovatis corniculatis, caulibus foliosis prostratis, radice crassa.'"—E. S. MARSHALL.

Lotus tenuis Waldst. & Kit. Birstall, Leicester, July 1909. Obviously *tenuis*, the specimens are sent as being far more robust than usual. Normally plants are 6—10 inches high. The plants from which these were taken were 18—24 inches, and covered a large area of ground, being procumbent. The smaller plants are more erect, less branched, and few-flowered.—A. R. HORWOOD. "Yes, in the aggregate sense."—G. C. DRUCE.

Hippocrepis comosa L. Chalky heathland, Foulden Common, Norfolk, v.-c. 28, June 11, 1914.—F. ROBINSON.

Astragalus danicus Retz. Snowhill, Bourton Downs, Crickley Hill, Seven Springs, Naunton, all in v.-c. 33, May and June 1915. The colour varies considerably in this species. From the last-named spot comes a pale blue form, with a steely tinge to the flower. The first-named locality produces a flower of considerably darker blue than usual, but I can trace no other accompanying variations.—H. J. RIDDELSDELL. "Do not all blue flowers vary in this manner, the degree of colour depending upon age? In Leicester and Rutland the colour of the flowers is however pretty constant."—ED.

Vicia Cracca L., *forma*. On the cliffs at Arbroath and Sands of Barry, Forfar, August 1915. A pretty form from 4 to 12 inches high, but with large racemes of dark blue flowers. It is probably only a condition, but it might be worth while to test its constancy in culture.—G. C. DRUCE.

Vicia Cracca L., var. *argentea* Coss. & Germ. [Ref. No. 114.] Top of railway cutting on clay soil, Saham Toney, Norfolk, June 6, 1915. This beautiful plant has flowers the colour of *Wistaria* and nearly as large. It is very distinct in habit and appearance from the common form. Moreover, it flowers three weeks to a month before the type. I have observed this plant in exactly the same spot for three years.—F. ROBINSON.

Vicia. Below Roseland Nurseries, Hoddesdon, Herts., v.-c. 20, July 9, 1915.—J. E. LITTLE. "This is *V. Spruneri* Boiss. = *V. cretica* B. & Heidr."—J. W. WHITE.

Vicia angustifolia Roth, var. [Ref. No. 126.] Cultivated ground, Watton, Norfolk, June 19, 1915.—F. ROBINSON.

Vicia tetrasperma Moench f., fl. roseis. Swerford, v.-c. 23, August 6, 1915. In a cultivated field. Peduncles almost wholly one-flowered. Flowers quite rose-red, not at all blue (except when dried); pods 2-4 seeded.—H. J. RIDDELSDELL.

Vicia hirsuta L.? [Ref. No. 125.] A chicken food alien. Norfolk, June 15, 1915.—F. ROBINSON.

Vicia. [Ref. No. 124.] A chicken food alien. Waste ground, Watton, Norfolk, June 15, 1915.—F. ROBINSON. "This is *Lens culinare* Medik."—G. C. DRUCE.

Lathyrus montanus Bernh., var. *tenuifolius* Druce. On hedge banks, Penhallow, v.-c. 1, June 14, 1915. Slightly later-flowering than the type. These plants grew on some half-mile of roadside banks with typical plants; a fair number of the latter were flowering on May 25, but very few of the variety. On June 14 the type was fully in flower or podding; the variety, while flowering plentifully on the whole, still showed many heads with immature flower-buds only and with no fully-developed pods.—F. RILSTONE. "Yes, but the authority for the varietal name is Gareke. The variety is said to come true from seed."—G. C. DRUCE.

Prunus avium L. Baggrave Park, Leicester, July 22, 1909. Sent to show fruiting stage, which all members may not possess.—A. R. HORWOOD. "Yes."—G. C. DRUCE.

All the *Rubi* have been seen by the Rev. W. Moyle Rogers.—ED.

Rubus affinis Wh. & N. [Ref. No. 665.] "The Moors," Althamstone, N. Essex, v.-c. 19, July 18, 1915. Teste Rev. W. Moyle Rogers.—G. C. BROWN.

Rubus incurvatus Bab. Golf links, Colwyn Bay. Abundant in a very exposed hedge for a considerable distance, September 1, 1915.—S. H. BICKHAM. "Yes, the Welsh type, as I understand it."—W. MOYLE ROGERS.

Rubus Lindleianus Lees. Billa Barra, August 22, 1915: Wistow Road, Kibworth, near Forest Rock, Ives Head, Spring Wood,

Staunton Harold, Warren Pool, Ross's Knob, Packington, Leicester, various dates, 1915.—A. R. HORWOOD.

Rubus argenteus Wh. & N. = *R. erythrius* Rogers' Handbook. Church Lane, Okehampton, N. Devon, v.-c. 4, July 25, 1915. Fide Rev. W. Moyle Rogers.—L. CUMMING.

Rubus rhamnifolius Wh. & N. Calluna heath, Copt Oak, Leicester, v.-c. 55, August 24, 1915.—A. R. HORWOOD.

Rubus nemoralis P. J. Muell. Along with a large number of other brambles in the parish of Todenham, adjoining Wolford Heath, at the point where E. Gloucester, Warwick, Oxon, and Worcester meet at Four Shire Stone. The heathy tract is in Gloucester and Warwick. Mr Rogers says of this gathering:—"Very luxuriant, as it usually is in the Bournemouth neighbourhood, but with panicles young and so far not fully developed." July and August 1915. A new county record for v.-c. 33.—H. J. RIDDELSDELL.

Rubus pulcherrimus Neum. In quantity on heathy ground, Todenham, v.-c. 33, August 5, 1915, and field near Four Shire Stone, v.-c. 33, July 28, 1915.—H. J. RIDDELSDELL. Holt Lows, Norfolk, 1915.—A. R. HORWOOD. Hedge on golf links above Colwyn Bay, Denbigh, August 31, 1915. Petals ivory white.—S. H. BICKHAM. Mr Rogers, who has seen all the sheets, writes with reference to the Denbigh specimens—"I can give no certain name to this. While in some of its features recalling *R. rhamnifolius* and *R. Scheutzii*, as well as *R. pulcherrimus*, it seems distinct from all three, and had probably best be kept separate for the present. Further study of the living bushes might even lead to our placing it among the *Discolores*. In 1894 Dr Focke and I collected what was probably the same plant near Bangor, but could not name it. Provisionally I am keeping a sheet in a packet of 'forms allied to *R. rhamnifolius*.'"

Rubus Selmeri Lindeb. Holt Lows, Norfolk, September 1915.—A. R. HORWOOD.

Rubus calvatus Blox. Packington, Leicester, v.-c. 55, September 2, 1915.—A. R. HORWOOD.

Rubus rhombifolius Weihe. [Ref. No. 863.] Tiptree Heath, N. Essex, v.-c. 19, August 5, 1915. Two previous gatherings of this species [Ref. Nos. 51 and 677] from the above locality have been confirmed by the Rev. W. Moyle Rogers. Ref. No. 51 constituted a new county record for v.-c. 19.—G. C. BROWN.

Rubus rusticanus × *radula*. Beeston Regis, Norfolk, September 1915.—A. R. HORWOOD.

Rubus macrophyllus Wh. & N. Spring Wood, near Coleorton, Leicester, v.c. 55, September 1, 1915.—A. R. HORWOOD.

Rubus Questierii Lefv. & Muell. Foxholes Wood, Baillie Gate, v.c. 9, July 8, 1915. Seen and passed by Mr Rogers. It is the dominant *Rubus* of the wood, and, as might be expected in such a case, exhibits considerable variation in points like breadth of leaflets, amount of glands on panicles, rachis and stem, and even in a crucial matter like that of the colour of the felt on the rachis.—H. J. RIDDELSDELL. Foxholes Wood, August 30, 1915. The bushes were in fruit, which was very sweet and juicy, with very small stones. Seen also in Dullar Wood.—L. CUMMING.

Rubus Salteri Bab. Okeford Common, near Smillingstone, Dorset, v.c. 9, August 24, 1915.—L. CUMMING. "A record for Dorset. I cannot see that it differs from Warwick or Herefordshire examples except in the sepals rather loosely reflexed than either patent or clasping, which I take to be common enough in plants so dried up as these."—W. M. ROGERS.

Rubus pyramidalis Kalt. (small form). Tiptree heath, N. Essex, v.c. 19, August 8, 1915. Two previous gatherings of this species from the above locality have been named for me by the Rev. W. Moyle Rogers.—G. C. BROWN.

Rubus. Edge of wood, Colwyn Bay, September 2, 1915.—S. H. BICKHAM. "The great luxuriance and prevailing barrenness of panicles are features favourable to Mr Riddelsdell's suggestion of hybridity; but much may be said for regarding it as a rather abnormal and shade-grown form of *R. pyramidalis* Kalt. In fact, I cannot see how it differs essentially from the eglandular forms of this referred to on p. 50 of my *Handk. Brit. Rubi* except in the thinner leaflets, with less strikingly soft undersurface, a feature which may be due to environment. The stem is not more thickly hairy than is often found in this species, and in outline of leaflets, general coloration, &c., the plant is very like *pyramidalis*. The name I suggest is therefore *R. pyramidalis* Kalt., f. *eglandulosa umbrosa*."—W. MOYLE ROGERS. Also f. *umbrosa*, Copt Oak and Abbot's Oak Road, Leicester, v.c. 55, August 23, 1915.—A. R. HORWOOD.

Rubus leucostachys Schleicher. Ives Head, Copt Oak, Belvoir, Leicester, 1915.—A. R. HORWOOD.

Rubus leucostachys Sm., var. *gymnostachys* Genev. Roadside bank, Upper Bangor, Carnarvon, September 10, 1915.—S. H. BICKHAM and J. E. GRIFFITH. "Members who want specimens of this strongly-marked plant will be grateful for these recently-collected

ones from our original well-known locality near the Menai Straits. For a full note on the name I may be allowed to refer them to *Journ. Bot.* 203, 1914, where I suggest our dropping from our list *R. gymnostachys* and substituting for it *R. macrothyrsus* J. Lange, either as a strongly-marked var. of *R. leucostachys* or in an independent position near it, as in Focke's latest work, *Species Ruborum (Rubi Europaei)*, 1914, p. 423 (199).—W. MOYLE ROGERS.

Rubus anglosaxonicus Gelert. Stalbridge Park, Dorset, v.-c. 9, August 27, 1915.—L. CUMMING. "Good type."—W. MOYLE ROGERS.

Rubus Borreri Bell-Salter. (1) On the Syston side of Mangotsfield Station, West Gloucester, in no great quantity, August 1, 1891; (2) Brislington, Bristol, July 29, 1892; (3) Keynsham, Somerset, July 6, 1894; (4) on Pennant-grit, near Keynsham, August 4, 1915.—J. W. WHITE.

Rubus radula Weihe. Pilton, Rutland, 1915.—A. R. HORWOOD.

Rubus radula Weihe, sub-sp. *anglicanus* Rogers. Gumley, Leicester, August 26, 1915.—A. R. HORWOOD. "One of the 'rather more variable' forms of my sub-sp. referred to on p. 64 of my *Handk. Brit. Rubi* as found 'in the North.' The prickles are stronger, the leaf serratures coarser, and panicle narrower than in S. England. I have seen this sub-sp. in Quorn Park and Hanging Rock, also dried specimens from Twycross (Bloxam), and Ashby de la Zouche (Coleman). Also Shropshire specimens of Leighton's, including one labelled *Rubus rudis* (W. & N.), β . *Leightonii* (Bell-Salt.) Bab. Syn., *R. Leightonii* Leight. *Fl. Shropshire*, 1840. Leighton's variety, however, seems to have included both of my sub-sp. *anglicanus* and *echinatioles*, though these are certainly distinct from each other and unconnected with *rudis* and *echinatus*."—W. MOYLE ROGERS.

Rubus echinatus Lindl. Packington, Smeeton Gorse, Leicester, and Casterton Lings, Rutland, August 1915.—A. R. HORWOOD.

Rubus echinatus \times *rusticanus*. Lane at Swalcliffe Grange, v.-c. 23, August 1915. Both parents in plenty.—H. J. RIDDELSDELL.

Rubus echinatus \times *dumetorum*. With quantities of both plants in a hedge in Sibford Parish, towards Compton Wynyates, v.-c. 23, August 1915. Mr Rogers says—"Seems quite probable. I see nothing against it."—H. J. RIDDELSDELL.

Rubus oigocladus P. J. Muell. and Lefv., var. *Bloxamianus* (Colem.). Stapleton, Copt Oak, The Smoile, Sinope, Ross's Knob, Packington, Alton Wood, Tilton Hill, Leicester, September 1915.—A. R. HORWOOD.

Rubus nigocladus P. J. Muell. and Lefv., var. *Bloxamianus* (Colem.),
umbrosa. Tilton Hill, Leicester, August 12, 1915. Fide Rev. W.
 Moyle Rogers.—A. R. HORWOOD.

Rubus melanodermis Focke. Branksome Park, near Bourne-
 mouth, Dorset, v.-c. 9, July 30, 1915. Fide Rev. W. Moyle Rogers.—
 L. CUMMING.

Rubus fuscus Wh. & N. Barrington Bushes and Todenham Parish,
 v.-c. 33, August 1915. Not an uncommon woodland plant in E.
 Gloucestershire. Barrington Bushes produces it in great quantity.—
 H. J. RIDDELSDELL. Open spots in Leigh Wood, N. Somerset, July
 20, 1915.—J. W. WHITE.

Rubus thyrsiger Bab. Tavistock Road, Okehampton, N. Devon,
 v.-c. 4, July 27, 1915. Fide Rev. W. Moyle Rogers.—L. CUMMING.

Rubus rosaceus Wh. & N., var. *infecundus* W. M. Rogers. Spring
 wood near Coleorton, Moira, Leicester, August 1915.—A. R. HOR-
 WOOD.

Rubus hostilis Muell. & Wirtg. The predominant bramble in and
 about a small wood on the heathy land at Todenham, v.-c. 33, August
 1915. In very great quantity. Also in Warwickshire. A new county
 record for both counties.—H. J. RIDDELSDELL.

Rubus dasyphyllus Rogers. Belvoir, Copt Oak, Ives Head,
 Leicester, August 1915.—A. R. HORWOOD.

Rubus Durotrigum R. P. Murray. Foxholes Wood, Baillie Gate,
 v.-c. 9, July 8, 1915. Mr Rogers kindly sends the following note:
 "So far this Dorset type has not been found off the chalk in any
 locality to the east of the River Stone, but it is very abundant locally
 in the parishes of Sturminster Marshall, Almer, and Winterbourne
 Whitechurch. These Foxholes wood (near Baillie Gate, Sturminster
 Marshall) plants are very characteristic, though with panicle rather
 shorter and more nearly leafy to the top than is usual. The Sussex
 plant (on the oolite near Pittleworth), reported in *Journ. Bot.* for
 this year, p 86, has its panicle more elongate with closer ultra-axillary
 top, as well as its leaves less uniformly incised, but there can be no
 question as to its identity with the type."—H. J. RIDDELSDELL. Also
 sent from same locality, August 30, 1915.—L. CUMMING.

Rubus hirtus Waldst. & Kit., var. *rotundifolius* Bab. Church
 Lane, Okehampton, N. Devon, v.-c. 4, July 25, 1915. Fide Rev. W.
 Moyle Rogers.—L. CUMMING.

Rubus hirtus W. & K., var. *Kaltenbachii* Metxl. King's Wood, Yatton, N. Somerset, v.-c. 6, July 27 and August 18, 1915.—Miss IDA M. ROPER.

Rubus Bucknalli J. W. White. See *Journ. Bot.* 389, 1899. Hedges and open woodland, at an elevation of 600 feet, on oolite hills between North Nibley and Wotton-under-Edge, W. Gloucester, v.-c. 34, August 2, 1915.—J. W. WHITE.

Rubus caesius L. \times *rusticanus*. Highwood Lane, Charlton, W. Gloucester, v.-c. 34, August 8, 1915.—Miss IDA M. ROPER.

Rubus caesius L., var. *aquaticus* W. & N. Sand dunes, Hall Road, S. Lancs., v.-c. 59, July 9, 1915.—J. A. WHELDON. "Of course *R. caesius* L., or one of its hybrids; and this is so far as I can venture without any attempt to arrange under vars. as described by C. C. Babington and others. Hence the arrangement in *Lon. Cat.* Ed. x."—W. MOYLE ROGERS.

Potentilla. Burbage wood, Leicester, July 1905. Most of the flowers were 4-fid. There appeared to be characters pointing on one side to *P. reptans*, on the other to *P. erecta* or *P. procumbens*, all of which were present as parents of the hybrid, which it appears to be. *P. mixta* at any rate grows in the same place.—A. R. HORWOOD. "The petioles are long for *P. procumbens*; it may be a cross between that and *P. reptans*, but cannot be named with certainty."—E. S. MARSHALL. "Probably the hybrid *reptans* \times *silvestris*."—J. W. WHITE. "This is *P. mixta* (Nolte) Reichb. = *P. mixta* Ehrh."—J. E. LITTLE.

Potentilla procumbens \times *reptans* = *P. mixta* Nolte. [Ref. No. 721.] Dry bank, Henny, N. Essex, v.-c. 19, July 4, 1915.—G. C. BROWN. "I think so, but much nearer to *P. reptans* of the two."—E. S. MARSHALL. "Yes."—J. E. LITTLE.

Alchemilla vulgaris L., var. *alpestris* Pohl. Arthog, Merioneth, 200-600 feet, June 16, 1915.—W. C. BARTON. "Yes, *A. alpestris* Schmidt."—C. E. SALMON and E. S. MARSHALL.

Alchemilla. Roadside near Friockheim, Forfar, v.-c. 90, September 1915. The characters of this plant are those of *Alchemilla alpestris* Schmidt, except that the pedicels and urceoles are hairy. Is it a form of *alpestris*, or might it be a hybrid of *A. alpestris* and *A. minor*?—R. & M. CORSTORPHINE. "There is very little hair on the urceoles, all but the top ones being glabrous. The uppermost flowers are very shortly pubescent. We should be content to leave the plant under *alpestris* Schmidt."—C. BUCKNALL and J. W. WHITE. "In spite of the hairs on pedicels and urceoles, I think this is *A. alpestris* and not

hybrid form. It is very interesting, and I should like to see more of it; a root to grow and to observe would be very acceptable."—C. SALMON.

Poterium polygamum Waldst. & Kit., var. *platylophum* Druce. Savelly field, Birch, N. Essex, v.-c. 19, September 30, 1915. With *chorium Intybus* and *Anthyllis Vulneraria*, and apparently well established.—G. C. BROWN.

Rosa dumalis Bechst. [Ref. No. 1517.] Marden Park, August 19, 1915.—C. E. BRITTON. "Yes."—W. BARCLAY. "Not typical *dumalis* Bechst., but one of this group best placed under *R. viridula* Pug."—A. H. WOLLEY-DOD.

Rosa arbica Léman. [Ref. No. 1497.] Open ground, Malden, Surrey, August 13, 1915.—C. E. BRITTON. "Yes, a rather small-leaved form."—W. BARCLAY. "Yes, an *arbica* form, towards *R. niglabra* Rip."—A. H. WOLLEY-DOD.

Rosa glauca Vill. Narborough Bog, Leicester, October 30, 1915.—A. R. HORWOOD. "Not *R. glauca* Vill., which has sub-persistent sepals and densely woolly styles. Some of these sepals remain after the fruit has reddened, which gives a misleading feature, but the specimen does not agree in other particulars. It is *R. andegavensis* Bast."—A. H. WOLLEY-DOD. "This is *verticillacantha* Mérat, because its serration is too compound for *andegavensis* Bast. Perhaps it is hardly compound enough for Mérat's group, but rather intermediate."—W. BARCLAY.

Rosa sp. Furzy field, Ewesford, v.-c. 23, June 22 and September 19, 1915. All specimens from one bush. Bush 8 or 9 feet high, and several yards in diameter. Petals pale pink, flowers of moderate size.—H. J. RIDDELSDELL. "This is *R. tomentella* Léman. From a vigorous bush evidently."—W. BARCLAY. "This strongly recalls *R. Borreri* Woods, and I should place it to an eglandular or at least very thinly glandular form of that."—A. H. WOLLEY-DOD.

Rosa tomentosa Sm. (agg.). [Ref. No. 867.] "The Moors," Alphenstone, N. Essex, v.-c. 19, June 17 and August 22, 1915. Petals pink, sepals partially reflexed in flower, patent in fruit, occasionally reddened, leaves dull grey-green.—G. C. BROWN. "Apparently *R. tomentosa* Sm. of the *omissa* group. Does not fit any of the described segregates, but that is what happens with the majority of specimens in this group."—W. BARCLAY. "One of the *Sherardi* sub-group of group *omissa*, which might be labelled *R. omissa*, var. *submollis* Ley, but both the group and sub-group are ill-defined."—A. H. WOLLEY-DOD.

Rosa pseudo-cuspidata Crép. [Ref. No. 1526.] North Downs, S. of Horsley, Surrey, September 5, 1915.—C. E. BRITTON. "It seems to me that the fruit in my specimen is not normal but arrested in its growth. Compare its degree of development on September 5 with that of No. 1486 on August 1. It may be correctly named, but it would be necessary to know more about the bush in order to be certain."—W. BARCLAY. "I should put this to *R. scabriuscula* Sm., though the sepals look as if they were going to be sub-persistent."—A. H. WOLLEY-DOD.

Rosa sylvestris Lindl. [Ref. No. 1486.] Between Chislehurst and Bickley, W. Kent, August 1, 1915.—C. E. BRITTON. "No doubt belonging to the *scabriuscula-sylvestris* group, but if it is desired to distinguish between these two segregates this appears to be nearer *scabriuscula* Sm."—W. BARCLAY. "I should label this *R. scabriuscula* Sm. It is far too eglandular and has prickles too straight for *R. sylvestris*."—A. H. WOLLEY-DOD.

Pyrus Aria Ehrh. Bix, Oxon, May 1915.—G. C. DRUCE. "The common British form."—E. S. MARSHALL, C. BUCKNALL and J. W. WHITE. Also chalk downs, Reigate, Surrey, June 5, 1906. Apparently the typical form of this species on the chalk downs.—A. R. HORWOOD. "Yes, a state of the type."—J. W. WHITE.

Pyrus. Dolgelley, Merioneth, v.-c. 48, August 9, 1915. [Ref. No. 196.] One large tree at roadside.—W. C. BARTON. "A new record of *P. Aria* agg. for 48, Merioneth."—G. C. DRUCE. "Is this not *rupicola*?"—ED. "Leaves much more elongate and with margins more deeply cut than in type *Aria*. Specialists may have a distinctive name for it. We have a similar plant in N. Somerset."—C. BUCKNALL and J. W. WHITE. "The only specimen in *Herb. Brit. Mus.* which matches this at all closely is labelled '*Pyrus Aria*, High Force Wood, Teesdale, J. G. Baker, July 1853.' On a specimen of the gathering submitted to him Dr Hedlund comments—'The *Sorbus* forwarded is either *S. Aria* × *incisa* or a homozygote which originated from some such cross, but one can decide definitely only by sowing the seed. In middle Europe, including England, there are a series of forms, between *S. Aria* and *S. incisa* which may certainly as well be heterozygotes as homozygotes. The *Sorbus dubia* is a heterozygote of mixed or doubtful origin.' In *lit.*, December 11, 1915. The shape and cutting of the leaf are certainly exactly intermediate between *Pyrus Aria* as we know it on the chalk downs of South England and the figure of the leaf of *Sorbus incisa* given in Hedlund's monograph, but we were unable to trace in the museum any authoritative specimen of *Sorbus incisa*. In his note in *Journ. Bot.* 14, 1916, the Rev. E. S. Marshall seems to imply that Dr Hedlund has passed as *S. incisa* specimens in which the leaves differ considerably. So far as

know, *S. incisa* has not been recorded from this neighbourhood. Marshall writes in *lit.*—‘The *Pyrus* is neither what I understand *P. Aria* (type) nor by *incisa*.’—A. B. JACKSON and W. C. TON.

Crataegus. It was my intention to describe some of the Leicester as coming under *Oxyacantha* (Cr. 7, Cr. 11, Cr. 14) and *Oxyacanthodes* (Cr. 9, Cr. 8, Cr. 2, Cr. 13) as new varieties, but Mr Druce in more than one instance considers they were gathered too late for certain diagnosis, and I have therefore decided to await the collection of further material before attempting to give them final descriptions and numbers; and the descriptions in English I have given may afford to others an opportunity of finding similar forms (or others differing from these and described forms) in their own districts.—ED.

Crataegus Oxyacantha L., var. *laciniata* (Wallr.). [Ref. No. Cr. 11.] Humberstone, Leicester, October 24, 1915. These differ from typical *laciniata* in having 3-4 lateral lobes and a terminal lobe, and with the margins incised. I rather think this difference is induced by artificial agency, since the bushes have been much pruned where these characters were exhibited, whilst the upper portions differed and were more like typical *monogyua*.—A. R. HORWOOD. A very pretty form, which I refer to var. *pteridifolia* Loudon (*C. tinata* Host).—G. C. DRUCE. “The figure in Loudon agrees well with my specimens Cr. 4 and Cr. 5.”—ED.

Crataegus Oxyacantha L., var. *laciniata* (Wallr.). [Ref. No. Cr. 12.] Humberstone, Leicester, October 24, 1915. The variety *laciniata* seems to be less frequent in fruit than the other varieties. This type has the leaf divided into 2-3 lateral lobes and a terminal one, the leaf being nearly as broad as long, but the margins are not incised as in the other forms.—A. R. HORWOOD. “Yes, but I like to see the margins pruned cut.”—G. C. DRUCE. “Some parts of the bush had the leaves pruned cut margins, but the variety is very variable in this respect, I think.”—ED.

Crataegus Oxyacantha L., var. *laciniata* (Wallr.). [Ref. No. Cr. 13.] Humberstone, Leicester, October 24, 1915. This plant has the laciniate leaves much as in Mr Druce’s var. *heterophylla*, with incised lateral margins, but lacks the small euneiform, trilobed leaves which characterise that. It seems best placed, in my view, under this var., and is sent as being in fruit, which seldom is the case in *laciniata*.—A. R. HORWOOD. “No, I should not call this *laciniata*.”—G. C. DRUCE.

Crataegus Oxyacantha L., var. *laciniata* (Wallr.), vel *heterophylla* Druce. [Ref. No. Cr. 10.] Scraptoft, Leicester, October 24, 1915.

This form has deeply incised margins, and is a stage further than the last [Cr. 1] in the large size of its leaves and the deep sinuses of the laciniae. It had very little fruit.—A. R. HORWOOD. “Yes, *laciniata*.”—G. C. DRUCE.

Crataegus Oxyacantha L., var. *laciniata* (Wallr.). [Ref. No. Cr. 5.] Humberstone, Leicester, October 24, 1915. This plant is similar to Cr. 4, and like it had only some part of the foliage lacinate. It differs from typical *laciniata* in the length of the leaf, which is longer than broad. There was no fruit on either Cr. 4 or Cr. 5. It appears to be a rare form. See note under Cr. 4 by Mr Druce, with which I agree, in each instance having compared the specimens with Loudon's figure and description.—A. R. HORWOOD.

Crataegus Oxyacantha L., var. *kyrtostyla* (Fingerh.). [Ref. No. Cr. 6.] Humberstone, Leicester, October 24, 1915. In this plant the styles were mainly bent over, as in *kyrtostyla*, of which it is fairly typical; but there were other characters that struck me as unusual which might deserve varietal rank, as the generally infundibuliform shape of the fruit. The sepals, which were reflexed, did not lie appressed to the fruit as generally, and the tube was inversely conical. The fruits were slightly hairy.—A. R. HORWOOD. “Yes, but I like to see the style bent more abruptly back. Is not Cr. 7 the same?”—G. C. DRUCE.

Crataegus monogynea Jacq. (*Oxyacantha* L.), var. *splendens* Druce. [Ref. No. 170.] Wymondham, Norfolk, September 17, 1915.—F. ROBINSON. “Yes.”—G. C. DRUCE. “These examples represent the variety better than those from Scraftoft.”—ED.

Crataegus Oxyacantha L., var. *splendens* Druce. [Ref. No. Cr. 12.] Scraftoft, Leicester, October 24, 1915. I place this under *splendens*, but regret that they are not so typical as some forms I have seen.—A. R. HORWOOD. “Yes, but not extreme.”—G. C. DRUCE.

Crataegus Oxyacantha L., vel *C. monogynea* Jacq., var. *heterophylla* mihi. Yardley Gobion, Northants, September 1915—vide *Rep. B.E.C.* 196, 1915.—G. C. DRUCE. “I have seen this form, which Mr Druce showed me last year, in Leicester and Rutland. It is a very well-marked variety, which will, I believe, turn out to be fairly widely distributed.”—ED.

Crataegus Oxyacantha L., vel *C. monogynea* Jacq., var. *subcris-tata* Druce in *Rep. B.E.C.* 196, 1915. Yardley Gobion, Northants, September 1915. The upper part of the calyx segments, instead of being closely appressed to the fruit, are patent or suberect. The same form occurs in Sweden, I believe.—G. C. DRUCE. “I have seen similar

in Leicestershire and Rutland. In the form of the leaves this reaches var. *splendens* somewhat, but they are on a smaller scale."

Crataegus Oxyacantha L., var. *urceolata* mihi. [Ref. No. Cr. 7.] Scraptoft, Leicester, October 24, 1915. This seems to me quite distinct. In some cases the style is bent, but not markedly so, and it hardly do for *kyrtostyla*. The main feature is the urceolate form of the fruit, which I have not noticed before, though I have examined many hundreds of *Crataegus* forms. This gives the sepals the same character as in Cr. 6, where they are reflexed but not pressed to the fruit. The colour of the fruit here is scarlet. The shape of the calyx is as in Cr. 6. If a name be given it later it should be *urceolata*. On this Mr Druce asks, "Has not Hobkirk a var. *glabrata*? See *Rep. B.E.C.* 197, 1915. I have not seen a variety so named, but it may be so."—A. R. HORWOOD.

Crataegus Oxyacantha L., var. *cuneifolia* mihi. [Ref. No. Cr. 11.] Scraptoft, Leicester, October 24, 1915. This form approaches *heterophylla*, but has all the leaves more uniformly cuneate, and if they are all, as some of them are, ovate and wedge-shaped the plants would come under var. *cuneata* Druce, but I think it is better placed under the former.—A. R. HORWOOD. "Not complete enough; not like my *heterophylla*."—G. C. DRUCE.

Crataegus Oxyacantha L., var. *macrocarpa* mihi. [Ref. No. Cr. 14.] Scraptoft, Leicester, November 2, 1915. This variety is distinctly allied to var. *splendens*, but differs in the much longer fruits, which are usually more than twice as long as broad, or elongate. They are a plum colour, slightly pruinose, with normally reflexed sepals and smooth. The style is occasionally reflexed. The larger leaves are like the same as in *heterophylla*, but there are a few ovate, cuneiform leaves, and this plant is sufficiently distinct in its long fruit to mark it from any other forms save *splendens*.—A. R. HORWOOD.

Crataegus monogyna × *oxyacanthoides*. [Ref. No. 600.] Bently, Suffolk, v.c. 25, June 20, 1915. Mr Druce remarked on flowering specimens submitted to him under the above name, "Yes, but superfluous."—G. C. BROWN. "There are numerous forms of the hybrid, differing in the number of styles 1-3 and the foliage."—ED.

Crataegus oxyacanthoides Thuill., var. *maliformis* mihi. [Ref. No. Cr. 9.] Scraptoft, Leicester, October 24, 1915. I have not seen so distinct a form as this before. The fruits, which are decidedly punctate, are globular, scarlet or orange, and like small Siberian crabs, with the base excavated. The foliage is similar to that of Loudon's *excifolia*, but that variety comes under *Oxyacantha*, and this variety

is a 2-styled form, with the sepals reflexed, and the fruit normally glabrous. The plant is of a bushy type, with long and short thorns.—A. R. HORWOOD. "Under *oxyacanthoides*."—G. C. DRUCE.

Crataegus oxyacanthoides Thuill., var. *trilobata* mihi. [Ref. No. Cr. 8.] Humberstone, Leicester, October 24, 1915. This plant in habit is distinctly fastigiata, and might be referred to Loudon's var. *stricta* or var. *capitata*, the last having, as here, the flowers aggregated and terminal. The foliage is as in *obtusata*, but that appears to be no more than a synonym of *oxyacanthoides*. It also resembles *multipler* in leaf-form. The general habit is like the common barberry. The trilobed character of the foliage and fastigiata growth make it a distinct form.—A. R. HORWOOD. "Under *oxyacanthoides*. Too old; possibly a hybrid."—G. C. DRUCE.

Crataegus oxyacanthoides Thuill., var. *ericalyx* (Frey) Druce. [Ref. No. Cr. 2.] Humberstone, Leicester, October 24, 1915. This plant is practically of the *kyrtostyla* type, but belongs to *C. oxyacanthoides*. If described on that basis it should be given a new name—*curvistyla*; but it is also glandular-hairy, and is thus capable of being placed under the above variety. As it is unusual in botany, though usual in conchology, to give a plant more than one name, the only alternative is to rank it under *ericalyx* and to name it f. *curvistyla* mihi, with characters of *kyrtostyla* (Fingerh.) amongst the one-styled forms, since the latter name applies to *C. Oxyacantha* only. F. *curvistyla* nova forma—fructibus lanuginosis, duobis stylis deflectis.—A. R. HORWOOD. "My specimens are too old to say if correctly named."—G. C. DRUCE.

Crataegus oxyacanthoides Thuill., var. *megacarpa* mihi. [Ref. No. Cr. 13.] Barsby, Leicester, November 2, 1915. This plant is allied to Cr. 8, having foliage trilobate, or much as in *quercifolia*. The fruits are large, scarlet, and mainly terminal. Compared with Cr. 14, the long-fruited *Oxyacantha* form, the plant is very distinct. I think it deserves varietal rank, and hope to obtain some material, as in the case of the other plants regarded as new, for the next distribution.—A. R. HORWOOD. "Under *C. oxyacanthoides*, but too incomplete."—G. C. DRUCE.

Cotoneaster microphylla Wallich. Limestone crags, facing sea, The Great Orme, Carnarvonshire, v.-c. 49, July 9, 1915.—C. WATERFALL.

Amelanchier canadensis Med. Ascot, Berks., May 1915. Quite naturalised in woods near Ascot, Berks.—G. C. DRUCE.

Drosera wiglicia Huds. Shores of Loch Tummel, v.-c. 88, July 28,

1.—R. and M. CORSTORPHINE. Also from Holt Lows, Norfolk, 28, September 29, 1915.—A. R. HORWOOD.

Drosera longifolia L. Beech Moss, Delamere Forest, Cheshire, 58, July 30, 1915.—C. WATERFALL.

Allitriche palustris L. (*C. vernalis* Koch). [Ref. No. 99.] Shalpool, Carbrook Fen, Norfolk, April 18, 1915.—F. ROBINSON. "May be so, but quite likely to be *C. intermedia* (= *C. hamulata*)."—BENNETT.

Epilobium tetragonum × *parriflorum* (= *E. Weissburgense*). Bladon, Oxon, July 1915. In a clearing where both species grow this formed a large mass of tall, beautiful plants, and was evidence of the presence of both parents.—G. C. DRUCE. "Light."—E. S. MARSHALL.

Epilobium obscurum × *parriflorum*. Wet place on bank of river, near Dlangollen, Denbighshire, v.-c. 50, September 7, 1915.—C. WATERFALL. "My sheet consists of two lateral branches: a piece of main stem is always desirable. I think that it is correctly named."—E. S. MARSHALL.

Circaea alpina L., var. *intermedia* (Ehrl.). Waste place, in good soil, Lomber Hey, High Lane, Cheshire, July 1915.—J. COSMO MELVILLE. "Though the petals are longer than usual, I think that this should be referred to the type, of which it has the small size and habit."—E. S. MARSHALL.

Carum verticillatum Koch. Near Woking, Surrey, July 10, 1915. Most easterly station in Britain.—C. E. SALMON.

Sison Amomum L. Thicket by roadside, near Capenhurst Station, Cheshire, v.-c. 58, September 18, 1915.—C. WATERFALL.

Pimpinella Saxifraga L., var. *poterifolia* Wallr. Aylestone and Evington, Leicester, August 1915.—A. R. HORWOOD. "Yes."—G. C. DRUCE. "Not distinguishable from the type."—E. S. MARSHALL. "The Evington plant is interesting. I should like to see it in fruit: my example is only in flower. It has longer styles than is usual in *P. Saxifraga*, almost as long as those of *P. magna*, but I have never seen the latter with leaves like these."—C. E. SALMON. Also on cliffs, Arbroath, Forfar, August 1915.—G. C. DRUCE.

Oenanthe silaifolia Bieb. St Catharine's fields, Gloucester, v.-c. 5, June 10, 1915.—H. J. RIDDELSDELL. "Yes: Dr Williams calls *O. media* Griseb., as is done in the *Flore de France*, vii., 262."—G. C. DRUCE.

Oenanthe media Griseb. Wolvercote, Oxon, July 1915. This name is used since it is doubtfully *O. silaifolia* Bieb.—G. C. DRUCE.

Peucedanum Ostruthium Koch. Ex hort. Orig. stone-heap, Leingdon Beck, Co. Durham, v.-c. 66, August 1915.—C. WATERFALL.

Heracleum Sphondylium L., var. *angustifolium* Huds. Near Dodelley, August 9, 1915.—W. C. BARTON. "Not as extreme at least as I have seen it. It appears to be restricted in range, but where it occurs it may be abundant, viz., on sandy not clay soils."—ED. "Under *angustifolium*."—G. C. DRUCE.

Hedera Helix L. (cotyledons). Shrubbery, Ashton Hayes, near Mouldsworth, Cheshire, v.-c. 58, May 13, 1915.—C. WATERFALL.

Hedera Helix L., var. *borealis* Druce. Rocky wood, Grange-over-Sands, Lake Lancashire, v.-c. 69b, November 1915. So far as I have observed this is the prevailing form of ivy on the Scar Limestone of Lancashire and Westmoreland. It varies considerably in the width of the leaves of the flowering branches, narrow-leaved plants often growing side by side with wider ones. On some of the former the leaves average only 1.5 cm. in width, whilst in the latter they reach from 3 to 5 cm. The depth of the segmentation of the leaves on the creeping branches also varies.—A. WILSON.

Adoxa Moschatellina L. Damp hedge banks, near Mouldsworth station, Cheshire, v.-c. 58, May 13, 1915.—C. WATERFALL.

Sambucus nigra L., var. *laciniata* Mill. The Quarries, Swanage, Dorset, v.-c. 9, June 20, 1915.—MISS IDA M. ROPER. "Yes, but the authority of *laciniata* is L. *Sp. Pl.* The plant is not given in the *Flora of Dorset*, 1895."—G. C. DRUCE. "Is it ever native?"—ED.

Linnaea borealis L. Glen Doll, Forfar, August 1915.—G. C. DRUCE.

Galium verum L., var. *maritimum* DC. Sandy shore, Fairbourne Merioneth, v.-c. 48, August 4, 1915.—W. C. BARTON. "Yes, it matches exactly some specimens Prof. Corbière sent me from the Normandy coast, labelled var. *littoralis* Bréb. This is evidently synonymous with var. *maritimum* DC."—C. E. SALMON.

Galium anglicum Huds. [Ref. No. 145.] Old walls, Castleacre Priory ruins, Norfolk, July 24, 1915.—F. ROBINSON. "Yes, the var. *leiocarpum* Tausch in *Bot. Zeit.* xviii., 354."—G. C. DRUCE.

Scabiosa Succisa L., approaching var. *hispidula* Peterm. East Pentire, Newquay, October 4, 1914.—C. C. VIGURS.

Aster. [Ref. No. 7928.] Probably *ericoides* L. Botley, Oxon, September 1915.—G. C. DRUCE.

Aster Tripolinum L., var. *discoideus* Reichb. Cley, Norfolk, September 1912.—A. R. HORWOOD. "Yes, the sub-var. *discoideus* Reichb.), but this plant is also the var. *glaber*. See *Rep. B.E.C.* 199, 15."—G. C. DRUCE. "This rayless variety occurred in restricted areas amongst a great mass of the type. It was, if anything, a more robust and taller plant, growing upon laterals to the shingle bank, ranging from Weybourne to Blakeney Point."—ED.

Erigeron borealis Simmonds (= *E. alpinum* auct.). Dounalt, Co. Wick, August 1915. Vöerhapper in his monograph (*Beitr. Bot. Gart. Bot. Anst. Wien*, 19, 2 abt, 1906, p. 447) held that the Scottish plant was not the same as *E. alpinum*. Indeed, he placed it in a separate genus as *Trimorpha borealis*, stating that it differed in the obtuse basal leaves, the rather strikingly hairy base of the stem, and the strongly hairy, often purple, pappi, from true *alpinum*, which is a native of the Alps.—G. C. DRUCE.

Filago germanica L., var. Cultivated field, Wigginton Heath, Leicestershire, July 12 and 13, 1915. In a sandy clover field at circ. 650 ft. The form is slenderer than our common English plant, the lobes more plainly 5-angled, and the leaves greener and less wavy. The affinity is clearly, I believe, with *F. germanica*, not with *apiculata* or *spathulata*; yet it is not the type form of the species. Has the variety received a name?—H. J. RIDDELSDELL. "Mixed specimens. Some approach var. *axillaris*."—G. C. DRUCE.

Filago germanica Huds. (= *F. canescens* Jord.). Frilford, Berks., September 1914.—G. C. DRUCE.

Pulicaria vulgaris Gaertn. Briton's Pond, near Guildford, Surrey, September 17, 1915.—J. COMBER.

Bidens cernua L., var. *radiata* DC. Ditches on moss land, Ainsdale, S. Lancs., v.-c. 59, August 14, 1915.—J. A. WHELDON.

Bidens minima Huds. = *B. cernua*, var. *discoidea* Cand., f. *minima* Williams. Ditches between Woodvale and Mossbridge, S. Lancs., v.-c. 59, July 31, 1915.—J. A. WHELDON. "Yes, this is forma *minima* of Williams: the species seems very responsive to soil conditions. Curiously, Rouy keeps it as a distinct variety."—G. C. DRUCE. Also found in ditch between Woodvale and Barton, S. Lancs., v.-c. 59, August 7, 1915.—J. A. WHELDON and W. G. TRAVIS.

Chrysanthemum segetum L. [Ref. No. 156.] Edge of wheat field, Ormsby, August 15, 1915.—F. ROBINSON. "Yes."—G. C. DRUCE.

Cotula coronopifolia L. Wet dykes, Leasowe Common, The Wirral, Cheshire, v.-c. 58, June 5, 1915.—C. WATERFALL.

Artemisia biennis L. Rubbish heap, Radyr, v.-c. 41, September 11, 1913. Named for me by Mr Druce. I have lately received specimens also from Gloucester, v.-c. 33.—H. J. RIDDELSDELL. "Yes, this is the N. American alien."—G. C. DRUCE.

Senecio (near *crassifolius*). Botley, Oxon, August 1915.—G. C. DRUCE. "Not pure, but a large form of *praecox* type."—A. H. TROW.

Senecio vulgaris L. [Ref. No. 142.] Waste ground, Minehead, S. Somerset, v.-c. 5, April 14, 1915.—W. C. BARTON. "Probably a form of *S. rubricaulis*."—A. H. TROW.

Senecio vulgaris L., f. *erectus* Trow. [Ref. No. S. 11.] Humberstone, Leicester, December 5, 1915.—A. R. HORWOOD. "Chiefly *erectus*."—A. H. TROW. [Ref. No. S. 12.] Humberstone, Leicester, December 5, 1915.—A. R. HORWOOD. "Chiefly *erectus*, I think, but some hybrids present."—A. H. TROW. [Ref. No. S. 2.] Humberstone, Leicester, November 28, 1915.—A. R. HORWOOD. "Near *erectus*."—A. H. TROW.

Senecio vulgaris L., f. *rubricaulis* Trow. [Ref. No. S. 10.] Humberstone, Leicester, December 5, 1915.—A. R. HORWOOD. "Chiefly *rubricaulis*."—A. H. TROW. [Ref. No. S. 9.] Scraftoft, Leicester, December 5, 1915.—A. R. HORWOOD. "Practically pure *rubricaulis*."—A. H. TROW. [Ref. Nos. S. 3 and S. 7.] Humberstone, Leicester, November 18, 1915.—A. R. HORWOOD. "Probably a *rubricaulis* form."—A. H. TROW. [Ref. Nos. S. 21, 22, and 23.] Kibworth, Leicester, December 1915.—Coll. Miss M. E. WHITTON; comm. A. R. HORWOOD. "*Rubricaulis*."—A. H. TROW.

Senecio vulgaris L., f. *latifolius* Trow. [Ref. No. S. 6.] Humberstone, Leicester, November 28, 1915.—A. R. HORWOOD. "Probably somewhere near my *latifolius* type. Basal leaves required for exact determination. There is a suggestion of *rubricaulis* about this, however."—A. H. TROW.

Senecio integrifolius Clair. Rough upland pasture near Snows-hill, v.-c. 33, June 14, 1915. In great quantity over some acres of ground on the Great Oolite, with *Anemone Pulsatilla*, *Orchis ustulata*, *Cerastium pumilum*, *Thlaspi perfoliatum*, &c. The species is rare in

loncestershire; my records show three localities at the most, all in -c. 33. The size of some of the specimens reminds one of the rarer species *S. spathulæformis*.—H. J. RIDDELSDELL. "Yes, under var. *ulgaris* DC., although the leaves have long petioles and are sub-entire."—G. C. DRUCE.

Cirsium pratense Druce. Cothill, Berks., July 1913. Spring leaves only.—G. C. DRUCE.

Centaurea nigra L., var. *decipiens*. Roadside, Askam, v.-c. 69b. All heads with rayed florets. Is this the same plant as Williams in *Prodromus*, part 2, p. 58, names *Jacea*, var. *pratensis* Cand.?—D. JUMB. "I should call this the rayed form of our ordinary *nigra* auct. angl. (= *obscura* Jord.), i.e., the sub var. *radiata* Coss. & Germ."—C. J. SALMON. "No; this, if referred to *C. nigra*, var. *radiata* Williams loc. cit.) cannot be referred to *C. Jacea*, var. *pratensis* of the *Prodromus* (or *C. nigra*, var. *decipiens*, cited under that head by Williams), for in the latter case the 'appendices' are brown, in the former they are described as black. In the specimens sent they are blackish-brown."—ED.

Centaurea Calceitrapa L. [Ref. No. 147.] Dry hedge bank, Stiffkey, Norfolk, August 2, 1915. This is quite an old station, I believe.—F. ROBINSON.

Cichorium Endivia L. [Ref. No. 95.] Cultivated land, Little Ellingham, Norfolk, November 2, 1914. My attention was called to this weed by the occupier, who asked me what it was. He stated that to his knowledge it had not been cultivated as a vegetable on the premises for fifty years, but he told me that two or three years ago his laughter sent over some flower seeds from France.—F. ROBINSON. "Yes, the endive of the garden."—G. C. DRUCE.

Crepis paludosa Moench. Arthog, Merioneth, v.-c. 48, June 29, 1915. Young plants to show habit and radical leaves.—W. C. BARTON.

Crepis capillaris Wallr., var. *agrestis* Waldst. & Kit. Near Newquay, June 1915. A very variable plant more common than the type, I think. It mimics *Crepis taraxacifolia*.—C. C. VIGURS. "Yes."—G. C. DRUCE. "The largest flower on my plant has the calathium 2 cm. diam.: the majority of the flowers are only 1½ cm. Dr Williams says in this var. the calathia are large (3 cm. in diam.). I should therefore call this *C. capillaris* Wallr., glandular form."—J. A. WHEELDON. "This has scarcely large enough flowers for *agrestis*, and I do not see the more or less glandular black hairs on calyx and pedicels so characteristic of that plant. I believe this Newquay plant is a

strong form of *C. capillaris*, probably coming under var. *runcinatus* Bisch."—C. E. SALMON.

All the *Hieracia* have been examined by the Rev. E. F. Linton, M.A. In the case of Mr Barton's plants the whole gathering was submitted, a method I have suggested in the *Report* as desirable in most cases of critical plants where a gathering is liable to contain a mixture.—ED.

Hieracium Pilosella L. [Ref. No. 166.] Arthog, Merioneth, 500 ft., v.-c. 48, June 12, 1915.—W. C. BARTON. "It is much more like some forms of var. *coucinnatum* F. J. Hanb., but that has the heads glandular and epilose. The heads here are hairy as well as glandular."—E. F. LINTON. "Under the type."—E. S. MARSHALL.

Hieracium pratense Tausch. A weed on garden paths, Underdown, Ledbury, September 16, 1915.—S. H. BICKHAM.

Hieracium anglicum Fr. Near Grassington, v.-c. 64, alt. 600 ft., July 21, 1914. Growing with *H. hypochaeroides* and var. *lanceifolium*.—J. CRYER. "Seems to be *H. anglicum* type, not a variety, but the ligule tips are for the most part singularly glabrous."—E. F. LINTON.

Hieracium hypochaeroides Gibs. Near Grassington, v.-c. 64, alt. 600 ft., July 21, 1914. Growing with *H. anglicum* Fr. and *H. hypochaeroides* Gibs., var. *lanceifolium* W. R. Linton.—J. CRYER. "Rightly named."—E. F. LINTON.

Hieracium hypochaeroides Gibs., var. *lanceifolium* W. R. Linton. Near Grassington, associated with its two parents *H. anglicum* Fr. and *H. hypochaeroides* Gibs, v.-c. 64, alt. 600 ft., July 21, 1914.—J. CRYER. "Not var. *lanceifolium*, the leaves of which are more coriaceous and strongly ciliate, and the heads darker, less floccose. I call this *H. silvaticum* Gouan, var. *tricolor* W. R. Linton."—E. F. LINTON.

Hieracium silvaticum Gouan, var. *assymmetricum* Ley = *H. murorum* L., var. *assymmetricum* (Ley). Kettlewell, v.-c. 64, alt. 750 feet, June 21, 1914.—J. CRYER. "This appears to be rightly named, judging by the heads, but the foliage is not very characteristic in the specimens submitted to me."—E. F. LINTON.

Hieracium decolor W. R. Linton. Heseldon Glen, v.-c. 64, alt. 1000 feet, June 26, 1915. This glen, which is close to Pennygant, was visited on several occasions in the years 1900 to 1904 inclusive by the late Rev. W. R. Linton and the Rev. A. Ley, who recorded eighteen species and varieties of Hawkweeds found in it. (See *Journ. Bot.*,

February 1909.) This is the most frequent species there.—J. CRYER.
 "Yes."—E. F. LINTON.

Hieracium caesium Fr., var. *decolor* W. R. Linton. Orig., Great Orme's Head; cult., Ledbury, August 1915.—S. H. BICKHAM.
 All seem to me to be *H. caesium*, var. *decolor*."—E. F. LINTON.

Hieracium. Glen above the railway station, Coniston, v.-c. 69b, July 20, 1915. This species does not agree with my available descriptions. The Rev. E. F. Linton tentatively suggested *H. scanicum* or *innatifidum* var. *vivarium*.—W. H. PEARSALL. "*H. sciophilum* Uechtr."—E. S. MARSHALL. "Is *H. diaphanoides* Lindeb."—C. E. BRITTON. "Is so very different to plants of the latter from the Midlands."—ED.

Hieracium gothicum Fr., var. *latifolium* Backh. ! Silverdale, v.-c. 60, alt. 30 feet, July 13, 1914. The Rev. E. F. Linton writes—"I think *H. gothicum* Fr., *forma*, perhaps var. *latifolia*, only not quite identical with my plants of that variety."—J. CRYER. "This seems to me nearer the type, though the lowest leaf is broad enough for the variety."—E. S. MARSHALL.

Hieracium rigidum Hartm., var. *trichocaulon* Dahlst. Russell's Water Common, Oxon, July 1915.—G. C. DRUCE. "*H. sciophilum* Uechtr."—E. S. MARSHALL.

Hieracium umbellatum L. [Ref. Nos. 170-1.] On refuse of slate quarries, Bethesda, Carnarvon, v.-c. 49, August 17, 1915.—W. C. BARTON. "A neat-looking form, with leaves reduced in size and length and often aggregated near the base; a variation probably induced by the situation and lack of richer soil, which if cultivated would become normal. Hardly any of the specimens showed squarrose phyllaries. These remarks include Nos. 170 and 171."—E. F. LINTON. "Yes, forms of *H. umbellatum*, with heads (when dry) as black as in *H. boreale*."—E. S. MARSHALL.

Hieracium umbellatum L. [Ref. No. 169.] On ballast, Mingford Junction, v.-c. 48, July 25, 1915.—W. C. BARTON. "Seems to be a curious var. of *H. umbellatum* L., with a look of *H. rigidum* var., answering to description in Arvet Touvet of var. *brevifolium* Fr. non Tsch., of which I have no stem. I have one stem like 169 from France, but not named."—E. F. LINTON. "A broad-leaved *H. umbellatum* superficially resembling *H. boreale*. Heads remarkably dark, and leaves, of the well-grown specimens especially, very broad."—E. S. MARSHALL.

Hypochaeris glabra L. Woodhall Spa, Lincolnshire, September

16, 1915.—A. R. HORWOOD. "The var. *Loiselenriana* Godr. (*H. Balbisii* Lois.), with all the achenes beaked."—G. C. DRUCE.

Taraxacum. [Ref. No. O. 40.] Blewbury, Berks., April 1915.—G. C. DRUCE.

Taraxacum. [Ref. No. O.44.] Oxford, May 1914.—G. C. DRUCE.

Tragopogon pratense L., var. *orientale* (L.)? [Ref. No. O.795.] Oxford, June 1915. Dr Thellung so names it, but it has somewhat short ligules. The root is from Wolvercote, Oxon. These specimens are seedlings from my garden.—G. C. DRUCE.

Tragopogon pratense L. (viviparous form). Waste ground, the Canal basin, Chester, v.-c. 58, July 16, 1915.—C. WATERFALL.

Campanula glomerata L. [Ref. No. 158.] Heath-land form, heath land, Foulden Common, Norfolk, August 22, 1915.—F. ROBINSON. "The same dwarf form occurs on semi-calcareous pasture on the Marlstone at 700 ft. alt. in Leicestershire."—ED.

Campanula glomerata L. [Ref. No. 194.] Hedge banks on chalk, Ashill and South Peckenham, Norfolk, August 5, 1915.—F. ROBINSON.

Calluna vulgaris Hull, var. *incana* Reichb. Damp peaty ground, Delamere Forest, Cheshire, v.-c. 58, September 11, 1910.—C. WATERFALL. "Not an extreme form. The older name is var. *pubescens* Hull."—G. C. DRUCE.

Pyrola rotundifolia L., var. *maritima* (Kenyon). Sand dunes, near Freshfield, S. Lancs., v.-c. 59, August 28, 1915.—C. WATERFALL.

Pyrola secunda L. Craig Maud, Clova, v.-c. 90, August 1915.—R. & M. CORSTORPHINE.

Primula elatior × *vulgaris*, with *P. vulgaris*. In wood, Brent Eleigh, W. Suffolk, v.-c. 26, April 18, 1915. Flower colour of oxlip, with deeper yellow eye as in *P. vulgaris*, throat of corolla with folds. The leaves vary considerably in clothing, in some plants being quite hoary. The wood is exactly on the border line of the oxlip area (vide *Journ. Linn. Soc. Bot.*, vol. xxxiii., pp. 172-201, and map). *P. vulgaris* is abundant, and the hybrid moderately so at the southern end.—G. C. BROWN. "Correct, I believe, but smaller and with smaller flowers than my specimens from Essex and Cambridgeshire."—E. S. MARSHALL.

Primula veris L. \times *vulgaris* Huds. Cliffs, Dunningald, Forfar, 90, May 17, 1915.—R. & M. CORSTORPHINE.

Anagallis arvensis L., var. *carnea* Schrank. [Ref. No. 187.] Barmouth, v.-c. 48, July 30, 1915. Petals with glandular ciliate margins. The scarlet-flowered plant was plentiful, but I saw none with blue flowers in the district. The pale-flowered form occurred chiefly on roadsides, trodden ground, or poor, stony soil, and a few were intermediate in colour.—W. C. BARTON.

Centaureum vulgure Rafn. (seedlings). Barmouth, v.-c. 48, August 1915.—W. C. BARTON.

Gentiana Amarella L. Ashmansworth, N. Hants., v.-c. 12, September 15, 1915.—W. C. BARTON. "Yes."—G. C. DRUCE.

Gentiana Amarella \times *germanica* = \times *G. Pamplinii* Druce. [Ref. No. 194.] Ashmansworth, N. Hants., v.-c. 12, June 15, 1915.—W. C. BARTON. "Yes."—G. C. DRUCE.

Gentiana germanica Willd. Ashmansworth, N. Hants., v.-c. 12, September 15, 1915.—W. C. BARTON. "Yes."—G. C. DRUCE.

Amsinckia intermedia F. & M. [Ref. No. 122.] Waste ground, Stratton, Norfolk, June 15, 1915.—F. ROBINSON.

Symphytum officinale L., f. *violacea*. Bates Ley, Oxon, May 1915.—G. C. DRUCE.

Symphytum officinale L., var. *patens* Sibth. [Ref. No. 135.] Edge bank, on light soil, Shropham, Norfolk, July 8, 1915. I am not at all sure of this. The plant is fairly common in this neighbourhood.—F. ROBINSON. "Yes, but it should be called *S. officinale* L., sub-var. *purpureum* Poir."—C. BUCKNALL.

Symphytum officinale L., var. *purpureum* Persoon = *S. patens* Sibth. By the River Chew, near Chew Magna, N. Somerset, June 1915. The form with flowers of a deep red-purple hue. "*S. officinale* when sterile has the calyx-segments spreading after flowering, and it is not improbable that from this circumstance Sibthorp gave the name of *patens* to the red-flowering comfrey." C. Bucknall in *Journ. Bot.* 33, 1912.—J. W. WHITE. "Correct."—C. BUCKNALL.

\times *Symphytum densiflorum* Buckn. (*S. officinale* β . *purpureum* \times *peregrinum*.) By the River Chew, near Chew Magna, Somerset, June 1915.—J. W. WHITE. "Correct."—C. BUCKNALL.

× *Symphytum lilacinum* Buekn. (*S. officinale* a. *ochroleucum* × *β. purpureum* × *peregrinum*.) See C. Bucknall in *Journ. Bot.* 334, 1912. By the Land Yeo stream, near Wraxall, N. Somerset, June 11, 1915. Fide C. Bucknall.—J. W. WHITE.

Symphytum discolor Buckn. (= *S. officinale* a. *ochroleucum* × *< peregrinum*. Gatcombe Mill, Flax Bourton, N. Somerset, v.-c. 6, May 28, 1915. Flowers pinkish-cream. — Miss IDA M. ROPER. "Correct."—C. BUCKNALL.

Symphytum peregrinum Lister. [Ref. No. 858.] Ditch, Chattisham, E. Suffolk, v.-c. 25, July 11, 1915.—G. C. BROWN. "This shows traces of hybridity. Probably × *S. densiflorum* Bueknall (*S. officinale* × *peregrinum*)."—C. BUCKNALL.

Symphytum caucasicum Bieb. Tresillian, near Truro, E. Cornwall, May 27, 1915. Pale blue flowers. A garden weed, just to show the plant.—C. C. VIGURS. "Correct."—C. BUCKNALL.

Anchusa officinalis L. Barmouth, v.-c. 48, August 16, 1915.—W. C. BARTON. "Yes."—G. C. DRUCE, C. BUCKNALL, and J. W. WHITE.

Anchusa italica Retz. Orig. waste heaps between Crosby and Hall Road, 1912; cult. Walton, S. Lancs., v.-c. 59. Flowers July 1914. Leaves September 1914.—J. A. WHELDON. "Yes."—C. BUCKNALL and J. W. WHITE. "But the older and valid name is *A. azurea* Miller."—G. C. DRUCE.

Myosotis palustris Hill. Bladon, Oxon, July 1915. Damp riding on clay soil, in great abundance. I suspect this comes under *M. comutata* R. & S. Syst. iv., 102, 1819, which differs from *palustris* by the short oblique rhizome, stems more slender, not stoloniferous, leaves broadly oblong, shorter pedicels, flowers smaller and of paler blue. According to Rouy, this would be *strigulosa*.—G. C. DRUCE. "Type, we believe."—C. BUCKNALL and J. W. WHITE. "Cf. *strigulosa*."—A. THELLUNG.

Lithospermum officinale L., var. *pseudo-latifolium* Salmon. Borders of Netherlands Copse, near Merrow, Surrey, v.-c. 17, August 1915.—J. COMBER. "Yes, this is my variety, which I am very pleased to see from Surrey, where the type itself is far from common."—C. E. SALMON.

Cuscuta europaea L., on *Urtica dioica*. Pulborough, Sussex, September 1, 1915.—A. WEBSTER.

Cuscuta epithymum Murr., on *Origanum vulgare* L. Ashmansworth, N. Hants., v.-c. 12, September 18, 1915. In the same field the *uscuta* was parasitic on *Lotus corniculatus*, *Lathyrus pratensis*, *lantago lanceolata*, and *Gentiana Amarella*.—W. C. BARTON.

Lycium vulgare Dunal. Hedge, near Ford, S. Lancs., v.-c. 59, July 20, 1915.—J. A. WHELDON.

Datura Stramonium L. [Ref. No. 144.] Cultivated ground, Wotton, Norfolk, July 25, 1915. This has been a common weed of cultivated land in the immediate neighbourhood for twelve years to my knowledge.—F. ROBINSON.

Verbascum pulverulentum L. [Ref. No. 143.] Roadside and old mines, Castleacre, Norfolk, July 24, 1914.—F. ROBINSON.

Scrophularia alata Gilib. Shalldown, N. Wilts. and Berks., August 1915. Both interesting new county records for Berks. and Wilts. See also *Rep. B.E.C.* 204, 1915. Coll. C. P. HURST; comm. G. C. DRUCE. "According to Rouy this is quite satisfactory, *S. alata* being synonym of *S. umbrosa* Dum. and of *S. Ehrharti* C. A. Stev. Why does Babington differ?"—C. BUCKNALL and J. W. WHITE.

Scrophularia alata Gilib. Cheltenham district, v.-c. 33, August 1915. Mr Greenwood found this plant in two spots. It is the first time that the species has been recorded as a native in the whole of Gloucestershire, I believe.—H. J. RIDDELSDELL. "Yes, an interesting new county record."—G. C. DRUCE. "Yes."—C. E. SALMON.

Scrophularia alata Gilib. Den of Pitairlie, v.-c. 90, August 1915.—R. & M. CORSTORPHINE. "An interesting plant, but it does not answer to the description of *alata*, the stem not being broadly winged nor the leaves sharply serrate. Only in the staminode does it approach the var. *Nessii* Wirtg. Is *S. alata* Gilib. a British plant? I gather from the *Manual* that it is not the same as *S. umbrosa* Dum. (*S. Ehrharti* C. A. Stev.)."—J. W. WHITE. "But see the note on the Shalldown plants."—ED. "Correct, with petioles not so strongly winged as usual."—C. E. SALMON. "Undoubtedly under *alata*, and growing there with *S. nodosa* in immense quantities and very luxuriant."—G. C. DRUCE.

Veronica. Turnip field, Barkbythorpe, Leicester, December 1915. These plants are very large, and had the look of *V. polita* (foliage characters). The flowers were much larger, however, and of the *Buxbaumii* type. The fruit is not quite typical of the latter. It struck me that the plant was a hybrid. Both assumed parents grew in the same field, but there was little or no *agrestis*.—A. R. HORWOOD.

"Why not *V. Tournefortii* Gmel?"—W. H. PEARSALL. "*V. agrestis* L."—C. E. SALMON.

Veronica didyma Ten. *forma*. [Ref. No. O.81.] Cornbury, Oxon., May 1915.—G. C. DRUCE.

Veronica Anagallis L. [Ref. No. 859.] Bed of River Stour, by Worningford Bridge, Bures St Mary, W. Suffolk, v.-c. 26, June 13, 1915. Flowers pale blue.—G. C. BROWN. "Var. *anagalliformis* Bor."—H. J. RIDDELSDELL. "Yes, the true plant."—G. C. DRUCE. "This has the glandular inflorescence of var. *anagalliformis* Franch = *V. anagalliformis* Boreau *Fl. du Centre*, as a species."—J. W. WHITE. "Yes, but var. *glandulosa* Druce."—W. H. PEARSALL.

Euphrasia stricta Host. Downs, Guildford, Surrey, v.-c. 17, September 1915.—J. COMBER. "I agree."—E. S. MARSHALL. "*E. Kernerii* Wettst., not *E. stricta*."—C. BUCKNALL. "These plants show no resemblance to *stricta*. They are *Kernerii*."—E. DRABBLE. Also from Billa Barra, Leicester, August 22, 1915. Fide C. Bucknall.—A. R. HORWOOD. "I believe so."—E. S. MARSHALL. "There is a mixture here. I think two of the plants are *stricta*, but nearly all the leaves are lost in my specimens."—E. DRABBLE. "All the specimens distributed had good foliage when sent out. It is possible that *E. nemorosa* and *E. stricta* were growing intermixed here, but in some states the two species, as remarked by Mr Bucknall, are difficult to discriminate."—ED.

Euphrasia borealis Towns. [Ref. No. 146.] Harlech golf links, v.-c. 48, August 11, 1915. Fide C. Bucknall.—W. C. BARTON. "My specimens are *E. curta* Wettst., var. *glabrescens* Wettst."—E. S. MARSHALL.

Euphrasia. [Ref. No. 108.] Bare hill, near Daddy Hole Plain, Torquay, May 21, 1915.—F. ROBINSON. "My specimens are *E. curta* Wettst., var. *glabrescens* Wettst."—E. S. MARSHALL. "Is *E. borealis* Towns."—C. BUCKNALL.

Euphrasia nemorosa H. Mart. ? [Ref. No. 158.] Beddgelert, v.-c. 49, August 28, 1915. Mr C. Bucknall writes: "It is difficult to name this with certainty. On the whole I think it must be considered as a weak form of *E. nemorosa*. In some points it approaches *E. stricta*, but I do not think it has anything to do with *E. curta*."—W. C. BARTON. "Much like *nemorosa* in habit; but specimens from Cardiganshire which closely resemble it were referred by Wettstein to *E. curta*, var. *glabrescens*."—E. S. MARSHALL. Bray Heath, Worplesdon, Surrey, v.-c. 17, September 1915.—J. COMBER. "Is *E. Kernerii*, with flowers not so large as usual. Plants rather old."—C. BUCKNALL.

certainly very near *nemorosa*; but similar Surrey plants have been sent for me by Wettstein as *E. curta*, var. *glabrescens*."—E. S. MARSHALL. "*Nemorosa*, var. *ciliata*."—E. DRABBLE; also [Ref. 154.] Bethesda, Carnarvon, v.-c. 49, August 17, 1915. Fide Bucknall.—W. C. BARTON. "So I should name it."—E. S. MARSHALL. "*Nemorosa* H. Mart., var. *ciliata*, see *Journ. Bot.*, March 6.—E. DRABBLE; and Rough Park Wood, Leicester, September 1, 1915. Fide C. Bucknall.—A. R. HORWOOD. "Certainly *memorosa*. *E. curta* approaching var. *glabrescens* Wettst."—E. DRABBLE. "With Dr Bucknall I agree that these are *E. nemorosa*, gathered them as such."—ED.

Euphrasia? [Ref. No. 148.] Heddington Down, N. Wilts, v.-c. September 3, 1915. Corolla purplish, 4-5 mm. Leaves dull, dark green.—W. C. BARTON. "This appears to be intermediate between *Kernerii* and *E. nemorosa*. The flowers are small for *E. Kernerii*, some of them have the elongated tube and the bright colours of that species. It is impossible to say whether this is a hybrid form or simply intermediate."—C. BUCKNALL. "The plants on my sheet are all-flowered *Kernerii*. I know this plant very well in Derbyshire, where it is as abundant as the larger flowered form."—E. DRABBLE.

Euphrasia curta Wettst. Billa Barra, Leicester, August 22, 1915. Fide C. Bucknall.—A. R. HORWOOD. "*Curta* var. *glabrescens* Wettst., I think."—E. DRABBLE. "Seems nearer the type."—ED.

Euphrasia latifolia Pursh. [Ref. No. 4116.] Coast near Melvich, Sutherland, v.-c. 108, July 20, 1915.—E. S. MARSHALL. "Yes."—E. DRABBLE.

Euphrasia foulaensis Townsend. [Ref. No. 4119.] Coast near Rathy, W. Sutherland, v.-c. 108, July 30, 1915. The characteristic capsules were not yet formed.—E. S. MARSHALL.

Euphrasia gracilis Fr. Roadside, White Colne, N. Essex, v.-c. September 16, 1915.—G. C. BROWN. "No, much too strong and so large-flowered. I think that there may be a mixture of *E. stricta* and *E. nemorosa*."—E. S. MARSHALL. "Is *E. Kernerii* Wettst.?"—E. BUCKNALL. "There is nothing like *gracilis* about them."—E. DRABBLE.

Euphrasia Rostkoviana Hayne. Copt Oak, Leicester, August 22, 1915. Fide C. Bucknall.—A. R. HORWOOD. "Yes, but my specimens show very fine glandular hairs on the leaves and bracts, though these are well developed on the stems and calyces."—E. DRABBLE. "The typical species over the greater portion of the elevated Charnwood forest district in Leicester."—ED.

Euphrasia Kernerii Wettst. Beeston Regis, Norfolk, September 28, 1915. Fide C. Bucknall.—A. R. HORWOOD. "Yes."—E. DRABBLE.

Euphrasia Kernerii Wettst. [Ref. No. 159.] Heddington Down, v.-c. 7, September 3, 1915. Fide C. Bucknall.—W. C. BARTON. "Yes."—E. S. MARSHALL and E. DRABBLE.

Bartsia Odontites Huds., var. *serotina* (Dum.). Laneaut, v.-c. 34, August 1914.—Coll. Rev. W. BUTT. Though I have called this *serotina* on the label I am not certain that the name is right. *Serotina* appears to have bracts shorter than the flowers, which is not the case with the present specimens.—H. J. RIDDELSDELL. "*Serotina*."—G. C. DRUCE.

Rhinanthus major Ehrh., var. *platypterus* Fr. Mant. iii., 60. [Ref. No. 4201.] Locally abundant on the peat moor, near Edington Junction, v.-c. 6, August 23, 1915. Mostly gone over, but a fair number of plants were still in flower. Seed-wing broad.—E. S. MARSHALL. "My specimen is mostly in fruit, but, from the size and shape of the corolla of the few remaining flowers, I should have put this under *R. minor*, of which it also has the fruit."—C. E. SALMON.

Rhinanthus. [Ref. No. 4126.] Local, on grassy cliffs (Old Red Sandstone), Melvich, W. Sutherland, v.-c. 108, August 7, 1915. A peculiar plant, near *R. stenophyllus* and *R. monticola*, which I have not seen elsewhere. Flowers unusually pale yellow, rather small, compressed wing of seeds rather broad. I cannot name it definitely.—E. S. MARSHALL. "Probably luxuriant examples of *R. monticola*."—G. C. DRUCE.

Rhinanthus Crista-galli L. [Ref. No. 190.] Arthog, marshy field, alt. 400 ft., v.-c. 48, June 14, 1915.—W. C. BARTON. "Yes, my friend Dr Sterneck at first thought plants like this were new, and he proposed to call them *R. anglicus*, but I paid a second visit to Wales to collect more material, which satisfied him they could not be separated from *minor* (*Crista-galli*)."—G. C. DRUCE.

Melampyrum pratense L., var. *hians* Druce. Railway banks, Woodland, N. Lancs., v.-c. 69b, July 10, 1915. These plants do not entirely agree with available descriptions. Calyx not "very irregular," but usually four teeth in two pairs—two upper closer than two lower, all finely ciliate. Ribs of tube and teeth green, rest of tube beautifully coloured with maroon. Corolla never pink, always deep golden yellow, deepest at the tip, where often faintly marked with maroon. Mouth open, upper lip densely hoary. Bracts rarely entire, usually with one or two pairs of hastate subulate teeth at the base. Plant almost invariably associated with siliceous rocks, damp shade, and

Linum Myrtillus L.—W. H. PEARSALL. “Yes, excellent specimens of the sub-species *M. hians*.”—G. C. DRUCE. Also [Ref. No. 144] from bog woods, v.-c. 48, June 15, 1915. Corolla deep yellow, mouth tube open. Apparently the only form in the neighbourhood: a mile away the type was plentiful.—W. C. BARTON. “Yes, the sp. *hians*, and I think a new county record for Merioneth. It is abundant near Llanberis in Carnarvon.”—G. C. DRUCE.

Utricularia ochroleuca Hartm. Marsh, near Tummel Bridge, Perthshire, v.-c. 88, July 28, 1915.—R. & M. CORSTORPHINE.

Pinguicula vulgaris L., var. *bicolor* Nordstedt. Rossie Moor, near Perth, v.-c. 90, June 19, 1915. This small and well marked variety was abundant on this moor where the type does not occur, although it is the common form of the surrounding district.—R. & M. CORSTORPHINE. “Yes, this variety, which the Rev. E. S. Marshall first brought to our notice, seems to have a facies of its own, and may deserve the grade Nordstedt gave it.”—G. C. DRUCE.

Mentha arvensis × (*sativa* L.) = *M. verticillata* L. Garden, Haymesgarth, Cleeve Hill, N. E. Gloucestershire, v.-c. 33, August 3, 1915.—C. E. SALMON. “Is *M. spicata* L. = *M. viridis* L.—C. BUCKNALL and J. W. WHITE. “This seems to me *M. viridis*.”—C. E. SALMON.

× *Mentha gentilis* L. Ex Crantock, Cornwall; hort. Oxford, September 1915.—G. C. DRUCE. “Yes, I believe *gentilis*.”—C. E. SALMON. “We agree. Answers well to descriptions.”—C. BUCKNALL and J. W. WHITE. Also from garden, Haymesgarth, Cleeve Hill, N. E. Gloucestershire, v.-c. 33, September 20, 1915.—C. BAILEY. This might be placed under an aggregate *gentilis* in Rouy's arrangement: as a segregate it runs down to *gracilis*. A very different plant from the *gentilis* by the Wye at Symond's Yat.”—J. W. WHITE. “Looks very different from Mr Druce's plant. Foliage very like *viridis*; inflorescence of *gentilis* character. I have nothing quite like it in my herbarium.”—C. E. SALMON.

Thymus. Billesdon, Coplow, Leicester, July 1907.—This appears to be a form of *T. Chamaedrys* on Middle Lias Marlstone, a most luxuriant plant, with lateral stems a foot in length, and not rooting at intervals like *T. Serpyllum*, but suberect from a central rootstock.—R. HORWOOD. “*T. oratus* Miller, var. *subciliatus* Beck.”—A. B. JACKSON.

Thymus oratus Miller × *Serpyllum* L. [Ref. No. 134.] Arthog, alt. 100 ft., v.-c. 48, August 5, 1915.—W. C. BARTON. “This certainly does look intermediate, and may be the hybrid named.”—J. A. WHELDON. One very large plant rooted between the stones of a wall and strag-

gling over sloping stony ground, nearly three feet from root to tip of branches. The diffuse growth, interrupted inflorescence and tendency to bifarious pubescence indicate *T. ovatus*; the leaves, general appearance and creeping stolons indicate *T. Serpyllum*. Both species were growing near. Cf. Ref. No. 132."—W. C. BARTON.

Thymus Serpyllum L. [Ref. No. 141.] Harlech golf links, v.-c. 48, August 11, 1915.—W. C. BARTON. "This and Ref. Nos. 132, 136, and 135, *T. Serpyllum* L., var., *glabratus* Williams (*T. glaber* Mill.)."—J. A. WHELDON.

Thymus Serpyllum L. [Ref. No. 132.] Fairbourne sands, v.-c. 48, August 4, 1915. Growing in a situation even more exposed than the preceding. I saw no *T. ovatus* within a mile.—W. C. BARTON. "Yes. Ref. Nos. 132, 137, 136, 135. Var. *hirsutus* Reichb. is a much hairier plant than these, with the stem densely pilose. These seem to be intermediate between var. *hirsutus* Reichb. and var. *glabratus* Williams (*T. glaber* Mill.) in having the leaves often ciliate all round and on the principal nerves. But the stem has naked spaces between the pilose lines, as in var. *glabratus*. Has this form a name?"—J. A. WHELDON. "A very diffuse plant, with the interrupted inflorescence suggesting *T. ovatus*, but with the trailing habit of *T. Serpyllum*."—A. B. JACKSON.

Thymus Serpyllum L. [Ref. Nos. 125, 132.] Vazon Bay, Guernsey, July 31, 1915.—W. C. BARTON.

Thymus Serpyllum L. [Ref. Nos. 135, 136, 137, 139, 141, 143.] Harlech golf links, v.-c. 48, August 11 and 18, 1915. The plants from which these specimens were taken were all growing under exactly the same conditions in one spot, a level piece of turf among the sand hills. There were several clumps of each which were easily recognisable at some distance.—W. C. BARTON. "Ref. Nos. 141 and 143 are *T. Serpyllum* L., var. *angustifolius* Gren. and Godr. (*T. angustifolius* Pers.). Nos. 135, 136, and 137 forms between var. *Linneanus* Gren. & Godr., and var. *angustifolius* Gren. & Godr."—A. B. JACKSON.

Hyssopus officinalis L. Summits of ruined walls of cloisters and church, Beaulieu Abbey, S. Hants, October 12, 1912. The owner, Lord Montague of Beaulieu, carefully preserves all plants growing on the walls, such as this and *Dianthus plumarius*, and it is to be hoped they will remain to adorn the old abbey ruins for many a long day. I believe it has been known to exist there for nearly 300 years. This aromatic Labiate is not the Hyssop of Scripture, which probably was the Caper plant (*Capparis spinosa* L.), common in the Mediterranean region and Palestine.—J. COSMO MELVILL. Also from same locality. Cult. Ledbury, July 30, 1915.—S. H. BICKHAM.

Salvia pratensis L. [Ref. No. 127.] Meadow land, Griston, Norfolk, June 21, 1915. Mr A. Bennett says it may be, but he has never seen it with so small-flowers. I certainly think it is a small-flowered form of *pratensis*.—Coll. Mrs H. ANDREW; comm. F. ROBINSON. This seems to be var. *modesta* Briquet. Corolla hermaph., saillante 12 à 15 mm. Feuilles basilaires allongées étroitement oblongues tronquées ou atténuées à la base.—G. C. DRUCE. "A similar form, with large flowers of deep violet-purple, occurs in Rutland. The specimens sent by Mr Shoobred are at the other end of the scale, and besides being nearly as large as in *S. officinalis*, are more simple."—ED. Also from Meadow, Roggiet, Monmouth, v.-c. 35, June 16, 1915. The plant appears to be native in this station, and is being readed, being protected. It occurs in two forms, a deep blue one, the more common, and a pale pinkish purple one.—W. A. SHOOLBRED. This is near *rostrata* Reichb. f. Leaves crenulate; flowers large, 2-25 mm.—G. C. DRUCE.

Salvia verticillata L. Waste ground, the canal basin, Chester, v.-c. 58, July 16, 1915.—C. WATERFALL. "Yes."—G. C. DRUCE. An increasingly abundant waste ground plant during the last few years.—ED.

Nepeta Cataria L. Sand pit, near Burton salt marshes, The Wirral, Cheshire, July 14, 1915.—C. WATERFALL. "Yes, queried as an escape in *Top. Bot.* for 58."—G. C. DRUCE.

Nepeta hederacea Trev., var. *parviflora* (Benth.). [Ref. No. 11741.] Wellows' Walk, Magdalen College, Oxford, May 1902. Experimental culture of the forms with large and small corollas is much needed to prove if it is a sexual dimorphic form or a true variety.—G. C. DRUCE. Also an erect ♀ form, Marcle Hill, Herefordshire, v.-c. 36, June 1915.—Coll. Miss E. ARMFAGE; comm. S. H. BICKHAM.

Scutellaria galericulata L. [Ref. No. 195.] Canal side, Calne, v.-c. 7, September 4, 1915. Growing in water, so that the pubescence is not due to dry or exposed situation. Rouy has "*S. vulgaris* Mutel. Tiges, feuilles et calices glabres; corolles ± pubescentes. β. *pubescens* Mutel. Tiges, page inférieure des feuilles, calices et corolles pubescentes, plus petits (rare)." This plant certainly comes under β. *pubescens*, and is unlike the plants for which Mr Druce suggests the name *litoralis* (*Rep. B.E.C.* 275, 1912). Sime *E. B.*, describes *S. galericulata* with "Calyx pubescent, tube of corolla very finely pubescent. Plant subglabrous with angles of the stem, leaves, and flowering calyx finely pubescent, sometimes rather thickly so." Is *vulgaris* Mutel found in the British Isles?—W. C. BARTON. "Yes, not one of my fifty specimens of *S. galericulata* from various parts of Britain answer to var. *vulgaris* Mutel. My littoral variety seems distinct from *pubescens*."

—G. C. DRUCE. “Certainly under Mutel’s *pubescens*. I cannot find the glabrous plant (*vulgaris*) in my herbarium. I should have thought Mr Druce’s *litoralis* was a lake or coast state of *pubescens*.”—C. E. SALMON. “Perhaps members will make a particular search in their herbaria, or failing this in the field, for the var. *vulgaris* this summer.”—ED. “This, we presume, is the ordinary British form. All our specimens are equally pubescent. We do not know the var. *vulgaris* Mutel.”—C. BUCKNALL and J. W. WHITE.

Galeopsis Tetrakit L., var. *nigricans* Brébisson. [Ref. No. 4205.] Near Edington Junction, N. Somerset, v.-c. 6, August 23, 1915. Calyces purplish-black.—E. S. MARSHALL. “Yes.”—G. C. DRUCE. “Correctly named, I believe.”—C. E. SALMON. Roadside hedge, about a mile from Compton Wynyates House, v.-c. 23, August 25, 1915.—H. J. RIDDELSDELL. “Yes.”—G. C. DRUCE.

Galeopsis angustifolia Ehrh. [Ref. No. 160.] Barley field, Saham Toney, Norfolk, August 29, 1915.—F. ROBINSON. “Var. *canescens* (Schultz), I believe.”—E. S. MARSHALL.

Lamium maculatum L. Established at Meole Brace, Salop, June 1915.—J. COSMO MELVILL.

Lamium hybridum Vill. [Ref. No. 105.] Dry hedge bank with *Lamium purpureum* and *L. amplexicaule*, Roeklands, May 3, 1915. From the situation in which I gathered this plant I cannot help thinking that it is a hybrid between *purpureum* and *amplexicaule*. The stems are more elongated and the leaves hardly so deeply cut as the plant I have hitherto known as *L. hybridum*? \times *purpureum*.—F. ROBINSON. “Yes, it is probably a fertile hybrid of *purpureum* and *amplexicaule*.”—G. C. DRUCE. “Yes, certainly.”—C. E. SALMON. “Is not this var. *dissectum* Mutel?”—ED.

Plantago Coronopus L., var. *ceratophyllon* Rapin. Orig. Blackpool, W. Lanes., v.-c. 60. Cult. in ordinary garden soil at Walton, S. Lanes., for two generations. July 15, 1914.—J. A. WHELDON. “Interesting specimens as showing the persistency of the characters in culture. Perhaps it has been too hastily assumed that the other numerous variations of *Coronopus* are mere states due to soil or surroundings.”—G. C. DRUCE. “Correct.”—E. BAKER.

Plantago lanceolata L., var. *platyphylla* mihl. [Ref. No. O.897.] Hambledon, Hants., June 1915. Growing with both *lanceolata* and *media* on the lawn of Captain Butler’s house at Hambledon, S. Hants. See *Rep. B.E.C.*, 207, 1915. It suggests a hybrid, but dissection shows no trace of *media*, and the plant seems fertile.—G. C. DRUCE. [Also Ref. No. O.892.] Watlington, Oxon., May 1915. From roadside, but not

te so strongly marked. The type was plentiful in both places, so cannot be a soil variation. Also seen near Wilstone, Bucks., and rts.—G. C. DRUCE.

Scleranthus perennis L. [Ref. No. 102.] Chalky heathland, where it had only been removed two or three years previously, Bamham Common, Norfolk, April 26, 1915.—F. ROBINSON.

Chenopodium hybridum L. [Ref. No. 162.] Cultivated ground among potatoes, Snetterton, Norfolk, August 26, 1915. I have found the same plant in the same station for twelve years or so, apparently confined to a small spot.—F. ROBINSON. Also a garden weed, Ryton-on-Ussington, Warwickshire, July 21, 1915.—J. A. WHELDON. "Yes, *Flore de France*, M. Rouy calls it *C. angulosum* Lam., for the reason that it is not a hybrid, but this is not in accordance with the facts."—G. C. DRUCE. "Both right."—J. W. WHITE.

Chenopodium murale L. [Ref. No. C.1.] Trent meadows, Nottingham, September 21, 1915. See *Rep. B.E.C.*, 296, 1915.—A. R. HORWOOD. "Yes, without personal voucher in *Top. Bot. for Notts.*"—G. C. DRUCE.

Chenopodium murale L., var. *microphyllum* Coss. & Germ. [Ref. No. C.2.] Trent meadows, Nottingham, September 21, 1915. These specimens are better than those sent last year, and referred to the above var. tentatively. A comparison with the type from the same locality seems to support this determination.—A. R. HORWOOD. "Cosson & Germain described this as a sub-var. in *Fl. Enc. Paris*, 452, 1845: 'feuilles beaucoup plus petites que dans le type.' Gürke *Pl. Eur.* ii., 2, 1897, called it a variety."—G. C. DRUCE. "Certainly smaller-leaved than usual. It is correctly given as a sub-var. in *Camb. Fl.*, with the description 'smaller in all its parts,' but the authors of the same name mention only the smaller leaves. The fruits seem much the same size."—C. E. SALMON. "See Mr Druce's remarks *supra*. British authors generally have not as yet inclined to the use of the grade sub-variety."—ED. "See *Rep. B.E.C.*, 158, 1914."—J. W. WHITE.

Chenopodium opulifolium Schrad. Trent meadows, Nottingham, September 21, 1915. Large plants with a spreading habit at once distinguished from *Ch. album*, var. *pagannum*, which some forms may resemble, not only by the leaf-form, but by the difference in colour of the upper surface of the leaves.—A. R. HORWOOD. "Yes."—G. C. DRUCE. "Yes."—J. W. WHITE.

Chenopodium album L. [Ref. Nos. O.7652, 7653, 7654.] Oxford, September 1915. I should have put these under the aggregate *viridescens* A. NANS.—G. C. DRUCE. "All three specimens are good examples

of *viride* Syme in my view.”—ED. “Yes, nearest to *viridescens*, but by no means typical. All go away towards *paganum*, with their sinuate-dentate lower leaves and in their habit.”—J. W. WHITE. “But *viridescens* St Am. = *paganum* Reichb. I admit that these plants show a resemblance to *paganum*, but are nearer *viride* Syme, which in some areas is the commonest.”—ED.

Chenopodium Vulvaria L. [Ref. No. 157.] Sand dunes, Great Yarmouth, August 16, 1915.—F. ROBINSON. “This seems to come under var. *microphyllum* Moquin in DC. Prod. xiii., 2, 64.”—G. C. DRUCE. “Yes.”—J. W. WHITE.

Chenopodium Vulvaria L. Farmyard, Barsby, Leicester, November 8, 1915. This seems to be a more than usually narrow-leaved form. I was not botanising when I saw this plant growing amongst cobbles in a farmyard, and at the moment detecting no smell, placed it in my vasculum to look at later as a curious microphyllous species. On opening my vasculum later I was confronted by the familiar raw bad fish smell, and was astonished to find the plant was *Vulvaria*. The foliage is distinctly like *serotinum* (*ficiifolium*.) Is there a described variety? If not this seems to deserve a name. The plant was bushy, short, compact, and has more the appearance of forms of *marale*.—A. R. HORWOOD. “Not *Vulvaria*.”—W. G. TRAVIS. “No, neither *Vulvaria* nor *serotinum*; it is a form of *C. hircinum* Schrad. or a closely allied species.”—G. C. DRUCE. “I cannot believe this to be any form of *C. Vulvaria*. Although some of its leaves are in miniature like those of *C. ficifolium*, yet the stiff, bushy habit and leafy inflorescence take it away to some species or hybrid unknown to me.”—J. W. WHITE. “Not *Vulvaria*, of which it has not leaves nor characteristic odour. My example has no fruit, but it is, I believe, a condensed state of *C. ficifolium*.”—C. E. SALMON.

Atriplex. On a rubbish heap near Brislington, Bristol, October 10, 1915. A strong, bushy plant, three feet or so in diam., of a pale green tint throughout. I shall be glad to have it determined, as I find nothing to match it in my herbarium. It comes nearest to a specimen of *A. tataricum* L. gathered in Hungary by W. Steinitz, of Buda Pesth, but that species seems to vary a good deal in leaf outline.”—J. W. WHITE. “Hardly identical with a plant so named from Leicester. There are some forms of *patula*, which is really a very variable species, to which, I think, it shows some approach.”—ED.

Salicornia herbacea L., f. *patula* Moss. Salthouse, Norfolk, September 1912. Fide E. S. Marshall.—A. R. HORWOOD.

Salicornia ramosissima Woods. Shore, West of Emsworth, Hants., September 10, 1914. Green, rarely tinged with red, not yellow green

in *S. stricta*, but more blue green.—C. E. SALMON. And [Ref. No. 11.] small, slender forms (or states) of rather dry salt-marshes, some distance from the sea, Cofton, near Starcross, v.-c. 3, S. Devon. September 21, 1915. Spikes acute. A fortnight later it formed conspicuous red-brown patches.—E. S. MARSHALL.

Salicornia disarticulata Moss, and var. *humifusa*. [Ref. No. 4212.] *Journ. Bot.* 362, 1915. Sandy mud flats, Dawlish Warren, S. Devon, v.-c. 3, October 7, 1915. Frequent and locally abundant. Siliques prostrate; usually more or less triangular fan-shaped: brick-red, turning blood-red in autumn. Flowers solitary, segments shedding freely.—E. S. MARSHALL.

Suaeda maritima Dum., var. *procumbens* Syme. Salthouse, Norfolk, September 1912. Forming fairly extensive and continuous societies on saltings, periodically inundated after storms, on the landward side of the Weybourne shingle-spit.—A. R. HORWOOD.

Polygonum Persicaria L., var. *Laude*, Leicester, September 1909. An unusually erect, unbranched form, with leaves more upright than one generally finds, growing with *P. Hydropiper*, and reproducing the habit of the latter, but showing no signs of hybridity.—A. R. HORWOOD.

Polygonum maculatum Trim. & Dyer (as a sub-sp.). By Briton's Pond, near Guildford, Surrey, v.-c. 19, September 1915.—J. COMBER.

Rumex maritimus Schreb. Alresford, N. Hants., May 1915. Radical leaves only. I think this must be referred to the above plant. As at present I have no opportunity of seeing it later in the year. I noticed it so near Easton, which is nearer Winchester. It is only recorded for Hants. in Townsend's *Flora*.—G. C. DRUCE.

Rumex sanguineus L. Seedlings, ex hort. Kew, August 14, 1915. A. B. JACKSON. "In some districts this plant is almost entirely replaced by *viridis*, both in woodland habitats and in open situations."—ED. "Is it ever more than an alien of garden origin in England? How far back of the old records are to be trusted."—G. C. DRUCE.

Rumex pulcher L. Radical leaves. Lubenham, Leicester, December 1915.—A. R. HORWOOD.

Asarum europaeum L. Frilsham, Berks., May 1915. In some quantity over a small area of wood, whence it was sent me by Mr. J. Hooker. It is near the edge of the woodland, and there is a tradition of a keeper's cottage once being near. No aliens were present.—G. C. DRUCE.

Euphorbia dulcis L. Near Kirkton of Glenisla, v.-c. 90, July 1915. This plant in flower was sent through the Club in 1912. We are now sending specimens gathered later in the year to show the highly tubercled fruit.—R. & M. CORSTORPHINE. "On the Continent, as in the Auvergne, this is usually a plant of rather open woodlands. In Forfar it grows on the bushy bank of a river, and in another locality, which Mr Corstorphine showed me, it was on the steep banks of a rivulet amongst coarse herbage. In both instances there was no garden near, nor only under very exceptional circumstances could the stream reach as high. Is there evidence of the seeds being carried by birds? It occurs in Belgium, but appears to be absent from Holland, Sweden, and Norway."—G. C. DRUCE. "Correct."—C. BUCKNALL and J. W. WHITE.

Euphorbia platyphyllos L. A weed in my garden at Oxford, August 1915. Perhaps introduced with some seeds from Madeira, where I gathered it in 1908.—G. C. DRUCE.

Euphorbia exigua L., var. *retusa* L. Cultivated land, Clears, Reigate, Surrey, August 20, 1915. I have not a very high opinion of this "variety," having seen acute and obtuse leaves on the same plant. The description in Linn. *Sp. Pl.* 1, ed. 2 (1762), 654, runs "*E. exigua* β *retusa* Tithymalus, s. *Esula exigua*, foliis obtusis. Bauh. pin 291 prodr. 132."—C. E. SALMON. "Yes, but it is a feeble variety."—G. C. DRUCE.

Mercurialis perennis L., var. *ovata* (Steud.). Hedge bank, Eastthorpe, N. Essex, v.-c. 19, April 15, 1915. Probably best considered merely as a form, although I find it remains constant in the spots where it occurs.—G. C. BROWN. "Is not this type, which can often be found with ovate leaves? These are not sessile, and do not therefore agree with the variety."—Miss IDA M. ROPER. "The variety is represented in Koch's Synopsis, last ed., by *M. ovata* Sternb. as a species, described as having leaves almost sessile. Not mentioned by Rouy or by Grelli, and so possibly of little importance. This plant of Mr Brown's is an ordinary form of *M. perennis*."—C. BUCKNALL and J. W. WHITE.

Ulmus major Sm.? var. *Daveyi* Henry. Peupoll, Crantock. Tree A, September 25, 1915; Tree B, September 26, 1915; Tree C, September 26 and 29, 1915.—C. C. VIGURS. "These are certainly *U. major* Sm., but do not agree with the diagnosis of the var. *Daveyi* Henry, which is described as having leaves smaller than the type, $2\frac{1}{2}$ inches long by 2 inches broad, and with 10-12 pairs of lateral nerves, and densely pubescent below. The specimen labelled B agrees very well with examples sent as *U. hollandica* Miller from the same locality in 1911."—A. B. JACKSON. "The foliage agrees with that of *U.*

Ulmus hollandica (*U. glabra* × *intermedia*), the Dutch Elm, figured (plate 96) in the *Cambridge Flora*.—J. W. WHITE.

Ulmus hollandica Mill. (= *U. glabra* Mill. × *U. montana* Stokes). Autumn leaves, to be supplemented if possible by fruit in the spring. Ainsdale, Leicestershire, October 1912. Previously distributed as *U. glabra* Mill., var. *major*. Regarded by the late A. Ley as *U. sarculosa*, and suggested to be *U. vitens* × *U. glabra* Mill. by Dr Moss (*Wats Bot. Club* 407, 1912-13), which last opinion I believe is correct. The tree has the habit of *U. montana* Stokes, and the foliage and fruits of *U. glabra*, but the leaves are tough and coriaceous, and the bark again recalls *U. montana* Stokes.—A. R. HORWOOD. "Typical *U. glabra* Miller, I should say."—A. B. JACKSON. "I agree with reference to *U. hollandica*. This is not the typical *glabra* common in Leicestershire, and as the photographs distributed previously with specimens from this same tree show, the habit is different entirely, and discloses the hybrid origin."—Ed.

Ulmus campestris L., var. *glabra* (Mill.). Launde, Leicestershire, May 1, 1908.—A. R. HORWOOD. "Probably *U. minor* Reichb. (! *U. minor* Miller), and not an undescribed variety as suggested."—A. B. JACKSON. "In the general habit, and in the long narrow, deeply crenate leaves, and the small fruits with much incurved falcate lobes to the notch, this form seems to me distinct. It is certainly rare, but agrees with a plant sent to the Club by the Rev. A. Ley. It is hoped to form a variety upon it when a sufficient number of trees have been examined."—Ed.

Ulmus minor Mill. (*U. stricta* Lindl.). Quarry, Penpoll, Crantock, Newquay, W. Cornwall, v.-c. 1, May 20, 1915. Fruit from the same tree from which foliage was distributed in 1911 and flower in 1914. The Cornish Elm usually fruits very badly.—C. C. VIGURS.

Quercus intermedia Boenn. Kingston-on-Soar, Notts., October 1, 1915.—A. R. HORWOOD. "Apparently a new record for Notts."—G. C. DRUCE. "*Q. pedunculata* Ehrh."—A. B. JACKSON. "When Father Reader and I saw this tree last autumn we both named it *intermedia*. I fail to see how it can be referred to *pedunculata*, though as a hybrid it has some of the characters of the type."—Ed.

Quercus Cerris L. Nassau Woods, Dolgelley, v.-c. 48, August 9, 1915.—W. C. BARTON. "Yes, planted of course."—G. C. DRUCE.

Salix daphnoides L., var. *pomeranica* (Willd.). Alien. Sand dunes, Ainsdale, v.-c. 59, July 1915.—J. A. WHELDON. "Yes, identical with plants we gathered on the Inter-Phytogeographical Excursion, and named by Prof. Graebner."—G. C. DRUCE. "*S. daphnoides* Vill.

= *S. pomeranica* Willd. Enum., &c. Willdenow quotes his *S. pomeranica* as a synonym of *S. daphnoides*, and in his *Sal. Europ.* does not make any variety of it."—E. F. LINTON.

Salix caprea L., with abnormal flowers. King's Wood, Yatton, N. Somerset, v.-c. 6, April 13, July 27, 1915. Mr J. W. White says: "So long ago as 1841 the late Rev. J. E. Leefe communicated to the Bot. Soc. of Edinburgh a paper describing some curious metamorphoses of the pistil in *Salix caprea*. The changes observed by Mr Leefe consisted of a gradual conversion of the pistilline into staminal organs. In the present specimens we have the same abnormality, the germens being commonly borne on stalks as long as themselves, and being furnished with pollen-sacs in the place of style and stigma. In the *Cambridge Flora* it is stated that androgynous flowers are not uncommon among hybrid willows, it appearing that the hybridizing of plants frequently induces 'germinal instability.' This plant from King's Wood, however, seems to be pure *caprea*."—Miss IDA M. ROPER. "The anthers developing into ovaries is curious. Abnormality may denote hybrid origin in some cases, but I do not see evidence of this here."—E. F. LINTON. "It is not unusual, I believe, for hybrid willows to produce androgynous flowers in which the ovaries are often monstrous. But this plant of Miss Roper's appears to be no hybrid."—J. W. WHITE.

? *Salix aurita* × *repens* = *S. ambigua* Ehrh. Heathy field, near Todenham, v.-c. 33, August 5, 1915. With both parents, and I believe correctly named. It is, I believe, the first known occurrence of *S. ambigua* in E. Gloucester.—H. J. RIDDELSDELL. "A small-leaved form of *S. aurita*; I see no sign of *S. repens* in it."—E. S. MARSHALL. "*S. aurita*, a form of dry ground—what our predecessors would have called var. *minor*."—E. F. LINTON.

Salix lanata L. Glen Phec, Forfar, August 1915.—G. C. DRUCE.

Populus nigra L., var. *betulifolia* Torrey. Left bank of River Beane, opposite Harthorn Common, Hertford, May 31, 1915. A single tree, of large size. Height over 90 feet; girth at 4 feet from the ground, 15 feet; spread about 66 feet. It is not easy to say if the tree is planted or indigenous, but it is just on the edge of the flood level. It may be the station recorded by Coleman: "Bank of the Beane between Port Hill and Benges Church." Specimens of the same var., also ♀, at Stansteadbury, Ware, 1915, and by roadside at Turnford, Wormley, 1915. The latter are certainly planted.—J. E. LITTLE. "Correct, I think. Female trees of this, the common form of the Black Poplar, are much scarcer than the male."—A. B. JACKSON.

Populus deltoidea × *nigra*? [Ref. No. 159.] From three old spreading trees, Brent Eleigh, W. Suffolk, v.-c. 26, August 19, 1915. Old trees with very stout boles and rough bark, branches stout and spreading widely. The habit is more that of *P. nigra* than of *P. deltoidea*. I have added to eleven of the sheets twigs from secondary branches growing from the bole of one tree. Mr A. B. Jackson reported on specimens collected May 29, 1915, as follows:—"This differs from *P. nigra* in its shorter, more triangular leaf, with shorter point. Shoots only slightly pubescent. Leaves very slightly ciliate. It may be *P. deltoidea* × *nigra*."—G. C. BROWN. "This has hairy petioles, and is without the two glands at the base of the leaf proper to the *Deltoideae*. It must really be *P. nigra* L., var. *betulifolia* Morrey."—C. BUCKNALL and J. W. WHITE. "There is clearly little to separate this plant from Mr Little's, which is correctly named."—ED.

Corallorrhiza trifida Châtel. Sands of Barry, v.-c. 90, June 14, 1915.—R. and M. CORSFORPHINE.

Spiranthes spiralis Koch (*S. autumnalis* Rich.). [Ref. No. 159.] Damp heath land, Foulden, Norfolk, August 22, 1915. Very rare in Norfolk.—F. ROBINSON. "At Beeston Regis in September I came across a single plant only."—ED.

Goodyera repens Br. [Ref. No. 152.] Holt, Norfolk, August 2, 1915.—Coll. Miss CRASHE; comm. F. ROBINSON. This is the only station, I think, in Norfolk.—F. ROBINSON.

Epipactis viridiflora Reichb. Sand dunes, Hall Road, S. Lanes, v.-c. 59, July 9, 1915.—J. A. WHELDON. "This is the same plant as Messrs Wheldon and Travis sent to the Club (*Rep. B.E.C.* 336, 1913). This is what (*Rep. B.E.C.* 336, 1913) I called sub-sp. *Helleborine viridiflora* (Reichb. *Fl. Excurs.* 134, 1833), and gave a somewhat lengthy note on its history. Briquet (*Fl. Cors.* i., 386) calls it *H. latifolia*, var. *viridiflora*."—G. C. DRUCE.

Helleborine atroviridis W. R. Linton. Deep black leaf-soil, at the base of an old limestone quarry, Black Cliff, near Tintern, Monmouth, v.-c. 35, August 1915. A colony of about 150 specimens of the plant was growing in deep leaf mould under beech trees, scattered over a few square yards. There was practically no other vegetation where it grew. Some yards away I found two or three plants of *H. media*. —W. A. SHOOLBRED. "Fresh specimens sent to me agreed very well with W. R. Linton's figure and description in his *Flora of Derbyshire*." —E. S. MARSHALL. "The plant so named by W. R. Linton is described as robust; the label has two side hunches and medium inner hunch; the flowers not rose-coloured, and the leaves distinctly narrowed at the end, so that these do not agree with Linton's descrip-

tion. To me they are *Helleborine media* (Fries), under which I now put *atroviridis* as a variety, since the rugose bosses take it away from restricted *latifolia*."—G. C. DRUCE.

Epipactis atro-rubens Hoffm. = *Helleborine atro-rubens* (Roehl.) Druce. Grasswood, Grassington, v.-c. 64. Alt. 750 feet, growing in shade with northern aspect, and associated with *E. latifolia* All. (which is dominant), *E. media* (Bab.), and *E. atroviridis* W. R. Linton. It usually flowers two weeks before the others.—J. CRYER. "Hoffmann described this under *Serapias* in *Deutschlands Flora* i., part 2, p. 182, 1804."—E. S. MARSHALL. "Yes, the *Helleborine atro-rubens* of my List."—G. C. DRUCE.

Orchis ustulata L. Very sparingly over a considerable area (with *Senecio integrifolius*, &c.) at Snowhill, E. Gloucester, June 14, 1915. There are a few localities for this Orchid in E. and W. Gloucester, but the total number of plants ever seen in the county must be very small.—H. J. RIDDELSDELL.

Orchis incarnata L. Wytham, Berks., July 1915. The true flesh-coloured species with narrow reflexed lip.—G. C. DRUCE.

Orchis praetermissa Druce. Stoborough Heath, Dorset, v.-c. 9, June 15, 1915.—MISS IDA M. ROPER. "Yes."—G. C. DRUCE. Also from (1) Radley, Berks., July 1915; (2) Weston, Oxon, July 1915; (3) Eynsham, Oxon, July 1915.—G. C. DRUCE.

Orchis O'Kellyi Druce. Ballyvaughan, Co. Clare, June 1915. In countless numbers over the Burren and similar limestone localities.—Coll. P. B. O'KELLY; comm. G. C. DRUCE.

Habenaria viridis Fr., var. *bracteata* A. Gray. Hawksworth, v.-c. 64, alt. 900 ft., June 14, 1915. Growing in a damp upland meadow on Millstone Grit.—J. CRYER. "Yes, but not extreme."—G. C. DRUCE.

Allium Scorodoprasum L. Near Loch Fithie, Forfar, v.-c. 90, August 1915. Very tall, handsome plants growing in dense masses by the shore of the loch.—R. & M. CORSTORPHINE. "In *Top. Bot.* Forfar is in brackets. This record removes them."—G. C. DRUCE.

Muscari racemosum Lam. & DC. Kiddington, v.-c. 23, May 15, 1915.—H. J. RIDDELSDELL.

Juncus subnodulosus Schrank (*J. obtusiflorus* Ehrh.). [Ref. No. 93.] Marsh, Saham Toney, Norfolk, October 3, 1914. The commonest species in this neighbourhood. There is not a marsh without it. Very variable in size of spikelets, &c.—F. ROBINSON. "Yes."—

C. DRUCE. "Much darker and more like *J. silvaticus* than the island form, which is local." ED. "A frequent Norfolk species, often occurring in great sheets, with hardly anything else."—A. BENNETT.

Juncus articulatus L., var. On drifted sand by the border of the Rannoch, August 1915. Is this not the var. *littoralis* Patze et Elk., rather than *nigritellus* (D. Don).—G. C. DRUCE. "Mr. Eby always supposed Don's original specimens of his *nigritellus* would prove to be *J. alpinus*. I do not know Patze's plant. But if its proper name is *J. lamprocarpus*, var. *littoralis* Buch in *Engl. Arb.* xii., 379, 1890."—A. BENNETT.

Juncus tenuis Willd. Reigate Heath, Surrey, v. c. 17, August 6, 1915. Not observed before, I believe, in the eastern portion of the county, although occurring in five or six localities in the west of Surrey. These examples grew by the side of a track across the heath, and had been somewhat trampled upon, hence their small size.—C. E. SALMON. Also from Barnmouth, v. c. 48, May 18, 1915.—W. C. BRITTON. "Both correct, but how different in size. The continual occurrence of this species is very interesting. It would be well in future to record what it is growing with, &c., not just a label of bare record for a species that requires special study of its occurrence, &c., and surroundings. Mr. Salmon no doubt will do this in the *Flora of Surrey*."—A. BENNETT.

Luzula Forsteri DC. ? \times *pilosa*. [Ref. No. 110.] Paignton, near Torquay, May 23, 1915.—F. ROBINSON. "*L. Forsteri*, fully fertile. The hybrid seems to be always sterile, and remained so during several years, in my Surrey garden."—E. S. MARSHALL. "Most of the capsules in my specimens had shed their seed, but the few unopened ones had well-formed seed. It shows no sign of *pilosa*."—G. C. DRUCE. "*L. Forsteri*; no hybrid."—A. BENNETT and H. J. RIDDELSDELL. "Not the hybrid, which is always, I believe, barren. These examples give good fruit."—C. E. SALMON.

Arium maculatum L., var. *Tetrelii* Corb. Wigginton, v. c. 23, May 25, 1915. Cf. *Journ. Bot.* 148, 1915. Mr. Britton's note (*loc. cit.*) early refers to the form of *Arium* which represents the "Ladies" of "Lords and Ladies." He says—"Normally the spadix is of a dull purplish hue." The yellow form is apparently the less frequent of the two. My experience does not lead me to associate black-spotted leaves with the yellow spadix and stamens, *i.e.*, the variety is *Tetrelii* Corb. non Rouy. As might be expected, intermediates occur. Sometimes the actual colour of the parts in question is intermediate. The spathe itself is sometimes purple-edged even in the variety.—H. J. RIDDELSDELL.

Lemna polyrhiza L. Dykes in Helsby marshes, Cheshire, v.-c. 58, August 4, 1915.—C. WATERFALL.

Lemna gibba L. Out of the River Gowy, near Tarvin, Cheshire, v.-c. 58, August 13, 1915.—C. WATERFALL.

Wolffia arrhiza Wimm. Pond, east of Burnham, N. Somerset, v.-c. 6, September 23, 1915. See *Journ. Bot.* November 1915.—Miss IDA M. ROPER.

Damasonium Alisma Mill. Briton's Pond, near Guildford, Surrey, v.-c. 17, September 1915.—J. COMBER.

Butomus umbellatus L. Dykes, Helsby marshes, Cheshire, v.-c. 58, August 14, 1915.—C. WATERFALL.

Potamogeton alpinus Balbis (= *P. rufescens* Schrad.). Blelham Tarn, N. Lancs., v.-c. 69b, August 4, 1915. No floating leaves are produced by this species when growing in our tarns at four or five feet. Compare Rusland plant.—W. H. PEARSALL. "Right."—A. BENNETT. Also growing in shallow drains on a peat bog, Rusland Moss, v.-c. 69b, July 28, 1915.—W. H. PEARSALL. "A dark form, with blunter leaves than usual, approaching the variety."—A. BENNETT.

Potamogeton decipiens Nolte. River Earn, near Dalreoch Bridge, Mid Perth, September 13, 1915. Fide Arthur Bennett.—W. BARCLAY.

Potamogeton perfoliatus L. King's Wear, Oxford, July 1912.—G. C. DRUCE. "*P. perfoliatus* L., var. *ovalifolius* Wallr. Probably equal to *ovalifolius* Mert. et Koch."—A. BENNETT.

Potamogeton crispus × *alpinus*. River Earn, above Dalreoch Bridge, Mid Perth, September 13, 1915. On 26th August last, when Mr J. R. Matthews and I were botanising on the bank of the Earn nearly opposite Dunning, we came upon a pondweed which neither of us had ever seen before and which we were unable to determine. I sent fresh specimens to Mr Arthur Bennett, who recognised them as being the hybrid *Potamogeton crispus* × *alpinus*. He states that it has never before been found in Britain, and that, indeed, it has been found nowhere else except in Denmark and possibly in Bavaria. Of the parents *P. crispus* is not rare in the River Earn, but *P. alpinus* has not hitherto been found in that river, though it has been found in Benniebeg Loch, which drains into the Earn. We found two beds of the hybrid on the right bank above Dalreoch Bridge, and one at a short distance below it on the opposite bank.—W. BARCLAY.

Potamogeton zosteraefolius Schum. Fen ditch, near Ranworth, E. Norfolk, July 3, 1915.—J. W. WHITE. "This appears to be the var. *major* Tausch, which I believe was first found in Britain at Aylestone, Leicester, by myself in 1905, and identified by Mr A. Bennett. A plant sent by Mr Chester is from the same canal."—ED. "Is it really almost between var. *major* and type."—A. BENNETT.

Potamogeton zosteraefolius Schum., var. *major* (under *P. compressus* L.) Lapalowiez *Conspectus Flor. Galic.*, cut 1242, 1906. Market Harborough, v.-c. 55, July 11, 1915. Mr A. Bennett writes:—"This seems to be a plant of Galicia and Bavaria. The only ones yet on record for it."—G. CHESTER. "See note above."—ED.

Potamogeton acutifolius Link. Near Byfleet, Surrey, June 1915. Fruiting freely.—Lady DAVY and G. C. DRUCE. "I have found this fruit at the end of May and on to the end of August. This has longer peduncles than usual, but it varies much in this, far more than the books would lead us to suppose."—A. BENNETT.

Potamogeton obtusifolius M. & K. Hawes Water, Silverdale, v.-c. 60, August 26, 1915. Clean fruiting specimens; may be accepted by some.—W. H. PEARSALL. "The leaves are narrower and relatively longer than those of the Midland plant."—G. C. DRUCE. "Yes, *P. obtusifolius*, var. *fluvialis* Lange et Mort."—A. BENNETT.

Potamogeton obtusifolius M. & K. Pool in field near Mouldsworth, Cheshire, v.-c. 58, September 14, 1915.—C. WATERFALL. "Correct. Abundant in the meres and pits of Cheshire, especially in the north of Cheshire."—A. BENNETT. "Yes; this and the Midland plant have a different facies from those of Hawes Water and Esthwaite."—G. C. DRUCE.

Potamogeton obtusifolius M. & K. [Ref. No. 167.] Pond on heathland, Thompson, Norfolk, September 13, 1915.—F. ROBINSON. "This is *P. gramineus* (= *P. heterophyllus*)."—ED. "Not *obtusifolius*. Is *P. heterophyllus* Schreb."—A. BENNETT.

Potamogeton obtusifolius M. & K., b. *fluvialis* Lange & Mort. [Ref. No. 142.] Pools on heathland, Stow Bedon, Norfolk, July 24, 1915.—F. ROBINSON. "No doubt a form of *P. heterophyllus*."—ED. "Is it not a form of *P. heterophyllus*?"—G. C. DRUCE. "*P. heterophyllus* M. et K."—A. BENNETT.

Potamogeton pusillus L. Treberken Moor, Cornwall, September 1915.—G. C. DRUCE. "Correct."—A. BENNETT.

Zostera marina L., var. *stenophylla* A. & G. Montrose Basin, v.-c.

90, September 1915.—R. & M. CORSTORPHINE. “Beautiful specimens of a slender form. The leaves are three-nerved = *Z. angustifolia* Roth.”—C. BUCKNALL and J. W. WHITE.

Zostera nana Roth. Montrose Basin, v.-c. 90, September 1915.—R. & M. CORSTORPHINE.

Hydrilla verticillata Casp., var. *pomeranica* (Reichb.). Esthwaite Water, v.-c. 69b, August 6, 1915. A few sheets from a part of the lake unsurveyed last year to confirm the establishment of the species. I am pleased to be able to report the continued vigour of the original colonies.—W. H. PEARSALL. “See *Rep. B.E.C.* 22, 1914, and 167, 1915.”—ED.

Eleocharis acicularis Br., *forma*. Cropstone Reservoir, Leicester, June 12, 1915.—A. R. HORWOOD. “No form; an extremely variable species from one inch high on mud to fifteen inches in slow-moving water.”—A. BENNETT. And from Stroudwater Canal, about Thames Head and Sapperton, v.-c. 33 and 34, 1912 and 1913.—H. J. RIDDELSDELL.

Scirpus maritimus L., var. *conglobatus* Gray. [Ref. No. 191.] Arthog marshes, v.-c. 48, August 19, 1915. The variety occupied a marsh of some extent and was confined to it. Not far away the type was abundant.—W. C. BARTON. “I suppose correct.”—A. BENNETT.

Scirpus Tabernaemontani Gmel. Sand dunes, near Freshfield, S. Lancs., v.-c. 59, August 28, 1915.—C. WATERFALL. “Yes.”—G. C. DRUCE. “Plant correct.”—A. BENNETT.

Scirpus filiformis Savi (= *S. Savii* Seb. & Maur.). [Ref. No. 164.] Marsh, Scaming Fen, Norfolk, September 2, 1915.—F. ROBINSON. “Yes, and a new station for the county. An inland habitat, Scaming Fen being about the middle of the county and about twenty miles from the sea. I have never seen or gathered the plant so far inland. The fruit is filiform, not setaceous.”—A. BENNETT. “Yes, coming under var. *monostachys* Syme.”—C. E. SALMON.

Scirpus compressus Pers. Marsh near Perranporth, v.-c. 1, August 27, 1915.—F. RILSTONE. “Yes, very luxuriant specimens.”—G. C. DRUCE. “An interesting species for the Cornish peninsula. A few years ago it was entirely unknown there.”—A. BENNETT.

Rynchospora alba Vahl. Oxendale, Great Langdale, Westmoreland, v.-c. 69, on peat, alt. 450 ft., September 1908.—A. WILSON. “Yes.”—G. C. DRUCE. “I presume this is what Syme would have called var. *sordidu*, a variety now apparently dropped by British and

imental botanists, probably with good reason."—C. E. SALMON.
 from Holt Lows, Norfolk, September 29, 1915.—A. R. HOR-
 N. "Yes."—G. C. DRUCE. "A declining species in some areas,
 though formerly generally distributed. It is no longer in 55.
 is associated at Holt with *Utricularia minor*, *Drosera longi-*
D. rotundifolia, *Hypericum elodes*, *Potentilla palustris* in
 bogs where a thin peaty layer has accumulated by springs travers-
 ing the chalk, the upper surface of which has a sandy, gravelly
 soil, and is dominated by *Calluna*, *Erica*, &c., or a degenerate
 form of Oak Birch heath."—Ed.

Podium Mariscus Br. Hawes Water, Silverdale, W. Lancs.,
 v. c. 60, July 20, 1915. Unknown in N. Lancs., but locally abundant
 in this tarn, just beyond our boundary.—W. H. PEARSALL. Also
 in moss, beyond Hatchmere, Delamere Forest, Cheshire, v. c. 58,
 July 30, 1915.—C. WATERFALL.

Carex Pseudocyperus L. Little Hawes Water, Silverdale, W.
 Lancs., v. c. 60, peat on Scar Limestone, alt. 25 feet, July 1904.—A.
 R. HORN. Also from Roudsea Wood, N. Lancs., v. c. 69b, July 17,
 1915. Very rare in this area. Sent to confirm a new record for 69b.
 W. H. PEARSALL.

Carex Pseudocyperus, var. *minor* Hampe. Swampy ground, Yarn-
 ton, Oxon, July 1915. See *Rep. B.E.C.* 215, 1915.—G. C. DRUCE.

Carex riparia Curt., *forma*. Tickenham Moor, N. Somerset, v. c.
 10, June 5, 1915. Growing in an open rhine, free from shade.—Miss
 M. ROPER. "Remarkable for its very long lower peduncles and
 male glumes."—E. S. MARSHALL. "A curious and interesting form
riparia, exactly analogous to *C. vesicaria* L., var. *pendula* Uechtr.
 v. b. Cf. Asch. & Graeb. in *Syn. Mitt. Fl.* 212, 1903. It may be
 called *f. pendula*."—A. BENNETT.

Carex riparia Curt. Yarnton, Oxon, August 1915. This grows
 in a ballast hole, now encroached on by willows, differing from the
 type by its more slender growth, shorter female spikes, and somewhat
 smaller fruits. It is a tall plant, attaining four to five feet.—G. C.
 DRUCE. "Surely only a small state of *riparia*, no variety."—A.
 BENNETT.

Carex riparia Curt. Wytham, Berks., June 1915.—G. C. DRUCE.

Carex acutiformis × *riparia*. [Ref. No. O. 853.] Bates Ley,
 Oxon, June 1915. Growing with both assumed parents and
 distinctly intermediate, the male spikelets having less of the rufous
 color characteristic of *acutiformis*. The fruits are mostly sterile.—G.

C. DRUCE. "Immature *C. riparia*."—E. S. MARSHALL. "Certainly looks as though it may be what Mr Druce suggests."—A. BENNETT. "I agree."—ED.

Carex acutiformis Ehrh., var. *spadicea* (Roth.). [Ref. No. 108.] Attleborough Fen, Norfolk, July 1, 1915.—F. ROBINSON. "Yes, var. *spadicea* Asch. & Graeb."—E. S. MARSHALL. "I suppose so, but in one of Mr Robinson's specimens the lowest spike has the glumes as required, whilst the next above it has them scarcely differing from type."—C. E. SALMON. "A curious depauperate form of *acutiformis*, but not *spadicea*."—A. BENNETT. "This is an abnormal sedge, with the upper spike having female flowers. The lower female spike is very slender, but the fruit has for the most part three stigmas, but it is very small and does not appear to have ripened seeds. I rather suspect it is the rare hybrid *C. acutiformis* × *flacca* comb. nov. = × *C. Jaegeri* F. Schultz. More complete specimens should be obtained next season. It is not *C. spadicea* Roth."—G. C. DRUCE.

Carex vesicaria L., var. [Ref. No. 119.] Edge of pond on high chalky soil, Little Cressingham, Norfolk, June 12, 1915.—F. ROBINSON. "My specimen is *C. riparia*."—H. J. RIDDELSDELL, E. S. MARSHALL and A. BENNETT. "*C. riparia*, possibly crossed with *C. vesicaria*."—G. C. DRUCE.

Carex hirta L., form approaching var. *hirtiformis* (Pers.). Thurnby Road, Leicester, October 24, 1915. This plant has been barren for at least ten years to my knowledge, and is apparently a form intermediate between the type and the variety *hirtiformis*, having the long leaves of the latter and only scattered hairs, being more or less subglabrous. It lacks the glossy surface of the variety.—A. R. HORWOOD. "Leaves only, but probably rightly named."—H. J. RIDDELSDELL and A. BENNETT.

Carex capillaris L., var. *major* Blytt *Norges Flora* 244, 1861. [Ref. No. 4143.] Wet coast slopes, Armadale Bay, W. Sutherland, v.-c. 108, July 16, 1915. Named by Mr Arthur Bennett for me. This is only a luxuriant state, due to local conditions. I have seen it elsewhere on the north coast of Sutherland.—E. S. MARSHALL. "Yes, we gathered similar plants in Glen Phee, Forfar, 1915, but it seems not to be more than a *forma*."—G. C. DRUCE.

Carex distans L. [Ref. No. 128.] Wet wood, Saham Toney, Norfolk, June 15, 1915. This station is forty miles from the coast.—F. ROBINSON. "Yes, but a somewhat unusual habitat."—G. C. DRUCE. "I do not remember ever gathering *distans* in a 'wet wood.'"—A. BENNETT.

Carex fulva Host. (a) Ventongimps Moor, v.-c. 1. (b) Taller t, growing in tussocks, August 4, 1915.—F. RILSTONE. "The or plants (b) are that; the others (a) are sterile hybrids with *Oederi* sub-sp. *oedocarpa*."—E. S. MARSHALL. "The usual *fulva* t. of British authors."—A. BENNETT. Also from Ventongimps or, v.-c. 1. (a) Low growing plant, August 4, 1915.—F. RILSTONE. "I think this is Syme's *fulva* Good., var. *sterilis*."—A. BENNETT. "This is *flava* × *fulva* = *xanthocarpa*."—G. C. DRUCE.

Carex Oederi Retz. [Ref. No. 134.] Damp meadow, Shropham, Norfolk, July 8, 1915.—F. ROBINSON. "Sub-sp. *oedocarpa* Andersson. *flava*, var. *minor* Towns."—E. S. MARSHALL. "No: this is *C. a* L., var. *oedocarpa* Anders. True *Oederi* has smaller fruits."—G. DRUCE. "Correct."—A. BENNETT. "This is, I should say, the e frequent form, var. *oedocarpa* And."—C. E. SALMON.

Carex Oederi Retz., var. *cyperoides* Marsson. [Ref. No. 4228.] t ground on the peat moor, Shapwick Heath, v.-c. 6, N. Somerset, gust 26, 1915. Locally plentiful. Very variable in size and adth of leaves.—E. S. MARSHALL.

Carex oruithopoda Willd. Cressbrook Dale, Derbyshire. First covered in May 1874 at Miller's Dale, Derbyshire, by John White- d, Newton, and Hibbert. It was left to Mr T. Rogers to find it a new locality, Cressbrook Dale, two miles north-east of the oitait, on May 21, 1875. Having acquired some years ago the bbarium of the late Mr Rogers, I have found the original gatherings Mr Rogers, which I think may be interesting to some members, I am therefore sending them for distribution.—J. COSMO MELVILL.

Carex elata All. Easton, N. Hants., May 1915. Abundant in e water meadows by the Itchen at Easton, and curiously not reded in Townsend's *Flora*.—G. C. DRUCE. "Not *C. stricta* of uth, which Mr Druce I suppose intends. The specimen may be *C. ata*, but I think it is a tall form of *Goodenowii* Gay."—A. BENNETT. The huge tussocks, the filamentous sheaths, the inflorescence, and e early flowering all go to make it *elata*."—G. C. DRUCE.

Carex gracilis Curt., *forma*. [Ref. No. Ca. 1.] Cropstone Reser- ir, Leicestershire, June 12, 1905. Fide A. Bennett.—A. R. HORWOOD. "I ould call both (this and var. *minor*) *C. gracilis* Curt."—G. C. DRUCE. My example is surely not normal. It has three female spikes closely gregated and no signs of prolongation of stem, with male spike ove them. The glumes look longer than the fruits, and if that is the plant may come under the *prolixa* of Fries."—C. E. SALMON. Compared with the specimens referred to *prolixa*, Ca. 2, from the me locality, this form, still under consideration by Mr Arthur

Bennett, appears to differ from that in some particulars, and as the var. *minor* goes off in the opposite direction this form may be regarded perhaps as holding an intermediate position. All three plants grew in close proximity. I am almost afraid that the actual station for this interesting series of forms, which Mr Bennett considers worthy of further study, is destroyed."—ED.

Carex gracilis Curt., var. *prolixa* Fr. [Ref. No. Ca. 2.] Cropstone Reservoir, Leicester, June 12, 1905. Mr Bennett says—"Very near *Carex prolixa* Fries. This agrees very well with the *Fl. Danica* fig., except that the spikes are rather thicker, but the glumes and fruit agree."—A. R. HORWOOD.

Carex gracilis Curt., var. *minor* Ledeb. *Fl. Ross.* iv., 214, 1853. Cropstone Reservoir, Leicester, June 12, 1905.—A. R. HORWOOD. "*C. tricostata* Fries Mant. iii., 152, 1842. This is exactly the reverse of var. *prolixa* Fr., and your specimens compare very well with Andersson's figure."—A. BENNETT.

Carex aquatilis × *Goodenowii*. [Ref. No. 4142.] By the Mudale Water, Altnaharra, W. Sutherland, v.-c. 108, July 27, 1915. A good intermediate; sterile.—E. S. MARSHALL. "I am afraid I fail to see any evidence of *aquatilis* in my specimens, and should name it *Goodenowii*, var. *recta*."—G. C. DRUCE.

Carex remota L. × *vulpina* = *C. axillaris* Good. [Ref. No. 118.] Edge of pond, Ovington, Norfolk, June 11, 1915.—F. ROBINSON. "Yes; *C. axillaris* Good."—E. S. MARSHALL, A. BENNETT, and C. E. SALMON. Also with parents by pond, Easthorpe, N. Essex, v.-c. 19, June 27, 1915.—G. C. BROWN. "Panicle very small and immature in my specimens, but probably correct."—E. S. MARSHALL. "Yes, I believe both the Essex and the Norfolk plants are the hybrid."—G. C. DRUCE. "If so, very poor indeed. It is a fine strong plant when growing, as I have seen it by hundreds in Surrey."—A. BENNETT.

Carex muricata L. Lane side, Bullen, near Ledbury, Hereford, v.-c. 36, June 17, 1915. A new county record?—Coll. R. F. TOWN-DROW and S. H. BICKHAM; comm. S. H. BICKHAM. "*Carex contigua* Hoppe (*muricata* Koeh)."—E. S. MARSHALL. "I believe correct."—A. BENNETT. "Yes, *C. muricata* L. *Sp. Pl.* (non herb.), *C. spicata* Huds. = *C. contigua* Hoppe. The fruits are smaller than usual, but the beak is too narrowly elongate for *C. Pairaei* F. Schultz (*C. muricata* L. *Hb.*). Has not Mr Jackson made a slip of the pen (*Rep. B.E.C.*, 170, 1914) in saying *C. Pairaei* affects damper places than *muricata*? My experience is exactly the opposite. I have seen *muricata* actually growing in water, and it frequently grows on ditch banks. There is no evidence to show that the plant of the *Flora Suecica* is *C. Pairaei*,

indeed do any of the synonyms quoted by Linnaeus under *muri-* refer to it."—G. C. DRUCE. "*C. contigua* Hoppe."—A. B. KSON.

Carex Leersii Schultz. Dry hedge bank, Combe, N. Hants., July 1915.—A. B. JACKSON. "Yes."—E. S. MARSHALL. "Correct, I believe."—C. E. SALMON.

Carex diandra Schrank = *C. teretiuscula* Good. [Ref. No. 132.] brooke Fen, Norfolk, July 6, 1915.—F. ROBINSON. "Correct."—BENNETT and G. C. DRUCE.

Carex arenaria L., *forma*. [Ref. No. 166.] Ditch by sea, Wells, folk, August 1, 1915.—F. ROBINSON. "Clearly *C. divisa*, as stated out by the Rev. E. S. Marshall, A. Bennett, G. C. Druce, and E. Salmon, the latter remarking *C. divisa* may be distinguished in all forms of *C. arenaria* by the perigynium not being winged."—Ed.

Carex chordorrhiza L. fil. [Ref. No. 4140.] Wet bogs, Altnara, W. Sutherland, v.-c. 108, July 27, 1915.—E. S. MARSHALL.

Panicum Crus-galli L., var. *Hosti* (Bieberstein)? [Ref. No. 4230.] few plants on the muddy banks of the River Tone, above Bath, West Monkton, v.-c. 5, September 15, 1915. Seems to agree very well with the description in Rouy *Flore de France*, xiv., 12, where it is treated as a "race." I cannot account for its occurrence here.—E. S. MARSHALL.

Hierochloa borealis R. & S. Thurso, Caithness, N.B., N.D.—Coll. DICK; comm. C. BAILEY.

Alopecurus aequalis Sobol. Heckfield, N. Hants., May 1915. New to N. Hants., and only given on very old authority (1846-8) in near Gosport and Portsea Isle, S. Hants., for the other division of the county.—G. C. DRUCE. Also from Cropstone Reservoir, Leicester, June 12, 1905. This, like many other and more interesting plants that became established when the reservoir was low, was terminated by the raising of the water line owing to the disuse of the reservoir.—A. R. HORWOOD. "Yes, without personal authority of Leicester in *Top. Bot.*"—G. C. DRUCE.

Mibora verna Beauv. Aberffraw, Anglesey, April 1914.—G. C. DRUCE.

Agrostis alba L., var. [Ref. No. 136.] Dry heath land, Banham Common, Norfolk, July 3, 1915.—F. ROBINSON. "Apparently a

slender small-flowered form of *A. canina*, as the habitat would indicate."—ED. "Not *Agrostis alba*, but *A. canina*, and as this plant bears slender underground creeping shoot-soboles it appears to be var. *stolonifera*, as described by Blytt in his *Norges Flora*."—C. E. BRITTON. "This is *A. canina* L., for the greater part 'mutica,' but one or two awns are present."—G. C. DRUCE.

Agrostis alba L., b. *stolonifera* (L.). Coleman Road, Leicester, July 1904. Fide Prof. Hackel.—A. R. HORWOOD. "No; I should put it under *alba* rather than *stolonifera*, although it verges towards the latter in its panicle."—G. C. DRUCE.

Agrostis canina L. ? var. Peckleton Common, Leicester, July 29, 1911.—A. R. HORWOOD. "Yes."—E. S. MARSHALL and G. C. DRUCE. "Sent as obviously *A. canina*, but to determine under what variety it might come. There is a good deal of *canina* in this part of the world, but it is rarely or never so robust, so large, and with so many flowers in the panicle as this handsome form."—ED.

Calamagrostis epigeios Roth. Barrington Bushes, v.-c. 33, August 14, 1915. A rare plant in the Cotteswolds of Gloucestershire. This form of the plant exhibits a lax panicle, which perhaps was caused by the shady situation.—H. J. RIDDELSDELL. "I suppose the sub-var. *Reichenbachiana* Rouy *Flore de France* xiv., 85. 'Epilets entièrement verts.'"—G. C. DRUCE. "This form occurs in the Midlands, but appears to be only a state."—ED.

Calamagrostis canescens Gmel. Oakley Purlieus, Northants., v.-c. 32, August 19, 1915.—G. CHESTER "The dark form (like Mr White's) does not occur in the Midlands."—ED. "Yes, and also from Ranworth, the latter also forma *violacea*."—G. C. DRUCE. Also from marshes near Ranworth, E. Norfolk, July 3, 1915.—J. W. WHITE.

Deyouzia neglecta Kunth. [Ref. No. 153.] Marsh (open), Hockham Fen, Norfolk, July 29, 1915.—F. ROBINSON.

Apera Spica-venti Beauv. [Ref. No. 150.] Wheat field, Hockham, Norfolk, July 29, 1915. A common cornfield weed in Norfolk (south-west).—F. ROBINSON. "These specimens retain the awns, which very soon disappear."—ED.

Ammophila baltica Link. East Winterton, Norfolk, June 26, 1915. Mr J. W. White and I found this plant in one or two fresh localities some miles to the north of its well-known Caistor station, and on the Winterton sand dunes it was plentiful. Here, as at Caistor, it grows intermingled with *A. arenaria*, but is readily recog-

ed, even at a distance, by its long, tapering panicle, which is invariably tinged with purple. This latter characteristic (surely its most obvious one) is not mentioned in any of our handbooks (Hooker, Bunting, Hayward, &c.), yet it is one that did not fail in perhaps one hundred of examples examined. As regards its suggested hybrid origin, *A. arenaria* × *Calamagrostis epigeios*, the latter plant does not grow anywhere in the immediate neighbourhood, and there is nothing to support this theory as far as the Norfolk stations are concerned. I should have ventured to suggest that it was a distinct species, allied to but separate from *A. arenaria*, and this opinion is shared by Mr A. Craig-Christie as regards the Ross Links plant (see *Journ. Bot.* 1908). However, on the Continent, where the plant is undoubtedly more widely distributed than in Britain, and thus probably had more opportunities exist for observation, the consensus of opinion is apparently in favour of the hybrid theory, Lange (*Danske Fl.* 68, 186) being one of the few who treat it as a good species. Marsson (*J. Neu-Vorpomm.* 563, 1869) seems in no doubt; he divides the hybrid into *a. subarenaria* (= *A. baltica* Link, &c.) and *β. subepigeios*. Scherson & Graebner (*Syn. Mittel. Fl.* ii., 222, 1899) and others follow this arrangement. If our British plant proves to be a hybrid at all, it will certainly come under *a. subarenaria*, as it has little in common with *Calamagrostis epigeios*.—C. E. SALMON.

Cynosurus echinatus L. Waste ground, Brislington, v.c. 6, N. Somerset, June 11, 1915.—Miss IDA M. ROPER. Also [Ref. No. 139] from waste land, Mortlake, Surrey, June 22, 1915. Abundant.—C. E. BRITTON.

Koeleria glauca DC., b. *arenaria* Dum. [Ref. No. 137.] Hillside, on chalk soil, Little Cressingham, Norfolk, July 12, 1915.—F. ROBINSON. "*K. gracilis* Pers. The lower leaves are flat."—G. C. DRUCE. "The plant is *K. albescens* DC. = *K. arenaria* Dum., with stems finely pubescent as well as the leaves, and lower pale acute. In these respects, among others, it differs distinctly from *K. glauca* DC."—C. BUCKNALL and J. W. WHITE.

Koeleria gracilis Pers., var. *britannica* (Domin.)? Roadside near Mansford, Northants., v.c. 32, July 5, 1915.—G. CHESTER. "Yes."—E. S. MARSHALL. "Yes, but not an extreme form."—G. C. DRUCE. "The usual limestone form hereabouts."—ED.

Molinia coerulea Moench, var. Beeston Regis, Norfolk, September 28, 1915. A very small form, with a short panicle.—A. R. MORWOOD. "Yes, a small state."—G. C. DRUCE. "I thought there might be a variety under which this might be placed."—ED.

Melica montana Huds. (*M. mutans* L.). Bedford Purhews

Northants., v.-c. 32, 1906. Very rare.—G. CHESTER. "Yes, from its most south-east locality in Britain, where I discovered it in 1876. There is no occasion to use Hudson's name for this plant, which is *M. nutans* L. Sp. Pl. et Herb."—G. C. DRUCE.

Briza media L., var. *pauciflora* A. & G. Elliot Links, Arbroath, July 30, 1915. This small, few-flowered plant agrees with the description of Ascherson & Graebner's var. *pauciflora*, but its constant character of the uppermost sheath embracing the panicle might place it under the var. *virens* S. F. Gray.—R. & M. CORSTORPHINE. "This form occurs, I believe, on the chalk downs in Surrey, *i.e.*, the short-stemmed plant."—ED. "Var. *pauciflora* is, I believe, a plant of high mountains, with spikelets more or less three-flowered. This plant from Arbroath looks merely like starved *media*. Does Gray state anywhere that in his *virens* the uppermost sheath embraces the panicle?"—C. E. SALMON.

Briza media L., var. *virens* S. F. Gray. Glen Clova, v.-c. 90, August 1, 1915.—R. & M. CORSTORPHINE. "Gray described his plant 'Locustae green; small; panicle contracted.' The panicle is certainly rather close, but are the 'locustae green?'"—C. E. SALMON.

Poa pratensis L., var. *angustifolia* (L.). Peckleton, Leicester, July 29, 1911.—A. R. HORWOOD. "I doubt the varietal name."—G. C. DRUCE. "If this does not go to *angustifolia* I fail to understand Linnaeus' variety. The specimens were sent as fairly good examples of a woodland plant, common here, differing from the type—a sun plant, in panicle, spikelets, length, width, involucre of leaves and habit."—ED.

Poa palustris L., var. *effusa* Asch. & Graebn. Withy beds above Gloucester, east bank of Severn, v.-c. 33, June 10, 1915. In great quantities over many miles of the course of the Severn, in withy beds, old brick pits, and similar places. It extends a few miles below Gloucester and up the river as far as Upton-on-Severn. It is also found on Maisemore Ham (where, indeed, it was first discovered), an island formed by the branching of the river bed, and it is an open question whether it should be included in Watson's E. Gloucester or W. Gloucester, v.-c. 33 or 34. For the purposes of the projected Flora of the county it is put into v.-c. 33, so that the *Poa* has in that case been found only in E. Gloucester up till now, and not in W. Gloucester.—H. J. RIDDELSDELL.

Poa palustris L.? var. *muralis* Aschers. On a dry bank by the canal, Litterland, S. Lancs., v.-c. 59, August 1915.—J. A. WHELDON and W. G. TRAVIS; comm., W. G. TRAVIS.

Poa nemoralis L., var. *angustifolia* Parnell. Bradgate Park, Leicestershire, June 1915. So named by the Rev. E. S. Marshall, and I believe this is the right name for it. It grew on garden ground of an ancient manor house, in the shade of the ruined walls, and was similar in habit and appearance to *Poa trivialis* at first sight. I have seen the same form at Stoke Dry in Rutland.—A. R. HORWOOD. "I doubt the varietal name."—G. C. DRUCE. "The specimens agree with the character defined by Parnell."—ED.

Glyceria distans L., var. *prostrata* Beeby. An inland form. Emsay Road, Leicester, July 1904. Hackel called this type, but I differ from that view since the plant had a distinctly procumbent prostrate habit, especially noteworthy *en masse*; and since the variety is justified by the habit alone, it may in my view go to that. The sea coast type and plants from another inland station (in Leicester) have a markedly erect habit.—A. R. HORWOOD.

Festuca elatior L., var. *arundinacea* (Schreb.). Cliffs, Ladye Bay, Blyth, N. Somerset, v.-c. 6, June 25, 1915. Discovered by Miss Frances Fry, and a new county record. The plant grows not only in the spot described to me by Miss Fry, but in plenty two hundred yards or so lower down on the edge of the cliff.—Miss IDA M. ROPER. "*F. arundinacea* Schreber."—G. C. DRUCE.

Festuca sylvatica Vill. [Ref. No. 113.] Among trees on cliff, Abbotcombe, Devon, May 25, 1915.—F. ROBINSON. "This is *F. arundinacea* Schreber. Hackel kept *F. elatior* L. distinct, and under the name *pratensis* Hudson."—G. C. DRUCE.

Festuca. Railway banks, near Walton Junction, S. Lanes., v.-c. 59, June 9, 1915.—J. A. WHELDON. "*Festuca rubra*, *genuina*, I believe."—E. S. MARSHALL. "Yes; I do not see any variety."—G. C. DRUCE. "A form of *F. rubra* L."—J. W. WHITE.

Festuca rubra L. A form with long awns, which does not seem to be var. *barbata*, having glabrous spikelets. In the marram-grass felt, on sand dunes near Hall Road, S. Lanes., v.-c. 59, July 1, 1915.—J. A. WHELDON. "A similar plant, long-awned, from Dungeness, E. Kent, was named *genuina* by Hackel."—E. S. MARSHALL. "Yes."—G. C. DRUCE.

Festuca rubra L., var. *fallax* Hackel. [Ref. No. 133.] Dry bank, Torquay, May 23, 1915.—F. ROBINSON. "Right, I think."—E. S. MARSHALL.

Festuca rubra L., var. *grandiflora* Hack. Sand dunes, Hightown, S. Lanes., v.-c. 59, July 1, 1915.—J. A. WHELDON. "I scarcely

think this will do. In *grandiflora* the 'epilets' should be 10-12 mm. long. I call it *F. rubra* L."—G. C. DRUCE.

Festuca rubra L. Dunes, Ainsdale, S. Lancs., v.c. 59, July 4, 1915.—J. A. WHELDON. "Yes; I do not see any variety."—G. C. DRUCE.

Festuca rubra L., var. *fallax* Hack. Lutterworth, Leicester, June 4, 1909.—A. R. HORWOOD. "Very likely right, but the root and foliage characters shown are insufficient to decide whether it is that or *genuina*."—E. S. MARSHALL.

Festuca ovina L., var. *capillata* Hackel. Sandy ground, Milford-on-sea, S. Hants., growing in shade with *Agrostis setacea* Curt., May 1915.—J. COSMO MELVILL. "Yes, *F. capillata* Lamarck (*Fl. Fr.* iii., 597, 1778), as a species, and it indeed deserves that grade. It is always (?) found on acid soils, and is especially at home on dry peat. The absence of awn and its capillary leaves readily distinguish it from *ovina*, and intermediate forms are rare. Sibthorp (*Fl. Oxon.* 44, 1794) also considered it a species, *i.e.*, *F. tenuifolia*."—G. C. DRUCE.

Festuca bromoides, var. *intermedia*. [Ref. No. 109.] Top of cliff, Torquay, May 24, 1915.—F. ROBINSON. "No; only type. Specimens of Mr Bennett's original *F. sciuroides*, var. *intermedia* Hackel, from Mitcham, Surrey, have a long, narrow inflorescence, and closely approach *F. Myuros* L."—E. S. MARSHALL. "Yes; this is a lax form only."—G. C. DRUCE.

Festuca Myuros L. (*pseudomyuros*). [Ref. No. 116.] Waste land, Watton, Norfolk, June 4, 1915.—F. ROBINSON. "Glume character indicates that this should be named *F. ambigua* Le Gall. It is finer and more luxuriant than I have ever seen it before."—E. SALMON.

Bromus madritensis L., b. *rigidus* Bab. [Ref. No. 141.] Sandy land, Thetford Golf Links, Norfolk, July 17, 1915. This is a record for Norfolk, I think.—F. ROBINSON.

Bromus sterilis, var. ? [Ref. No. 96.] Dry hedge bank on sandy soil, Threxton, Norfolk, May 30, 1914.—F. ROBINSON.

Bromus erectus Huds., var. *villosus* Bab. [Ref. No. 115.] Railway embankment, Ovington, Norfolk, June 6, 1915.—F. ROBINSON. "This is not more hairy than Hudson's type specimen of *erectus*, hence I did not give it in my *List*. Kunth described *villosus* prior to Babington. Rouy makes it a sub-var."—G. C. DRUCE. "A common form on limestone soils, hardly distinguishable from the type."—ED.

Bromus. Near Roseland Nurseries, Hoddesdon, Herts., v.-c. 20, 8, 1915.—J. E. LITTLE. "Looks like young *B. secalinus*."—E. MARSHALL. "Too advanced to show the anthers, but from the unpales it seems to be *Bromus patulus* rather than *B. arvensis*."—WHELDON. "*B. commutatus* Schrad."—J. W. WHITE.

Bromus interruptus Druce. [Ref. No. 140.] Cultivated land, Honington, Norfolk, July 12, 1915.—F. ROBINSON. "My sheet is probably not that; I should name it *B. secalinus* L."—E. S. MARSHALL. "This is not *Serrafalculus interruptus* Druce, but *Bromus* or *Serrafalculus secalinus* L., sub-var. *glabratus* (Schultz as var.)."—G. C. DRUCE.

Bromus interruptus Druce. Princes Risborough, Bucks., June 1915.—G. C. DRUCE.

Brachypodium pinnatum Beauv. [Ref. No. 117.] Bare cliff under shade of trees, Babbicombe, near Torquay, S. Devon, May 23, 1915.—F. ROBINSON. "Not very typical of the Midland form at any rate, in the branching of the panicle resembling *B. gracile* rather than *B. pinnatum* species."—ED. "A very young example of *B. sylvaticum* Beauv."—J. W. WHITE.

Lolium temulentum L. [Ref. No. 1140.] Waste ground, Mortons, Surrey, June 22, 1915. Abundant.—C. E. BRITTON.

Lolium perenne L., var. *compressum* Sibth. Waste ground, Briston, N. Somerset, v.-c. 6, July 5, 1915.—Miss IDA. M. ROPER. "I have named for me a form exactly like this, var. *cristatum* Doell."—H. J. RIDDELSDELL. "Yes, this form with shortened internodes, which is often found by paths, is the var. *compressum* Sibth."—G. C. DRUCE. "Sibthorp (*Fl. Ox.* 50, 1794) quotes Morison, *Hist.* iii., 182, 'this variety': 'Gramen avenaceum, spicis brevibus et latioribus compressis.' This agrees well enough with Miss Roper's plant, but it is surely better classed as a monstrosity rather than a variety."—C. SALMON.

Lepturus filiformis Trin. [Ref. No. 146.] Sea wall, Wells, Norfolk, August 1, 1915.—F. ROBINSON.

Hordeum europaeum All. (*H. sylvaticum* Huds.). [Ref. No. 163.] Wood by rivulet, Saham Toney, August 30, 1915.—F. ROBINSON. "This is *Agropyron caninum* Beauv."—G. C. DRUCE.

Equisetum maximum L. (♀ cones). Ditch banks, about Sealand Marshes, near Chester, v.-c. 68, April 21, 1915.—C. WATERFALL.

Equisetum palustre L., var. *nudum* Gibs. Damp sands between Ainsdale and Freshfield, S. Lancs., v.-c. 59, June 20, 1914.—J. A. WHELDON.

Equisetum palustre L., var. *tenue* Döll. Damp sand dunes, Freshfield, S. Lancs., v.-c. 59, June 9, 1915.—J. A. WHELDON.

Equisetum palustre L. (long-branched form), var. *tenue* Döll. Narborough Bog, Leicester, October 23, 1915.—A. R. HORWOOD. "I think var. *tenue* Döll. should be a tall, slender plant, unbranched nearly, or with a few irregular weak branches above. This plant is too stout and too densely ramose to represent the variety."—J. A. WHELDON.

Equisetum palustre L. Stout dune form, damp sands, Ainsdale, S. Lancs., v.-c. 59, June 20, 1915. This has quite a different facies from our common inland marsh plant, but I can find no differential features in the dried plant.—J. A. WHELDON.

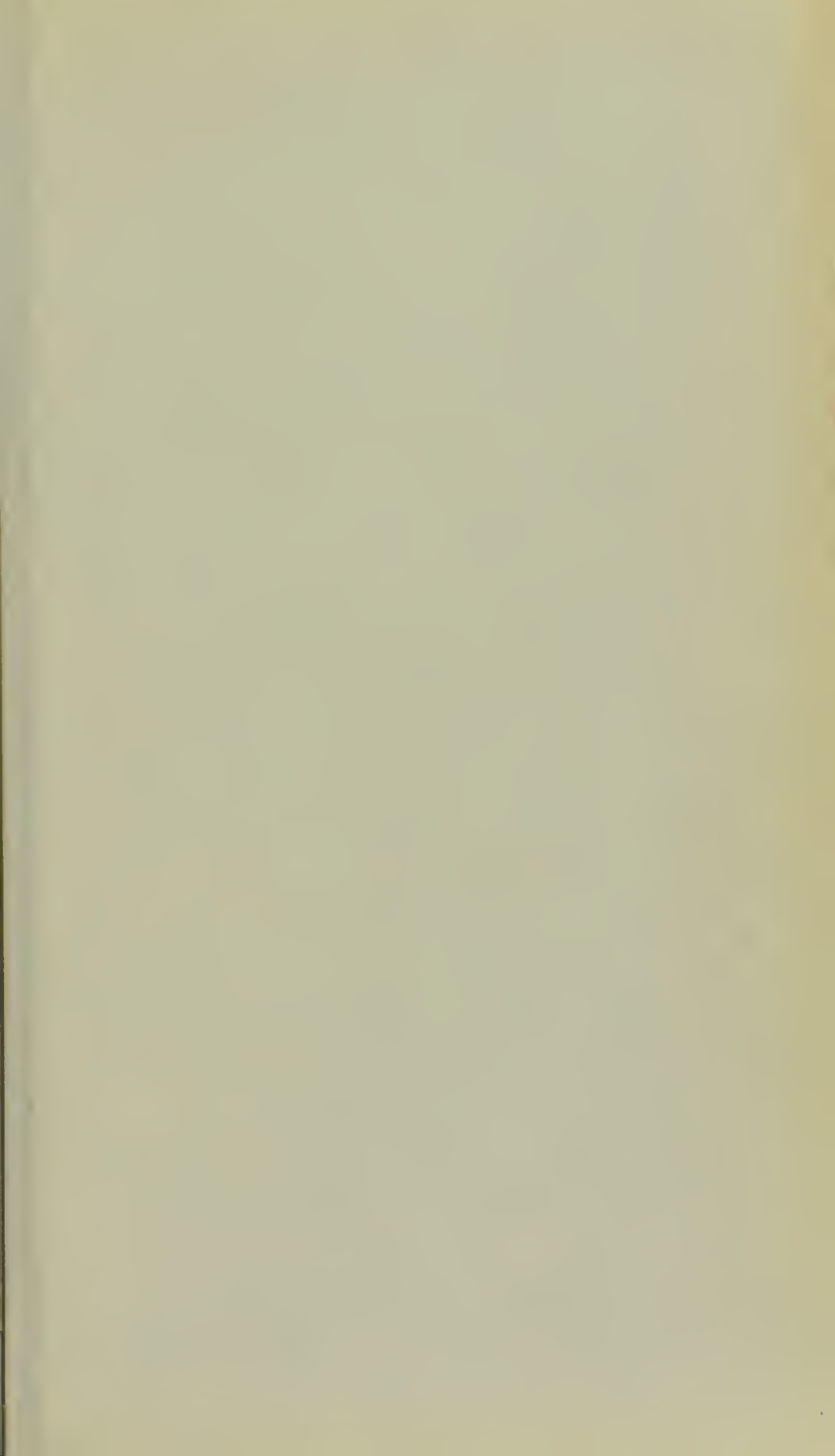
Lycopodium annotinum L. Glen Phee, Forfar, v.-c. 90, August 1915. Mr Takeda, who has been critically studying this genus, tells me the British plant is not typical *annotinum*, but is var. *latifolium* Takeda.—G. C. DRUCE.

Lastrea alpina Wollaston. Origin Braeriach, Invernesshire; cult. Walton, S. Lancs., v.-c. 59, July 1915.—J. A. WHELDON.

Cystopteris regia Presl, var. *Dickiciana* (Sim). Sea cave near Aberdeen, Kincardine. The locus classicus. Now said to be extinct. Ex herb. Baxter, about 1863. It was once described as a variety of *fragilis*.—G. C. DRUCE.

Azolla filiculoides Lam. River Lea, near Dobs Weir, Herts., v.-c. 20, and Essex, v.-c. 18, July 10, 1915. Miss Trower found the plant in a sunk barge in the River Lea, below Ware, in June 1915. Prebendary R. J. Burdon reports it from two localities near Chichester, v.-c. 13.—J. E. LITTLE.

Chara aspera Willd., f. *subinermis* Kuetz. Frensham Little Pond, Surrey, v.-c. 17, September 1915, fide J. Groves.—J. COMBER.



THE BOTANICAL SOCIETY
AND EXCHANGE CLUB
OF THE BRITISH ISLES.

REPORT FOR 1916
(WITH BALANCE-SHEET FOR 1915)

BY THE

SECRETARY,

G. CLARIDGE DRUCE,

PRESIDENT OF THE ASHMOLEAN NATURAL HISTORY SOCIETY OF
OXFORDSHIRE.

VOL. IV. PART V.

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whom, at YARDLEY LODGE, 9 CRICK ROAD, OXFORD, the Subscription,
6d per annum, and Non-Contributing Member's Subscription of 5s per
annum, should be paid on and after January 1, 1917.

reels for 1917 should be sent post paid, on or before 11th December 1917,
to C. E. BRITTON, Esq., 70 ADELA AVENUE, NEW MALDEN, SURREY.

the Distributors' Report on Plants sent in for 1916 will appear in due course.

PRINTED BY T. BUNCLE & Co., ARBROATH.

May 1917.

THE
BOTANICAL SOCIETY & EXCHANGE CLUB
OF THE BRITISH ISLES.

THE REPORT OF THE TREASURER & SECRETARY,
G. CLARIDGE DRUCE, YARDLEY LODGE, OXFORD,
FOR 1916.

BALANCE SHEET FOR 1915.

Subscriptions received, £68 3 6	Balance from 1914, - - £12 14 6
Cost of Reports, - - - 4 3 1	Printing Reports, &c., - - - 61 6 9
Balance due to Treasurer, 13 11 6	Expenses of Distribution, - - - 2 14 0
	Stationery, Postages, Incidental Expenses, - - - 9 2 10
£85 18 1	£85 18 1

Audited and found correct, January 23, 1917.—F. TWISING.

Balance due to the Treasurer, £13 11s 6d. ALL SUBSCRIPTIONS SHOULD BE PAID TO HIM AT THE ADDRESS GIVEN ABOVE ON THE FIRST OF JANUARY IN EACH YEAR (SO THAT THE TROUBLE AND EXPENSE OF APPLYING FOR THEM MAY BE AVOIDED); of 7s 6d for each member who contributes and receives specimens; of 5s for each non-contributing or corresponding member who receives the *Reports* only, but who may send specimens for identification, or as records of interesting plants, or for noting in the *Report*. Payment in advance for two or more years is much preferred, as it saves trouble and expense. Members joining in 1917 pay 10s (or 12s 6d Exchange), which includes *Reports* for 1916.

Members may have a complete set of the *Reports* for the years 1879-1900 for 20s; 1901-9, 20s. post free; odd copies, 1s 6d each; from 1901-9, 2s 6d each, post free; 1910, 4s; 1911, 5s; 1913, 1914, and 1915, 7s each.

Following the usual plan I have prepared a Review of the salient features of British Systematic Botany for the year, with other matter

which may interest those studying this subject. Being my own compilation it carries with it none but purely personal authority. All rights in its publication are reserved. New county records, new localities, or other particulars are always gladly received. Plants sent to be named should be accompanied by full details of their occurrence, *e.g.*, "No. 4. Grass. In turf on chalk downs, alt. 500 ft., near Albury, Herts., Aug. 4, 1916. Coll. A. Smith." If a duplicate is retained with a similar number it saves the trouble of returning specimens. Should the specimens be required, return postage must be enclosed, with a direction label. Any information that I am able to give on the acquisition of *desiderata*, of plants, or books, or on subjects connected with British Botany is entirely at the service of members.

The Publication of the Secretary's Report, which appeared in April, and that of the Distributor's, issued last November, were greatly retarded owing to war conditions. We give our hearty thanks to the Distributor, Mr A. R. Horwood, for completing his arduous task under very adverse conditions. He was called up in the spring, so that the proofs had to be corrected when he was in actual training and away from his library. Our best wishes go with him. A Supplement on *Bursa pastoris* was being prepared, but it awaited the results of experimental culture of some of our forms, from Dr Almquist, of Stockholm, before publication. This, therefore, I deferred, and only Mr Horwood's notes appeared.

The large number of plants sent in, amounting to 8153, many of a highly critical nature, led to an alarming increase in the size of the *Report*, which costs much more than the Subscriptions of the Exchange Club section. The very great increase in the cost of printing, paper, and postages, which is not likely to be lessened in the near future, renders some curtailment necessary. This, it is agreed, can be done without materially diminishing its value or interest. It is suggested, therefore, that no comments be printed concerning specimens lacking essential characters, *e.g.*—Rootless plants of *Festuca rubra* var. *fallax* seedless plants of *Spergula arvensis*, immature examples of *Sparganium neglectum*, or Brambles without barren stems. Critical notes either by sender or expert should only treat of the actual specimen sent; general questions of ecology, plant distribution, etc., should be avoided. Specimens of cultivated plants, or plants from recorded stations, although very acceptable, will be unnoticed in the *Report*

this will always stand eminent." A braver, more loyal, and truer gentleman in the highest sense of the word never existed. He was conspicuous in his attention to public duty, and his home relations were of the very happiest. The memory of my last sight of him with his wife and pretty little ones at his beautiful Wiltshire home will abide. At the time one had the sad foreboding that he—the dauntless—might be one to fall, and thus shatter the happiness of that ideal home. Our condolence is also offered to Lady Davy on the loss of her husband, Sir James Davy, K.C.B., a distinguished and popular servant of the Crown; to me a very dear and honoured friend. Also to Mr E. H. Farr, on the loss of his son, Lance-Corporal Farr, LL.B., who died in August from wounds received in action in France. Our member, Mr N. H. Martin, an old and valued colleague, has also passed away.

Our ranks have been reinforced during the year by Lady Charles Bentinck, Mr J. Brock, the Bournemouth Nat. Hist. Society, Mrs Callaghan, Miss Cobbe, Mr H. N. Dixon, M.A., F.L.S., Mr F. Druce, Mme. Dussan, Mr J. G. Geake, Col. Godfery, Mr S. Heaton, Mr J. W. Higgens, Mr E. C. Horrell, Mr W. Johnson, Mrs Knowling, Mrs Lothinière, Sir Alfred Lascelles, Hon. Mrs Mildmay; Bishop Mitchinson, Master of Pembroke College, Oxford; Rev. Aelfric Murray, M.A., Mr A. A. Pearson, Hon. Miss de Saumarez, Dr C. N. Scott, and Lady Stucley. Four members have resigned.

THE UNIVERSITIES OF LOUVAIN AND WARSAW.

Since the Botanical Library and Herbarium at Louvain have been burnt by the Germans, and as Professor Chmielevsky of Warsaw has sent me an especial appeal to replace his specimens, books, microscopical material, etc., which are now in the hands of the enemy, and the University has been removed to Rostov-on-the-Don, our members will be glad to render such assistance as lies within their power. It is suggested that members having duplicate plants should send in two specimens poisoned and mounted on thin cartridge paper, 15 in. × 10 in., with their label attached. These will be stamped with the B.E.C. stamp, and will be stored till opportunity offers to send them to Louvain and Warsaw as the offering of their British confrères. Reprints, journals, and botanical works will also be gladly received. Each should have the name of the donor on it, and the name of the University to which it is to be sent.

PLANT NOTES, ETC., FOR 1916.

(Mostly New Plants to the British Isles.)

9. ANEMONE NEMOROSA L. In the *Annals of Botany* 525, 1916, E. J. Salisbury describes two new varieties, var. d. ROBUSTA and var. e. APETALA as follows:—

Var. *genuina*. Phyllis perigonii elliptico-lanceolatis aut ovatis, apicibus acutis, latitudine maxima infra medium. Lateribus inferioribus foliorum non nitentibus. Long. phyll. perig. 19-20 mm.

Var. ROBUSTA. Phyllis perigonii oblongo-lanceolatis, apicibus acutis, latitudine maxima supra medium. Lateribus inferioribus nitentibus. Major et minus viridis quam var. *genuina* est. Long. phyll. perig. 18-19 mm. Stocking's Wood, Harpenden, Herts.

Var. APETALA. Phyllis perigonii parvis purpurascens vel 1-3 lacinis albis, petaloideis. Long. phyll. ext. 3-4 mm., long. phyll. int. 3 mm. In oak-hornbeam woods, Herts.; Carnforth, Westmorland.

Figures of both are given. Specimens in my Herbarium show that some with short sepals have the apices rounded, not acute. One from the Chilterns, Bucks., seems to agree with var. *robusta*. The name *apetala* is not very happy, because the coloured outer circle, usually called sepals, is, although very short, still present.

19. RANUNCULUS REPENS L., var. e. VILLOSUS Lamotte Prod. Fl. Centre 50, 1877. Tige et pétioles couverts de poils mous [not as Louy has it, moins], longs et étalés. Lamotte found it in the Puy de Dôme. Whether it is identical with the plant of Mr Wheldon, *Rep. B.E.C.* 309, 1915, I am unable to say. The Lancashire plant is well represented with us at Oxford as a common form.

Var. REPTABUNDUS (Jord.). I cannot fit this with Jordan's description, "mollement et courtement velu," since Dr Shoobred's plants, sent to the Club in 1915, are very free from pubescence.

47 c. RANUNCULUS FICARIA L., var. e. SINUATA [SINUATUS] Horwood, in *Rep. B.E.C.* 312, 1915. Planta stolonifera reptans: foliis obovatis, sinuatis, apice acuto, basi rariter incumbente. Ratcliffe,

Leicester. This is a similar form to one I sent to the Club from the border of the road under Trinity College Wall, Oxford, in May 1882, a place which still continues to produce it. Dr Boswell said it was merely the form which *Ficaria* assumes late in the season. A similar plant was sent to the Club by Dr Shoolbred in 1909, from a garden at Chepstow, when he commented on the long basal shoots. It is well worth cultivating to see if its characters remain unchanged under different conditions. Perhaps I too hastily assumed that the variation in leaf outline was due to lack of nutrition.

54 b. AQUILEGIA VULGARIS L., var. MILLERIANA. *A. alpina* Hudson Fl. Anglica 208, 1762, not of L. Anglis, Mountain Columbines. Habitat: in sylvis montosis in comitatu Westmorlandico, Per. June (with wrong references to Linnaeus, Bauhin, and other authors), Hudson, *l.c.* The earlier reference is "Aquilegia montana, magno flore, C.B. Mountain Columbine with large flowers. . . . I found growing wild in the park of Robert Fenwick, Esq., near Ingleborough Hill, in Yorkshire." Miller's *Abr. Gard. Dict.* i., 1754. "This I found growing wild in the park of Robert Fenwick, Esq., near Ingleborough Hill, in Yorkshire. The flowers of this are much larger than those of the Garden Columbine, and the seeds which I sowed of this in the garden at Chelsea produced the same species without the least variation." Miller's *Gard. Dict.* 1768. In 1778 Hudson (*Fl. Ang.* 236) adds "nimis affinis praecedenti, an distincta," with no reference to Miller. Smith (*Flora Britannica* ii., 579, 1800) has a "var. b. *A. alpina* Huds.," which he says "minus luxuriat, nectariis attenuatis, parum incurvis. Omnino distincta ab *A. alpina*, Linnaei." "Hudson's *A. alpina*, said to grow in the mountainous woods of Westmorland (*sic*) is a lesser variety, with the nectary extended, and but little curved inwards." With. *Nat. Arr.* iii., 608, 1812. "Var. b. *A. alpina* Huds. 235, excl. syn. In more mountainous situations at Matlock Bath, Derbyshire. Has scarcely more than one flower on each stem, and the nectaries are rather less curved. The whole plant is less luxuriant and more elegant." Sm. *Eng. Fl.* iii., 33, 1825. "*A. alpina*, Ingleborough, Martyn, 1763, rep. Gough's Cam. 1789. A dwarfed, but large flowered form of *A. vulgaris*, such as grows in the fissures of the elevated limestone pavements, was intended by this, not the Linnean continental *alpina*." Lees *Fl. W. Yorkshire* 126, 1888. Placed under *A. vulgaris* in Linton's *Fl.*

byshire 55, 1903. It is unnoticed by Syme in *Eng. Bot.*, and it is included in the odd jumble of Excluded Species in the Appendix Hooker's *Student's Flora*. Bearing in mind the positive statement Miller that the Ingleborough plant did differ from *vulgaris*, and its characters came true from seed, it deserves varietal rank. Further investigation to rediscover the same form is highly desirable.

54 (2). *AQUILEGIA ALPINA* L. Native?? Rocks of Caenlochan Glen, Forfar, alt. 2900-3000 feet, Aug. 16, 1916, R. H. Corstorphine. Continental distribution. — France: from 1500-2200 metres, Isère, Haute-Savoie, Savoie, Bresson, Hautes-Alpes, La Grave, Basses-Alpes, Cluse, Mt. Ventoux, Alpes-Maritimes. Switzerland: rocky crevices in the Val d'Illicx, Zinal, Zermatt, Grand St Bernard, Cenis, Chamounix, Valais Plattje at 2100 m., Bex at 8000 feet, Glandine, Val du Fain. Italy: the Alpes Apennines. Root stock rather stout. Stem 3-7 dem. with 1-5 flowers, glabrous or hairy. Leaves small, 2-10 cm. across, ternate, glabrous: the leaflets 2-3 partite, inciso-crenulate, the segments often overlapping. Flowers light blue, very large, 5 cm. across; sepals broadly oval, 2 cm. across; stamens straight or curved at top, but not cornucopia-like as in *vulgaris*: petals broad, 1-2 cm. across in British spec. (1-1.3—5 cm. in foreign samples), truncate, not rounded; stamens shorter than the petals: the spur as long as or longer than the petal; follicles (in foreign spec.) pubescent, large, 20-25 mm. long. Flowering August-September. The British plants differ from the Swiss specimens I have seen growing by their smaller size and by their flowers being of a paler blue colour. The leaves, too, are somewhat smaller, in this resembling those of *A. pyrenaica*, but the plant has not the rounded petals characteristic of that species. The very slightly curved spur and small leaves distinguish it at once from any form of *vulgaris*. Last August when *Aquilegia alpina* was discovered I visited the rocks at the head of Caenlochan Glen with Mr and Mrs Corstorphine. By the Isla the special plant in evidence was the Alpine form of *Gnaphalium sylvaticum*, var. *alpestre* Druce (often erroneously named *norvegicum*). In the wet turf at 2250-2500 feet altitude *Phleum alpinum* was extraordinarily plentiful, giving quite a distinct colour from the abundance of its purplish spikes. With it was associated *Poa irrigata*. The characteristic plants of the rocks, which range from 2750-3250 feet in altitude, were *Erigeron*

borealis, *Veronica fruticans*, *Potentilla Crantzii*, *Dryas octopetala*, *Sagina scotica*, *Poa alpina*, *Carex atrata*, and *Carex vaginata*. *Dryas* and *Potentilla* were practically over flower, but the *Veronica* was in beautiful bloom. On some of the precipitous rocks Mr Corstorphine found *Pyrola rotundifolia* in magnificent blossom, several hundreds of flowering spikes making a splendid show. This is doubtless Balfour's station. *Saussurea* was also in great beauty. Mr Corstorphine found the *Aquilegia* in a narrow and very steep gully with precipitous rock sides, and a brave show it made, its beautiful flower being fully expanded. Beside it were some young plants. On the west side of the gully I saw nearly at the apex of the rock pinnacle and in an almost inaccessible spot some more seedlings. Proceeding westward to the Gentian rocks in quest of that and of a tufted *Poa alpina* (my var. *acutifolia*), which, however, I did not find, I saw another Columbine and many young plants, perhaps about 400 or 500 yards from the first station. A question at once arises about the grade of citizenship of this plant. Its continental distribution—a native of the French, Swiss, and Italian Alps—not extending into Scandinavia—is distinctly against it. Unfortunately it is not the only adverse element. Caenlochan has been frequently visited by botanists. Between 1847 and 1866 Balfour and his students (as described in the most interesting Botanical Excursions of Prof. J. H. Balfour in the *Notes of the Edinburgh Botanical Garden* for April 1902) visited Caenlochan on six different occasions between August 4th and 17th. The glen has also been worked by Hanbury, the Lintons, Buchanan White, Sadler, and in the early eighties Bishop Robertson of Exeter and myself were together on these rocks, but not to my recollection quite on the same spots as those in which the *Aquilegia* grows. It is unlikely that so conspicuous a plant should have escaped all notice. The plants enumerated by Balfour grow immediately near it. Too much stress upon its not being previously noted, however, must not be made. One of the points that strike one in reading Balfour's notes is, that one season *Mulgedium* was noticed; another year it was not. One year *Juncus castaneus* was abundant; another year none was seen in the same place. How few people have seen *Astragalus alpinus* in Clova, or *Saxafraga rivularis*, *Saxifraga decipiens*, and *Carex atrofusca* on Ben Lawers? How many good botanists must have passed by *Deyeuxia borealis* at Killin or *Chaerophyllum aureum* at Callander? As *Aquilegia* is a late flowering plant

emed probable that in a closely protected glen like Caenlochan, nists went too early, and thus it might have eluded observation. as one who visited it in July.) Evidently in earlier years the was easier of access, for Balfour's visits were all made in August; therefore its non-observance by him and his students does suggest ntroduction. This indeed may be the case. Buchanan White (*Journ. Bot.* 27, 1885), "Unless my memory deceives me, I told by a horticultural friend that he had sown a quantity of the of *Myosotis alpestris*, derived from cultivated Ben Lawers plants, ig with the seeds of other alpines, in Caenlochan. One result of was the discovery there, by some members of the Edinburgh anical Society, in 1880, of *Myosotis alpestris* var., *Erinus alpinus*, *mula Auricula*, and other aliens. . . . I believe all the seeds sown e of those plants which from their showy flowers are in common tivation, and hence that no obscure-flowered species, as grasses, ees, &c., if discovered hereafter in these localities need be looked on with suspicion." I have an impression of being told the same ng by Dr White. At any rate the knowledge of aliens having en sown there, led me to avoid wasting time over Caenlochan, which never visited again until last August, and the recollection of the ove statement did not obtrude until we saw the *Aquilegia*, when it ain recurred to me. With this knowledge before us it seems best strongly query for the present the indigeneity of *Aquilegia alpina* Scotland. One may add that neither *Erinus* nor any other alien as noticed in Caenlochan by myself or my friends, nor have I heard *Myosotis alpestris* being found there since the Revs. H. E. Fox and F. Linton found it in 1884. Hudson's and Miller's record *A. alpina* from Ingleborough forms the subject of a special note. heir plant was, however, a form of *A. vulgaris*. In the *Worcester ictoria County History* *A. alpina* is noticed, but only as a garden eape. In conclusion, one might say that the Scottish plant differs om the extreme form of *A. alpina*, such as I have seen in the Canton alais. It has yet to be submitted to an authority who knows *alpina* t a critical sense. *Alpina* is said to be "tricky" in culture. These ottish plants looked healthy enough and as if they had been there or many years. One could not account for the seeds, if intentionally own, reaching some of the habitats where it now grows. This record mphasises the importance of strenuously trying to prevent stupid eople sowing alien plants in wild spots in Britain.

68 (3). *ACONITUM AMOENUM* Reichb. Uebers Acon. 23. Alien, Europe. Waste ground, near Tenby, Pembroke, 1873, C. BAILEY.

129. *BARBAREA VULGARIS* R. Br. A. Bruce Jackson describes the following varieties in *Journ. Bot.* 202, 1916 :—

Var. *SILVESTRIS* Fries Nov. Fl. Suec. 205, 1828. Plant usually small, with solitary stems. Lateral lobes of lower leaves very small or wanting. Pods short, about 12 mm. long, appressed. S. Devon, Dorset, N. Hants., W. Kent, Surrey, Middlesex, Herts., N E. Yorks., Co. Down, Kildare.

Var. *CAMPESTRIS* Fries, *l.c.* *B. vulgaris* DC. Syst. ii., 206. Plant robust, pods usually longer, up to 25 mm., obliquely erect or slightly spreading. Common.

Var. *ARCUATA* Fries, *l.c.* *B. vulgaris*, forma *divaricata* Trimen and Dyer Fl. Middl. 29, 1866. Inflorescence often laxer. Pedicels patent. Pods arcuate, ascending, spreading at right angles to the axis, or even deflexed. Not uncommon.

Sub-var. *BRACHYCARPA* Jackson. Pods short, valves often only about twice as long as pedicel and twice as long as style; often partly sterile. Glais Ley, Thames side, between Kingston Bridge and Hampton Court; Britton Straffan, Co. Kildare.

Var. *TRANSIENS* Druce Fl. Berks. 44, 1897. Plant stout, lower stem leaves with oblong cuneiform terminal lobe, the lateral linear lobes well developed, up to five pairs, exceeding the terminal lobes in width. Hayling Island, S. Hants.; Welloway, N. Som.; Bulstrode, Bucks.; Chellow, Englefield, Newbury and Benham, Berks.; Nazeland, Suffolk; Shrewsbury, Salop; Clifton Ings, York; Pentraeth river banks, Anglesey.

184 b. *SISYMBRIUM ALTISSIMUM* L., var. b. *RIGIDULUM* (Decaisne). *S. rigidulum* Decaisne in Ann. Sc. Nat. ser. 2, iii., 272, 1835. Alien, Europe. Kirkstall, York, 1915, E. C. HORRELL. Det. A. THELLUNG, *Rep. B.E.C.* 223, 1915.

237. *LEPIDIUM DRABA* L., forma *VIRIDESCENS* mihi. Differs from the type in the leaves being free from tomentum, but having a few scattered hairs. Tingley, York, 1915, E. C. HORRELL.

237 (2). *LEPIDIUM CHALEPENSE* L., var. *AURICULATUM* (Boiss.). Alien, Asia, W. and S. Tingley railway bank, and Elland, York, 1915,

HORRELL. Det. A. THELLUNG, *Rep. B.E.C.* 223, 1915, who puts under the sub-species *chalepense*.

247. *LEPIDIUM VIRGINICUM* L., forma *MICROPETALUM* Thell. in *Fl. Mitt. Eur.* iv., lief 35 (1913), 87. Alien, Amer. bor. site ground, Oxford, Sep. 1915, G. C. DRUCE.

Gen. 58 (2). *AETHIONEMA* Br., in *Ait. Hort. Kew.* iv., 80, 1812.
247 (30). *AETHIONEMA GRAECUM* Boiss. and Sprun. *Diagn. ser.* i., 16. Alien, Greece. Hortal. Ware, near the gravel pit, Herts., 6, Mrs KNOWLING, vide sp.

284 (2). *RESEDA INODORA* Reichb. *Ic. Fl. Germ.* ii., 22. Shortlands, Kent, 1898, A. HUME. Named at Kew.

299. *VIOLA HIRTA* × *ODORATA*, f. *GIGAS*. First found in "Violet me," Stokeinteignhead, v.-c. 3, March 1913. Flowers averaging out 3 cm. in length. Examinations of this plant have now extended over four years and have been made on wild and cultivated material. The first note on this violet reads thus: "A plant found, March 13, 1913, had stipules 8 mm. broad at base and for two-thirds of their length; the tip concave on the one side and convex on the other, suddenly narrowing; the flowers, of an exquisite pale mauve colour, had a large white eye; the lateral petals were very much inflected and made it useless at this date to attempt to measure their breadth. The whole plant, of a remarkably thick texture, reminded one of *odorata*, var. *floribunda*." A portion of the only plant we were able to find was removed and placed by Miss Peck in a small pot in her greenhouse at Maidencombe House, St Mary Church. It remained there until established, and was then transferred to her garden. The second examination on portions of the original plant, in February 1914, notes:—"Leaves rounded at the apex, hairs slightly depressed, as is usual in plants of *V. hirta* × *odorata*; flowers scentless, of a pale colour (the same shade exactly as in the pale double flowers grown in frames for the market), on long peduncles (11-12 cm.); bracts 1 cm. in length by 5 mm. in breadth at base; spur thick, hooked, purple; sepals broad, obtuse; petals and all parts of the plant thick; flowers averaging about 3 cm. in length and breadth." Some confusion arose in 1915 through the discovery of an escaped violet (the "Czar") which Miss Peck enclosed with specimens of

f. *gigas*, and, as I then supposed, from the same habitat. The size and thick texture of these plants inclined me to believe that f. *gigas* was the result of a cross between the escape and var. *dumetorum* of *V. hirta*. With this impression in my mind I sent some examples to the Rev. E. S. Marshall in March 1915, who replied:—“Many thanks for the giant violet, *V. hirta* × *odorata*, which Mr Britten (now with us) and I examined. I certainly do not think our wild sweet violets would produce such a large flower; the “Parma” (since identified as the “Czar”) origin seems very probable.” In April 1915 correspondence with Miss Peck elicited the fact that the garden escape received in the same parcel with f. *gigas* was and is growing in a lane below her own home, and two miles from the Stokeinteignhead habitat of f. *gigas*. We are therefore dealing with an absolutely native violet in this newest form of *V. hirta* × *odorata*, which I suspect of being the cross var. *dumetorum* × *hirsuta*. Early in April 1915 living plants were sent by Miss Peck to Mr Hunnybun, who prepared drawings for the Violet volume of the forthcoming *Cambridge Flora*. He, too, detected the likeness between f. *gigas* and the var. *floribunda*, of which, in his opinion, it might be a west-country form. Many intermediates occur between this plant and the form of × *permixta*, described on p. 15 of *British Violets*. It will be only waste of time to name extensively until we know how the variations arise. We really only guess that some of them are hybrids at all, though we have pretty good ground for our guessing. A giant race has cropped up in *Primula sinensis* from certain crossings. These have been discovered to be double-celled. Natural crossings may have originated a giant race in the genus *Viola*. My notes on f. *gigas* in 1915 refer to a peculiarity occurring in the form of lobes of varied size and shape at the base of the laminae. I believe these to be displayed only by plants under cultivation, and chiefly in the summer state. E. S. GREGORY.

304. VIOLA SEGETALIS, var. SUBINCISA (Jord.). Urswick, L. Lancs., W. H. PEARSALL. See *Rep. B.E.C.* 328, 1915.

341 b. SILENE DICHOTOMA Ehrh., var. RACEMOSA (Otth. in DC. Prod. i., 384) Rohrh. Alien, Europe. Kirkstall, York, E. C. HORRELL. Det. A. THELLUNG, *Rep. B.E.C.* 223, 1915.

356 (3). SILENE SCHAFTA Gmelin ex Hohen. in Bull. Soc. Nat.

c. xii., 397, 1838. Alien, Caucasus. Hortal. A pretty garden
ennial, figured in *Bot. Reg.* t. 20, 1846. Ludlow, Salop, E.C.
DRELL.

358. *LYCHNIS FLOS-CUCULI* L. Our member, Mr J. G. Geake, in
the last directed my attention to some forms of this plant found
at Ettingham, Surrey. The commoner form there has a reddish-
brown calyx, but a rarer form has the calyx entirely green; others
possessed intermediate characters. No very minute descriptions are
given in our British Floras. Syme (*Eng. Bot.* ii., 71) says the calyx
usually tinged with dull red, with ten purplish veins. Leighton
(*Shropshire* 196) says calyx, reddish purple; Stokes (*Withering*
t. Arr. i., 473, 1787) says empalement with ten ribs and ten
rows, coloured; but most authors leave the point unnoticed. Mr
Geake's specimens bore out his remarks, his commoner plant having
the calyx purplish-brown, but with paler interspaces, that is between
the calyx ribs. The other plant, which I propose calling sub-var.
viridescens, has the calyx wholly green, the ribs being darker than the
inter, more glabrescent, almost hyaline interspaces. This is repre-
sented in my herbarium more numerous than the previous one,
which may be called the type. I have specimens from Delapre,
Northants.; Banbury, Oxon.; Abingdon, Berks.; Chesterton Wood,
Warwick, C. E. Palmer; Alstonfield, Stafford; Bilstone, Leicester;
Wimblington, Cambridge; Stockleigh Pomeroy, Devon; Cowden,
Kent. Intermediate forms are common as at Unst, Shetland, R. Tate;
Gannich, W. Ross; Edinburgh: Wimblington, Cambridge; Northants.;
Lynsham, &c., Oxon.; Welwyn, Herts.; Odiham, Hants. The type I
have seen in Sussex, Hants., Dorset, Devon, Carmarthen, Oxon.,
Berks., Bucks., and Glamorgan this year.

359 (2). *LYCHNIS MACROCARPA* Boiss. and Reut., in Boiss. Voy.
Bot. Espagne ii., 722. *L. divaricata* Reichb. *Ic. Pl. Crit.* iii., t. 303.
Melandryum macrocarpum Willk. *Ic. et Descr.* i., 28, Nyman
 Monsp. Fl. Eur. 86. Alien, Spain, S. France, S. Italy, Dalmatia,
Thessaly, Tunis, Algeria, Marocco. Several plants at St Philip's
Marsh, Bristol, Misses COBBE and G. C. DRUCE; Portmadoc, Car-
marvon, Miss COBBE; Brechin, Forfar, on a rubbish-tilt, 1916, G. C.
DRUCE and R. and M. CORSTORPHINE. A plant with the aspect of
large *L. alba*, but with much larger capsules. The petals lack the
auricles which are present in *L. alba*.

391. *ARENARIA SERPYLLIFOLIA* L., var. *PATULA* R. and F. Fl. de Fr. iii., 240. With green, pubescent, not glandular foliage, with open branches, and long pedicelled fruiting branches. Salisbury Crags, Midlothian, G. C. DRUCE.

398 (3). *ARENARIA HOLOSTEOIDES* C. A. Mey. Edgew., in Hook. f. Fl. Brit. Ind. i., 241. *Lepyrodiclis holosteoides* Fenzl, in Fisch. and Mey. Enum. Pl. Nov. Schrenck 93. Alien from Asia Minor to China; Himalayas. Hortal. Kirkstall, York, E. C. HORRELL. See *Rep. B.E.C.* 223, 1915. A common weed in wheat-fields in Baltasan, where it is eaten as a vegetable. It ascends to 3700 metres in Kashmir.

483 (3). *GERANIUM CAROLINIANUM* L. Alien, N. Amer. Lonesome, near Mitcham, Surrey, Sep. 1897, C. E. BRITTON, vide sp.

488. *GERANIUM ROBERTIANUM* L., var. *e. HISPIDUM* mihi. Cliffs of Berry Head, S. Devon, June 1916. Plant very viscid, pale green, turning red, much branched, brittle; the stem and leaves, thickly clothed with patent glandular white hairs, give it a hoary appearance; petals slightly smaller than the Midland plant, entire; carpels glabrous, G. C. DRUCE.

505 c. *OXALIS CORNICULATA* L., var. *MINOR* Lange, teste A. THELLUNG. Alien. Hortal. Thornton Dale, York, E. C. HORRELL. See *Rep. B.E.C.* 223, 1915. One of the many forms of this polymorphic species, closely allied to the var. *microphylla* Hook. f. Fl. Nov. Zeal. i., 42, 1853.

526. *ACER CAMPESTRE* L., forma *DISSECTIFOLIUM* Melvill, ex Fl. Berks. 128. Wood Perry, Oxon [P.1192], Sep. 1916. This differs from the type in having deeper and more sharply-cut leaves. Probably this was the plant referred to by Lobel (*Adversaria* 443, 1570), "Acutie foliorum cognitu facilis Aceris species quam prope Oxoniam oriri nonnulli sponte nobis aseruerent." G. C. DRUCE.

560 (2). *TRIGONELLA FISCHERIANA* Seringe, in DC. Prod. ii., 183, 1825. Alien, Asia Minor, Armenia, Caucasus. Lanal? Kirkstall, York, 1915, E. C. HORRELL. Det. A. THELLUNG. See *Rep. B.E.C.* 223, 1915. An attractive, bright orange-flowered species.

- 574 (2). *MEDICAGO MUREX* Willd. Sp. Pl. iii., 1410. Alien, S. Yorks. Heckmondwike, S.W. Yorks., v.-c. 63, Lees' *Flora of Yorkshire*, 1888.
575. *TRIFOLIUM CONSTANTINOPOLITANUM* L., var. *PHLEOIDES* Boiss. n. Between Kew and Richmond, Surrey, 1855, BLAKE; Twerton, N., 1901, S. T. DUNN; Ashford, near Staines, 1906, E. T. PHERD.
- 576 (2). *TRIFOLIUM BADIUM* L. Alien, Europe. S. Lincoln, 1906, F. A. LEES.
- 577 (3). *ASTRAGALUS TRIBULOIDES* Delile Fl. Ægypte iii., 70. n. Orient. Halifax, Crossland, 1898, in *Herb. Hume*.
- 578 (4). *VICIA CRETICA* Boiss. and Heldr. Diagn. ser. i., ix., 118. *Spruneri* Boiss., *l.c.* 19). Alien, Greece. Below Roseland series, Hoddesdon, Herts., J. E. LITTLE, teste J. W. WHITE. See *B.E.C.* 337, 1915.
- 579 (3). *PISUM HUMILE* Boiss. and Noe. Diagn. ser. 2, ii., 45. Alien, Mesopotamia. On cotton-seed refuse, Colchester, 1914, G. C. BROWN. Det. A. THELLUNG.
- 580 (6). *SPIRAEA VESTITA* Wallich, ex G. Don Gen. Syst. ii., 521. n. India. Railway bank, opposite Garve station, E. Ross, WALLIS, ex C. E. SALMON, vide sp. It is said to be established here.
581. *ROSA EMINENS*, forma nova. A shrub 1-1.5 m. high, bark brownish green, flowering shoots slightly pruinose. Branches slender, woody, tufted. Prickles, long, straight, directed slightly upward, compressed, base an elongated oval, on leafy shoots, paired, sub-petiole. Petioles pubescent, glandular, a few prickles beneath. Leaflets 5-7, basal ones smaller than the others, in size and shape varying, obovate, small on lower leaves of twig, increasing in size and becoming quite regularly oval upward, carinate, dark green, almost glabrous above, strongly pubescent, glandular (but to no great extent) beneath, veins and body of leaf beneath, dentate, each tooth in turn having glandular denticles. Stipules fairly broad, yellow-green, glabrous above, pubescent-glandular below, fringed with stipitate glands,

auricles spreading. Peduncles generally one, but on very young stems rarely up to five, short, half the length of fruit, glabrous, except for a slight pubescence at the base, provided with an inner pale oval bract, bearing a more or less linear leafy appendage, almost glabrous near midrib below, but glandular for the most part and at the edge, glabrous above, and an outer foliaceous bract with three leaflets of the ordinary type. Sepals spatulate, two entire, tomentose at the edges, and glandular in the middle, three pinnatifid, covered with stipitate glands below. Flowers not large, rose, veins darker, base of petal white; petals nearly cordate, fruit pyriform, quite smooth, early crowned by the erect sepals. Wolsingham, Satley, Lanchester, County Durham. J. W. H. Harrison in *Vasculum* 99, 1916. Differs from *R. Sherardi*, its nearest ally, in the glabrous peduncles and fruit, and from *farinosa* by the pyriform fruit, by the leaflets in many cases being hollowed at the ends, by the sepals being densely covered with stipitate glands, and by the peduncles being pubescent, not glandular at the base.

961. *PYRUS ARIA* × *TORMINALIS*. Symond's Yat, W. Gloster, A. LEY and E. S. MARSHALL; Bucknor rocks, W. Gloster, A. LEY. See *Journ. Bot.* 14, 1916. *P. ARIA* var. *RUPICOLA* Syme × *TORMINALIS*. (*Sorbus salicifolia* = *S. rupicola* × *torminalis* Hedl.) Cefn Coed, Brecon, A. LEY. See *Rep. B.E.C.* 605, 1899; Dan-y-Craig, Glamorgan, A. LEY and W. A. SHOOLBRED. See Marshall in *Journ. Bot.* 14, 1916. A queried hybrid *P. minima* × *latifolia*, Watersmeet, N. Devon, an undescribed plant near *Mougeoti*, and *Sorbus incisa* are also referred to.

969 (3). *CRATAEGUS CRUS-GALLI* L. Alien, N. America. Mortlake, Surrey, 1875, *Hb. Brit. Mus.* An extensively planted shrub, but it does not appear to spread from seeds.

Gen. 182 (2). *LEPTAXIS* Rafin. *Fl. Tellur.* ii., 75, 1836. *TOLMIEA*, Torrey and Gray *Fl. N. Amer.* i., 582, 1840. Saxifragaceae.

995 (5). *LEPTAXIS MENZIESII* Rafin., *l.c.* (*T. Menziesii* Torrey and Gray, *l.c.*). Alien, N. America. In a wood among bluebells near Hayshott, W. Sussex, Dr MARIE C. STOPES, in *lit.* and *vide sp.* The plant is remarkable for its leaf bulbils. It was introduced from N. America in 1812.

1061 b. *OENOTHERA BIENNIS* L., var. *PARVIFLORA* (L.). Alien, Merica. Sandhills, Southport, Lancashire, J. D. FIRTH, ex E. C. BURRELL. Det. A. THELLUNG.

1098. *HELOSCIADIUM* in Britain. Mr E. G. Baker first started on the enquiry into our native forms in this genus, the results of his early joint work appearing in a paper on *British Forms of H. nodiflorum* Koch, which was published in the *Journal of Botany* for June 1906, under both our names. Since then I have kept up the enquiry, steadily increasing my knowledge both of herbarium collections and of the living plant. Some further attempts to elucidate the relationship of the various forms took the shape of papers in the *Irish Naturalist* for January 1914 on *Helosciadium Moorei*; and for April 1914 on the *British Forms of Helosciadium*, and in the *Proceedings of the Cotteswold N.F. Club* for 1914, *Notes on Helosciadium*. The previous relevant literature of the subject is mentioned in the *Journ. Bot.* paper, and in the *Irish Nat.* paper on *Moorei*. The chief problems on which I have endeavoured to throw light are:—

1. The true significance of the forms of *H. nodiflorum*.
2. The relation of *H. nodiflorum* and *H. repens*.
3. The possible existence of the hybrid *nodiflorum* × *repens*.
4. The origin and status of *H. Moorei*.

1. The forms of *H. nodiflorum*. Very little satisfaction is to be had from most herbarium specimens. The only way adequately to cope with the problem is to study in the field, not isolated plants, but a whole series of plants. Such a series can be well represented in a herbarium, if judicious selection is exercised. Anyhow it is necessary (a) to follow a growth of *Helosciadium* out into varying surroundings, especially differences of moisture and shade; (b) to observe how differently it behaves at different seasons; and (c) to get mature plants, especially late in the season, and note how great is (frequently) the range of variation, especially in foliage, in different parts of one plant at one time. This last mentioned procedure is not always easy, owing to the large size of some of our forms; but to cite the result of it, the rooting character is frequently found to be strongly present on the lower branches or stems, while the central or main stem shows no sign of it. To take another point (b). I have in my herbarium specimens which show a small creeping form very near

Watson's var. *pseudo-repens* growing late in a dry summer from the root of what had in early summer been f. *vulgare*—the change being due to a long drought laying the mud of a pond bare, and some accident causing the disappearance of the main plant. As to surroundings (a), soil, moisture, and cover—the species flourishes not only in ditches, but also in spots where the water always disappears at certain seasons; in rough swampy ground, either shaded or occupied by a good deal of varied low-growing vegetation; muddy margins of ponds; parts of grassy or heathy hillsides; the damper parts of the flat sandy ground behind dunes, which dry up in summer, though they are under water at other seasons. Its roots are probably always within easy reach of water. Moreover, the form taken by the species is largely determined by the amount of cover. Even the same plant, which grows just on the edge say of a bramble thicket, will consist partly of the big coarse form—*vulgare*, and partly of a smaller-leaved form which has a compacter and lower habit and runs just over the open grass by a rill. I am pretty certain, from these observations, that the number of forms which the species may assume is almost unlimited; that they are transient and due to circumstances, and not to any permanent cause; and that they are “forms” and not “varieties.” Var. *longipedunculatum* F. Schultz is, however, a good variety. See its description in *Journ. Bot. l.c.* In certain instances it bears a strong external resemblance to *H. repens* Koch. This is when, owing to surroundings, it becomes a small creeping plant; behaving, in fact, just like the type of the species. McT. Cowan in *Rep. B.E.C.* 564, 1910, gives an instance of two “forms” of it appearing on one root. I have called the creeping form f. *simulans*. The variety occurs in many places—Haddingtonshire, Midlothian, Oxon., Cambs., Norfolk, Suffolk, Northants., and Cheshire. I should say with respect to the plants distributed by McT. Cowan through the Club in 1910 from Luffness, that all I have seen come under this variety.

2. *H. repens* Koch, is a true species, differing not only in habit, stability, peduncle, umbels, umbel-bracts, foliage, etc., but also in the decisive character of fruit—one specimen of which I have seen, thanks to Mr G. Webster, from Skipwith. The fruit is different in shape, size and colour, from that of *H. nodiflorum*. A Fifeshire plant in *Hb. Syme* must, I believe, come under *H. repens*; and since botanising on Port Meadow and Binsey Common, near Oxford, last year,

feel convinced, even in the absence of fruit, that there too we have a new species. In this case, the matter is complicated by the presence of *H. nodiflorum* and intermediate forms. The examination of a series of plants throws light where a single specimen only opens the darkness. But while this is so and our British plant usually comes under *H. repens* Koch, I am inclined to look upon it as a local variety of that species. It differs from the constant continental form in a tendency to have fewer leaflets to a leaf, and fewer umbel-bracts, as Mr Lees pointed out in *Rep. B.E.C.* 13, 1879. The difference is too slight to make a scientific name desirable for the variety.

3. Intermediate forms grow on Binsey Common, and apparently also on Port Meadow. (See *Rep. B.E.C.* 226, 1906. Mr Jackson's specimen sent to me was not *repens*, but probably one of those intermediates.) On Binsey Common the two species grow close together; *H. nodiflorum* in a very small form; and a large number of intermediate forms which I certainly think it likely are forms of the hybrid between the two. These forms vary largely, approaching more or less closely first to one then to another of the "parents." Sometimes one is extremely close to *repens*, showing the presence of *nodiflorum* only in the course reddish stem. Again it may in most respects be very near the latter, and show the presence of *repens* only in the length of peduncles. One of the first characters of *repens* to appear in crossing is the peculiar shape of the leaflet. I put the hybrid some plants which are almost indistinguishable from *repens*, except that the leaflets are lanceolate and toothed, with no sign of lobing. But good middle forms are by no means absent, and the gradation of forms is a very satisfactory one. Indeed, I have not a little doubt myself that on Binsey Common grows *H. nodiflorum* \times *repens*; and I think a close study of the series there would (subject to the fruit test of *repens*) bring most botanists to the same conclusion. But, of course, proof is lacking. Specimens are distributed this year, and a note upon them appears in the Distributors' Report.

4. \times *H. Moorei*. This is, of course, a plant far better known than the above "hybrid." A full account of it can be seen in the *British Naturalist* for January 1914, and a description in *Rep. B.E.C.* 24-5, 1913. The grounds on which I found my belief in its hybrid origin (*inundatum* \times *nodiflorum*) may be summarised:—1, its great

range of variation in habit and facies; 2, variability of foliage; 3, sterility—it is reproduced vegetatively; 4, large vegetative development; 5, general intermediate position between the “parents”; 6, invariable occurrence in company with the parents. *H. inundatum* Koch, var. *fluitans* Fr., is a form or state in which all the leaves are divided into capillary segments. It occurs in several Irish and English counties, but my experience of it in Gloucestershire raises a very considerable doubt as to whether it is really anything better than a mere state.—H. J. RIDDELSDELL.

1114 e. PIMPINELLA SAXIFRAGA L., var. ROSEIFLORA E. and H. Drabble in *Journ. Bot.* 136, 1916. A var. *dissecta* with bright crimson flowers, Starkholmes, Derby, E. and H. DRABBLE, *l.c.*

1126. ANTHRISCUS SYLVESTRIS Hoffm. *Chaerophyllum sylvestre* L. An observant botanist, conversant with this early-flowering Umbellifer, which is such an abundant and graceful ornament of our hedges and wood-borders, a haunter of coppices and open forest-land, which delights in the shade and shelter of trees in meadows and parklands, is struck as he visits Scotland by its comparative rarity. Indeed, from great areas it is conspicuously absent, and when it occurs a plant of quite different appearance, of more rigid habit, with more finely-cut foliage, meets his eye, causing him to look twice to see if it is really identical with his southern friend. To blur this impression comes the thought that it is in the fruiting stage, in a different climate, and under other conditions, and thus half satisfied from year to year he leaves it. More recently, however, I have looked at this common species more closely, bearing in mind Newbould's dictum “that if one wanted to find new varieties it must be a well-known common plant always before one's eyes that would yield them,” since such an object was only superficially glanced at. The experience of the past season shows that the leaf variation of the Hedge Parsley is quite considerable, and many forms might be described, but for practical purposes three groups may be made. First, the plant with large, 20 cm. or more across, leaves, having broad and sometimes overlapping secondary divisions, as much as 10 cm. across, the tertiary segments being broad, 15-20 mm. across, the apical segments being rather abruptly narrowed into a mucronate straight or sometimes falcate point. This form varies as to the degree

hairiness, but is usually more hairy than the northern form. Further investigation is necessary in order to see if any differences in petals or fruit accompany this variety, which I propose to call *latisecta*. I have seen it from Castlehill, N. Devon; near Bath, Somerset, N., *Druce*; Plumstead and Beckenham, Kent; Fareham, Hants., a glabrescent form, *Hb. Bailey*; Odiham, N. Hants., *E. Palmer*; Middlesex, *Hb. Bailey*; Kennington, &c., Berks.; Kingham; Fairford, Gloucester, E.; Stansteadbury, Herts.; Sudbury, Suffolk, W.; Braintree, Essex, N.; Woodstock, &c., Oxon.; Hadley Gobion, Northants., *Druce*; Leicester; Plumley, Cheshire; East Derby; S. Lancashire, *Hb. Bailey*; Furness, *Hb. Brit. Mus.* The figure in *Eng. Bot.* may be put here, but the form is not extreme.

Var. *ANGUSTISECTA* mihi. This is characterised by its leaves being more open. A leaf of a Forfarshire specimen, measuring 24 cm. across, has the ultimate segments only 5.8 mm. across, and these are gradually attenuate into a less conspicuous mucro. The texture of the leaf is more rigid, and the whole plant lacks the soft outline of the southern plant. Each has the curious ring of hairs at the base of the fruit, but on the whole I think the fruit of the northern plant may be very slightly larger. Each has the swollen nodes, each varies in the more or less pronounced stem furrows, and on the whole the northern plant is more glabrescent. I have not seen this variety north of Derbyshire. Plants which come under it are contained in *Hb. Bailey* from Mere Clough, Cheshire; Richmond, York (not very pronounced); Allerton, Lancs.; Perth; and I have it from Newton Stewart, Wigton; Edinburgh; Loch Fithie, Forfar; Kingussie, Western Ross; and Applecross, W. Ross. I may add that its general outline, but not the colour-tint, resembles *Chaerophyllum aureum*. An approach to the northern form has been found at Cleeve Hill, Gloucester, by Mr C. Bailey. It would be incorrect to assume that these forms are separated by any sharp lines of demarcation from others; there are very many which are best kept under the type in a median group. For working purposes these two names cover the extreme forms. It is too soon to say that one is exclusively northern, the other southern, but it would appear that that is probable. On the Continent the narrow segmented plants seem to be most frequent. Our most finely-cut plant is still quite different from var. *alpina*. It is curious that both the Ivy and the Hedge Parsley should show a diminution of leaf-surface in the north. Since preparing these notes

I find that in the *Dansk. Bot. Arkiv.* for 1915 there is a highly critical paper, "Indledende Studier over Polymorphien hos *Anthriscus sylvestris*," in which 59 different forms of leaves are figured. These are divided into 16 groups, a refinement which would rather repel the student who begins the segregation of its forms. Had funds permitted one would have liked to have reprinted it in English, as it is a paper of great taxonomic interest. The following note by Dr J. E. Gray which appeared in Seeman's *Journal of Botany* 296, 1863, may be worth giving here:—"On the banks of the river, near Kew, there grow two forms of *Anthriscus sylvestris* which are very distinct from one another in size and external appearance, . . . they grow side by side in the same bed, and there is no apparent reason for the difference in size and colour, either in the soil, exposure, or situation of the plants. The one is a large, strong plant, with green foliage and large white flowers, and with a thick green stem with large angular projections on it. The other is a slender, straggling plant, with the leaves far apart, small flowers, and stem not thicker than a crowquill, cylindrical, and with numerous equal ridges. The stem and foliage are generally purple or blackish, rarely dark green. These two plants, where extreme forms are examined, are so distinct that I am surprised they have not been described as distinct species in some of the Continental Floras, but I do not find them noticed by either British or foreign writers. This plant is remarkable among the Umbelliferae for having some small . . . setulae at the base of the fruit, which, but for their position, look remarkably like a calyx. These seem to have been generally overlooked by draughtsmen. In the 'English Botany' figure, which is not strictly characteristic of either variety, they are entirely omitted. I examined the original drawing of this plate by James Sowerby [now in the Brit. Mus.]. I found that the careful artist had correctly given them, but Sir James Edward Smith, to whom the drawings were submitted for approval before being engraved, has corrected (!) the drawing, because, as he writes, they are too like a calyx. Sir James, knowing that the fruit in Umbelliferae is inferior, at once discarded Sowerby's 'calyx,' thus making his generalisation or preconceived theory overturn the observed fact of the other, a proceeding too common amongst a certain class of naturalists." Smith was somewhat jealous of J. E. Gray, and placed great difficulties in his access to the Linnean Herbarium.

- 1130 (2). *FOENICULUM PIPERITUM* DC. Sweet Hort. Brit. i., 187.
n, S. Europe. St. Philip's Marsh, Bristol, Misses COBBE and G. C.
Druce; Tadcaster, York, 1916.
1180. *VIBURNUM OPULUS* L., var. *FLAVA* Horwood, in *Rep. Wats.
h. Club*, 540, 1915-16. Narborough Bog, Leicester. Fruit rich
in yellow and differing also in its leaf-lobing and in the smaller
leaves and fruits.
- 1180 (2). *VIBURNUM TINUS* L. Bird-sown bushes, in several
places, on sides of Upper Cliff, Ventnor, Isle of Wight, 1916, E. W.
Druce, in *lit.*
1192. *GALIUM BOREALE* L., var. *STENOPHYLLUM*. [Ref. No.
121.] Sand-dunes, St. Cyrus, Kincardine, Aug. 1916. Discovered
in this unusual habitat by Prof. Trail many years ago. The descrip-
tion of *G. boreale*, var. *intermedium* (Rouy, Fouc. & Camus *Fl. Fr.*
i., 10, 1903) covers this plant, but on referring to type specimens
sent to the description in Koch's *Syn.* 332, 1837, which is "fructus
in pediculis brevissimis adpressis adpersi. quasi punctis argenteis picti,"
it does not apply to this form, where the fruit-bristles are long and
erect; therefore the above name is suggested. The plant has narrow,
almost linear, leaves, which in most cases are attenuated at the base,
strongly three-nerved below, with margins somewhat enrolled; the
cylindrical panicle is open, many-flowered, the fruits thickly covered
with long greyish-white glochidiate bristles; and the upper part of
the panicle-branches are covered with shorter and less hooked-bristly
hairs. The plant in drying does not blacken. Its general aspect,
when growing, recalls *G. erectum*, not *boreale*. The fruit characters
are, however, unmistakable. To this are also to be referred plants
gathered at the sea-level at Sligachan, Skye. G. C. DRUCE.
1204. *GALIUM ANGLICUM* Huds., var. *LEIOCARPUM* Tausch, in *Bot.
Zeit.* xviii., 354. Castle Acre, Norfolk [Ref. No. 350.], 1915, F.
Druce, ROBINSON. Probably this is our common form.
- 1231 (2). *DIPSACUS STRIGOSUS* Willd., ex Roem. & Schultes *Syst.*
i., 520. Alien, Persia. By the side of a ditch close to the Thames
at Kew, Surrey, H. TRIMEN, in *Journ Bot.* 268, 1872.

1236 (2). SCABIOSA VIRGA-PASTORIS Mill. Gard. Dict. 1768 = S. SUAVEOLENS Desf. Tabl. 110. Alien, Europe, Asia Minor. Wandsworth, Surrey, A. IRVINE.

1245 (2). SOLIDAGO SEMPERVIRENS L. Alien, N. America. Coquet River, Northumberland, at Thrum, 1904, M. TINKER in *Hb. Brit. Mus.*

1248. BELLIS PERENNIS L., var. HYBRIDA (Tenore Fl. Nap. v., 233, t. 194) as a species. I should have referred it to var. *caulescens* Rochebr., but Mr C. C. Lacaita names it *hybrida*.

1257 (4). ASTER PRENANTHOIDES Muhl. in Willd. Sp. Pl. iii., 2046. Alien, N. America. Tayside, Perth, 1869, *Hb. Wats.*

1262 (2). ERIGERON PULCHELLUS DC. Prod. v., 287. *E. caucasicum* Stev. Alien, Orient, Asia Minor. Preston Docks, *Flora of Preston Neighbourhood* 26, 1903.

1286 (2). PULICARIA ARABICA Cass. in Dict. Sc. Nat. xliv., 94. Alien, Egypt, Orient. Galashiels, Selkirk, Miss I. M. HAYWARD.

1290 (2). AMBROSIA PERUVIANA Willd. Sp. Pl. iv., 377. Alien, S. America. Stubble, Margate, Kent, 1865, W. T. DYER. See *Journ. Bot.* 53, 1871. It is not given in the *Flora of Kent*. Was it afterwards rejected?

1318 (2). BAERIA PLATYCARPHA A. Gray in Proc. Ac. Am. ix., 196, 1874. Alien, N. America. Aber, Carnarvon, 1877, J. F. C. WILLIAMS. See H. TRIMEN in *Journ. Bot.* 209, 1877.

1334 (3). ACHILLEA CRITHMIFOLIA Waldst. & Kit. Pl. Rar. Hung. i., 68. Alien, Orient. Casual, Aberdeen South, TRAIL in *Ann. Scot. Nat. Hist.* 46, 1906.

1356 (9). CHRYSANTHEMUM SINENSE L. Alien, Japan. Hortal. Tweedside, Selkirk, 1916, Miss I. M. HAYWARD, vide sp.

1362 (2). MATRICARIA OCCIDENTALIS Greene Man. Bot. San Franc. Bay, 208, 1894. Poole Court, Co. Kerry, 1902, R. W. SCULLY in *Hb. Hume*.

1384. TUSSILAGO FARFARA L. Prof. G. West sent specimens gathered by one of his students in Sutton Park, Warwickshire, in

of a plant which only occurs in ditches, the leaves and flowers above the water. The under sides of the leaves are scarcely yellow when mature. In a ditch bordering Cornbury Park, Oxfordshire, I found similar plants, and am growing them to see if under different conditions they revert to the type. Prof. West says his plants has been quite constant for nine years to his knowledge. It is fixed, he says, since the anatomical structure of rhizome and leaves differs from that of ordinary *Farfara*.

1395. *SENECIO ERUCIFOLIUS* L., without ray florets. Near Weston, W. Lancs., 1916, G. CHESTER, vide sp. = var. *discoideus*.

1408 (22). *SENECIO MACRODONTUS* DC. Prod. v., 873. Alien, Australia. Tweedside, below Galashiels, Roxburghshire, 1914, Miss M. L. HAYWARD. Det. G. C. DRUCE.

1411 (3). *CALENDULA PERSICA* C. A. Meyer Verz. Pfl. Cauc. 72. *gracilis* DC. Prod. vi., 453. Alien, Persia. Wandsworth, Surrey, A. IRVINE in *Hb. Wats*.

1430. *CIRSIIUM PRATENSE* (Huds.) Druce. Were the Plumed and un-plumed Thistles combined in one genus there would be complete unanimity in using the name *Carduus pratensis* Huds. for this plant. DeCandolle misunderstood it, and Hudson (*Flora Anglica* 307, 1762), misled by the synonym *Cirsium anglicum* Lobel, wrongly used by DeCandolle under *Carduus dissectus* (*Sp. Pl.*), used for it that name, which belongs to a non-British plant. In the second edition (*Flora Anglica* 353, 1778) Hudson called it *Carduus pratensis*. There is a general consensus of opinion among the leading systematists up to-day to separate the Thistles into two genera. Bentham and Hooker in the *Genera Plantarum*, however, used for the plumed Thistle the name *Unicus* L. The *Vienna Actes*, following the majority of continental botanists, however (perhaps somewhat arbitrarily), reserved the name *Cirsium* which had been used by Lobel and by Tournefort in his *Institutiones*. This genus *Cirsium* was brought to the area of citation by Miller (*Abr. Gard. Dict.* 1754). He used for our meadow thistle the name *Cirsium anglicum* with a reference to Gerard. Unfortunately in this edition Miller had not consistently adopted the binomial system of nomenclature, so this binary is accidental, and is not valid for citation. We are therefore thrown back

upon Hudson's trivial, which in the interval he had established. This name, however, has a disadvantage. Lamarck and De Candolle (*Fl. Fr.* iv., 113, 1805) used the name *Cirsium pratense* for *C. monspessulanum*, or a form of it, but as *monspessulanus* has priority, the trivial *pratense* becomes available. *Cirsium pratense* is therefore to be adopted for the soft meadow thistle in preference to *C. anglicum* or *C. britannicum*. It was first recorded in Britain by Lobel (*Observationes* 315, 1576) as "*Cirsium anglicum* . . . provenit in pratis C. viri D. Nicolai Pointz equitis praefecturae Glostriensis in villa vernacule Acton nomine." This locality and his figure, which is also repeated by Johnson (*Gerard* 1183, 1634), show it to be the Soft Meadow Thistle. Johnson, however, made the mistake of thinking it to be the same as the northern species, afterwards called *Carduus heterophyllus* by Linnaeus, since he gives the locality and figure from Clusius (*Stirp. Pannon. Hist.* 655, 1583) from Ingleborough where it still grows, and which had been supplied by C. V. Thomas Pennaeus, a doctor of medicine in London. Clusius called it *C. britannicum*. This name was adopted by Scopoli (*Iter Tirolense* 1769), with a reference to "Clusius II." and "Haller 21," which belong not to our Soft Meadow Thistle, but to *C. heterophyllum*. Therefore *Cirsium britannicum* Scop. gives way to *C. heterophyllum* Hill. Since each of the Thistles under discussion has considerable leaf variation, some of the confusion between them may have arisen from that cause. *C. heterophyllum*, normally lacinate, occurs sometimes with sub-entire leaves, and *C. pratense*, with usually sub-entire leaves, has a variation which Lejeune and Courtois (*Comp. Fl. Belg.*) allude to under *Cirsium anglicum* as "foliis dissectis," which some Flemish botanists mistook for the true *C. dissectus* L. In Britain similar mistakes have been made, but more frequently the cut-leaved form of *C. pratense* has been taken for a hybrid with *palustre*, and the name *Pseudo-Forsteri* was applied. (See *Rep. B.E.C.* 10, 1866.) Being unable to find its description, therefore, in *Fl. Berks.* 302, 1897, I named it sub-var. *polycephalus*, a not very happy name, since it is not always many-headed. Normally it is a branching plant with more or less cut leaves and is not uncommon in Ireland. The trivial *polycephalum* is used by Cosson and Germ. *Fl. Env. Par.* 385, 1845, under *Cirsium anglicum* = *Cirsium pratense* (Huds.) Druce, var. *polycephalum* (Coss. and Germ.) Druce, characterised by its sinuate or sub-pinnatifid leaves, and the stem usually branching. The leaves of

first year's growth are usually entire. The hybrid of *C. pra-*
x palustre is \times *C. Forsteri* Wats.

153 (2). *CENTAUREA AXILLARIS* Willd. Sp. Pl. iii., 2290. Alien,
Ireland. S. Lincoln, 1896, F. A. LEES.

159 (3). *CENTAUREA SPINOSA* L. Alien, Crete, Orient. N.
Ireland, G. C. DRUCE.

170 (2). *CENTAUREA DURIAEI* Rouy Fl. de Fr. ix., 176, 1905.
Tricholochus Duriaei Spach in Ann. Sc. Nat. ser. 3, iv., 166, 1845).
Ireland, Spain, Marocco. Lanel? Old Quarry, Sandal, York, 1888,
F. A. LEES in *Fl. W. Yorks.* 284, 1888. In France it is a wool-
alien. var. *tenella* (Spach) Thell. occurs in Tunis, Algeria, and Sicily.

179 (2). *SCOLYMUS GRANDIFLORUS* Desf. Fl. Atl. ii., 240. Alien,
Africa. Ballast heap, above North Sands, Hartlepool, Durham,
1883, F. A. LEES in *Rep. Bot. Rec. Club* 29, 1873.

Gen. 356 (2). *PTEROTHECA* Cass. in Bull. Soc. Phil. 200, 1816.
posensis M. Bieb. and Nymian).

1504 (10). *PTEROTHECA SANCTA* C. Koch in Linnaea xxiii., 692,
1850. *P. nemausensis* Cass. *l.c.* Alien, S. Europe. On coal ash
at Millbay Pier, S. Devon, 1875, T. R. A. BRIGGS in *Hb. Wats.*

Gen. 357 (2). *ANDRYALA* L.

1638 (20). *ANDRYALA INTEGRIFOLIA* L. *A. sinuata* L. Alien,
Europe. Clover-field, Fair Mile, Surrey, 1866, *Hb. Wats.*

1663 (10). *SCORZONERA HUMILIS* L. *Rep. B.E.C.* 202, 1915.
This plant has a continental distribution through Finland, Norway,
Sweden, Denmark, Belgium, W. France, Portugal, Spain, Switzerland,
Germany, Austria, N. Italy, etc., growing in " 'prairies' (Rouy),
'prairies humides' (Koch), 'pascoii subalp.' (Archangeli), 'prairies
humides ou marécageuses' (Crépin), 'prairies marécageuses, endroits
humides et decouvert des bois' (Bouvier, Suisse), 'prairies humides'
(Gosson), 'landes humides' (Brébisson)." To these habitats may be
added, damp sandy and marshy places near the coast where I gathered
it at La Touquet, near Boulogne, in 1912. This plant was first
discovered in 1914 by Mrs and Master Noel Sandwith in Dorsetshire,
and was described in our *Report, l.c.* 1915. Through the kindness of

the Headmaster of Clifton, Master Noel Sandwith was given leave to accompany Mrs Sandwith and myself in June 1916 to the place where they made this very interesting addition to the British Flora. We found it in great plenty growing in a very wet pasture among *Hydrocotyle*, *Ranunculus Flammula*, *Carex panicea*, *Carex echinata*, *Carex flava* var. *oedocarpa*, *Carex Goodenoughii*, *Molinia*, *Cirsium pratense*, *Potentilla palustris*, *Juncus articulatus*, *Juncus acutiflorus*, *Festuca rubra*, *Agrostis alba*, and *Sieglingia*, but with no adventitious species. The tract is only a little above sea-level, but is, I think, outside the inrush of tidal water, as no maritime plants were adjacent. Statements have been made that the land was at no distant time under cultivation. This portion, inhabited by *Scorzonera*, shows no evidence of recent disturbance, and the plant-association is one rather to negative its having been in agrestal use. Fortunately my enquiries resulted in having an interview with its former owner. He told me that about thirty years ago, when he was living in that area, he had a portion of the land ploughed, but the only crop he planted was Black Oats of English origin. The experiment was not successful, and the land was allowed to revert to rough pasture. He was not at all certain that the portion of the ground where *Scorzonera* now grows was actually brought under the plough. Judging by its present appearance it would not be a tempting piece of ground for such a purpose, even under the present wild schemes for agrestal extension. One may add that in the upper portion a few plants of *Trifolium procumbens* grew. These were absent from the lower and wetter portion. It seems to me more probable that the ploughing eradicated *Scorzonera* from the upper portion, than that it was a means of introducing it to the lower. When out of flower the plant might be easily passed over for *Plantago lanceolata*. I had not time to make a search over any great extent of similar country, but subsequently my friends were rewarded in finding it in an adjacent field. There seems to me no reason to reject this species from our list of natives. Its continental distribution on the contrary makes one wonder why it does not occur in many stations with us. The habitat in which it occurs is similar to those in which it grows in Europe. There it is variable and the plant of sub-alpine pastures may be distinct in a varietal or sub-specific sense. Its associates are like those which accompany it in France. It is neither a garden plant nor of economic interest. In Dorset it has a somewhat restricted distribution so far

s been yet ascertained, but now attention has been directed to matter we may expect to hear of it elsewhere. With our present ledge it need not yield the palm to *Lobelia urens* which it greatly numbers, despite the discovery of that plant in another county e, however, cultivation now threatens it. This year I have sent *zonera* for distribution to our members.

712. *HYPOPITYS MONOTROPA* Crantz. Dr Domin (Sitzungsberech. Bohm. Ges. Wiss. Prag. math. Nat. Klasse 1915, i. St. p. 1-111, 6) has under *Monotropa Hypopitys* var. *glabra* a sub-var. *atricha*, a plant totally without hairs; a sub-var. *piligera* "filamentis que et interdum quoque petalis hirsutiuseculis"; a nov. var. *villescens* Domin; and a var. *tomentosa* Velen.

1760 (2). *GENTIANA ACAULIS* L. "Occurring frequently in fine n grass, round by a small headland of Knoydart, up Loch Hourne, erness, near the point at which one lands to cross to Barriscale. oming between June and September, James Baird. Plant seems irectly established, though hardly native. The place is difficult of ession. (Of course it is possible that *G. Pneumonanthe* is referred to, I doubt this)," REGINALD FARRER, in *lit.* We have no positive idence of *G. Pneumonanthe* occurring in Scotland. Could the very ge solitary-flowered form of *Campanula rotundifolia*, the var. *zeiosa* More, have been mistaken for *acaulis*? This latter plant has en recorded erroneously for Britain, and the notice is appended:— Mr Townley, of Manchester, gathered this plant several times on ndhills near Liverpool, where he described it as growing in abund- ce, far apart from any cultivation. I have seen and possess some his specimens, which were brought in a living state to the late r Crozier." J. SIDEBOTHAM in *Phyt.* 71, 1848. "The improbability of e alleged fact appears to me sufficient to overbalance the testimony its support, and to render it more likely that the evidence is ffective through some error as to the species or its wildness. The ndhills near Liverpool have been very frequently scoured by otanical collectors during the last quarter or half century; and yet e do not find *Gentiana acaulis* mentioned in the *Flora of Liverpool* blished within these ten years. It is difficult to imagine so showy plant remaining unseen on a frequented track of land, which is overed only by a thin and short vegetation. And as three other

species of the genus—*campestris*, *Amarella*, and *Pneumonanthe*—have undoubtedly been collected there, it is likely enough that one of these three has been mistaken for *G. acaulis*." H. C. WATSON in *Phyt.* 84, 1848.

1779 (2). PHACELIA CONGESTA Hook. Bot. Mag. t. 3452. Alien, Texas, America. Between Apperley and Calverley, York, 1887, *Flora of West Yorks.* 793.

1781 (4). HELIOTROPIUM ANCHUSAEFOLIUM Poir. Enc. Suppl. iii., 23. *Tournefortia heliotropioides* Hook. Bot. Mag. t. 3096. Alien, Argentina. Perching Sands Farm, Fulking, W. Sussex, F. ROBINSON.

1792. SYMPHYTUM PEREGRINUM. *Über das "Prickly Comfrey" der Engländer.* In this article Dr Thellung holds that our Prickly Comfrey is a hybrid of *S. asperum* and *S. officinale* (with which Dr Cedric Bucknall agrees), but while the latter calls it *S. peregrinum* Ledeb., Dr Thellung states that the proper name is *S. uplandicum* Nyman Syll. Fl. Eur. 80, 1854, as asserted by Dr C. F. Lindman in *Bot. Notiser* 71-77, 1911. These authors say it is the *S. peregrinum* of Briggs in *Rep. B.E.C.* 17, 1877-8, and of *Bot. Mag.* t. 6466, 1879, but not of Ledebour, and is also the *S. caeruleum* Petit. See Thellung in *Verh. des Bot. Ver. der Prov. Brandenb.* lvii., 1915.

1807 (2). NONNEA ROSEA Link Enum. Hort. Berol. i., 167, forma VERSICOLOR. *Anchusa latifolia* Hort. Bot. Mag. t. 3477. Alien, Caucasus. Agrical. Cornfield, in considerable quantity, Church Stretton, Salop, July 1916, Misses COBBE, who have kindly sent a supply for the Exchange Club. In this form the flowers are red in bud, but turn a beautiful blue in flower. The plant is a diffuse hardy annual. Mrs Davenport sent it me from woods in that place ten years ago.

1833 c. CONVULVULUS ARVENSIS L., var. LINEARIFOLIUS Choisy in DC. Prod. ix., 406, 18. "Feuilles linéaires; fleurs ordinairement plus petites." In the sandy hollows of the bunkers on Frilford Golf Course, Berks., July 1916. The leaves were only about 5 mm. broad.

1843. CUSCUTA RACEMOSA Mart. Reise Bras. i., 286, var. b. CHILIANA Engelm. Alien. Waste ground, Colley Hill, Reigate, Surrey, 1900, C. E. SALMON.

1845. *SOLANUM DULCAMARA* L., var. *d. OVATUM* Dunal ap. DC. *Prod.* xiii., 1, 78. Leaves oval-oblong, undivided. By the Lavant, Manchester, 1916, Rev. Preb. BURDON and G. C. DRUCE.
- 1851 (5). *PHYSALIS FOETENS* Pour. Enc. Suppl. ii., 348. Alien, Mexico, Guadeloupe, Antigua. On waste ground at St. Philip's, Bristol, July 1916, Misses COBBE and G. C. DRUCE. Perhaps introduced with banana packages. It was there in some plenty and produced fruits.
- 1872 (3). *CALCEOLARIA MEXICANA* L. First recorded as *C. racilis* by J. C. Hudson in *Science Gossip* 19, 1868. In a barley field about half a mile from Bradford Abbas, Dorset, seeding and appearing again in 1871. Identified by J. Britten in *Journ. Bot.* 268, 872. Galashiels, Selkirk, 1915, Miss I. M. HAYWARD.
- 1882 (3). *LINARIA ORIGANIFOLIA* DC. *Fl. de Fr.* iii., 591, *Chaenorhinum origanifolium* Lange). Alien, France, Portugal, Spain. On a wall at West Malling, Kent, SHRIVELL in *Ill. Pharm. Soc.*, ante 1899. A pretty annual plant with glandular bluish-violet corolla.
1933. *EUPHRASIA BREVIPILO* × *LATIFOLIA*. Grassy cliffs, Melvich, Sutherland, E. S. MARSHALL in *Journ. Bot.* 170, 1916.
1934. *EUPHRASIA NEMOROSA*, var. *b. CILIATA* Drabble. See *Journ. Bot.* 75, 1916. "Foliis bracteisque, raro et calycibus ciliatis vel leviter hirsutis." Truro, etc., Cornwall; Potter's Crouch, Herts.; Leigh-on-Sea, Essex; Llandudno, Carnarvonshire; Monsall Dale, etc., Derby; Wallasey, Cheshire; Freshfield, Lancashire.
- 1934 (2). *EUPHRASIA CAMPESTRIS* Jord. *Pugill.* 131. Near Clevedon, Somerset, 1916, CEDRIC BUCKNALL. This, Dr Bucknall says, has the following characters:—"Stem with numerous branches, which are sometimes compound, internodes long. Leaves at base of principal branches longer than the bracts, spreading or deflexed. Spike fairly lax, the internodes visible nearly to the top. Bracts with lanceolate or subulate teeth. Corolla of moderate size. Glandular hairs short, straight, more or less numerous on bracts and calyx. Resembling *E. nemorosa* in habit, size of leaves and bracts, but differing in having glandular hairs." *E. racemis terminalibus modice*

elongatis foliosis, calicis pedunculati ad nervos pilis *glanduliferis* brevibus obsiti semi-quadrifidi lobis lineari-lanceolatis breviter acuminatis erectis, corollae (haud parvae) tubo calicem *fere superante*, labio superiore lilacino fasciis violaceis insignito extus inferne punctulis nigris notato bifido, lobis emarginatis reflexis, labio inferiore albido in medio flavo-maculato trifido, lobis porrectis profunde emarginatis, capsula calice paulo brevior folium fulcrantem *superante* oblonga inferne leviter augustata apice *subaequali* hispida *subtruncato-emarginata* mucrone brevi *subexserto* apiculata, foliis parvis saepe obscure virentibus patulis pube minuta saepe *glandulifera* adpersis oblongo-ovatis basi in petiolulum augustatis profunde dentatis, dentibus utrinque saepius 4 lanceolatis, foliorum superiorum breviter acuminatis, caule erecto flexuoso ramosissimo, ramis tenuibus *subarcuato-patulis* pube reversa *brevi* superne pilis *glanduliferis* intermixta obductis.

Hab. in siccis et ericetis, ad oras sylvarum, circa Lyon, ubi frequentem legi:—Fl. Sept. Oct.

Ab *E. officinali* L. differt florescentia seriore, racemis brevioribus, calice folium fulcrantem *superante* corollae tubum *subaequante*, capsula potius emarginata minus utrinque augustata, foliis minoribus haud late ovatis minus basi contractis, caule, proceriore, ramis magis patulis, pubescentia valde brevior. JORDAN, *l.c.*

1941. EUPHRASIA ROSTKOVIANA × SCOTTICA. Loch Mor, Betty Hill, E. S. MARSHALL, *l.c.*

1966. OROBANCHE MAJOR L., var. b. CITRINIS mihi. A specimen was gathered near Aldbourne, Wilts., by Miss Todd, of a pure yellow colour, the tint of *O. Ritro* var. *hypochaeroides* from Jersey, but the flowers are larger and the plant not so glandular. It is a smaller plant than *major*, which is abundant in the area. It requires further study, but provisionally I name it as above. G. C. DRUCE.

1988. MENTHA ROTUNDFOLIA × SPICATA. Above Pangbourne, Berks., probably of garden origin. Found by Col. F. J. SMITH, 1916. This has the odour and the habit of the spearmint, but the inflorescence is a little broader. The leaves are, however, very strongly veined, sub-glabrous above, shortly hairy below, and full of oil cells. They are broadly lanceolate and sharply toothed.

2010. SATUREIA GRANDIFLORA Scheele. This name must not be used for the Apse Down plant, the true *grandiflora* (*C. grandiflora* Benth) being alien in Britain. I have it, doubtless of garden origin, from Cliveden, Bucks., 1913, coll. by Mrs DRUMMOND.

2010 (2). SATUREIA MENTHAEFOLIA (Host Fl. Austr. ii., 129, 31, as *Calamintha*) is the correct name for the Isle of Wight plant, Mr C. C. Lacaïta shows. *Calamintha menthaefolia* Host = *C. sylvatica* Bromf. = *C. officinalis* Jord. It is strange that *C. menthaefolia* should have been so unreasonably misunderstood. Jordan (1846), Bentham (1848), and Grenier and Godron (1850) seem to have been the original sinners, and they have been repeatedly copied. Host distinguishes most clearly—pace Jordan, whose remarks on the subject (*Obs.* iv., 6, 1846) are quite unjustified—(1) *C. officinalis*, “pedunculis ciliaribus . . . brevissimis; foliis denticulatis,” with synonyms *Melissa calamintha* L., *Thymus Calamintha* Sm. and *E.B.* t. 1676, which, though not a good figure, is obviously, *ex locis*, intended for *C. ascendens*, not for *sylvatica*. (2) *C. menthaefolia*, “pedunculis folioribus, foliis serratis.” without synonymy. Briquet (*Lab. Alpes Mar.* 434, 1895) has reinstated Host’s *menthaefolia* in its proper place as synonymous with Bromfield’s *sylvatica*. This is the common woodland Calamint of south-western Italy, where it is very copious, occasionally occurring in individual plants with smaller corollas, when it must not be confounded with *C. ascendens*, as it keeps the serrate leaves and long inflorescence of its kind. C. C. LACAÏTA.

2011. SATUREIA CALAMINTHA Scheele is founded on *Melissa Calamintha* L., a compound species, including both *menthaefolia* and *ascendens*, but restricted by Scheele under *Satureia* to the plant named *Calamintha ascendens* Jord. In Britain it has been called *Calamintha montana* Lam., and wrongly *Calamintha menthaefolia* Moench.

2013. SATUREIA ACINOS Scheele. Mr C. C. Lacaïta has kindly looked over my set of *Acinos*. He writes as follows:—“The *Calamintha Acinos* interests me much. It is extraordinarily uniform, and is all var. *elliptica* Billot (see Briquet *Lab. Alp. Mar.* 457). I have nothing like this from the south [Italy], where it is all var. *lanceifolia* Murbeck, though possibly better called var. *acutata* Willk.” Scheele includes *Calamintha* in *Satureia*, and this plant is *S. Acinos* Scheele,

var. *ELLIPTICA* (Billot) comb. nov. The suggestion that in England we have two plants, that of the rocks and of cultivated ground, seems negated by Mr Lacaita's remarks. That the latter may have been derived from the former is possible. G. C. DRUCE.

2019 (2) *SALVIA SCLAREA* L. Alien, S. Europe. Hortal. Arniston, Dalkeith, Midlothian, EDMONSTON, circa 1840.

2023. *SALVIA PRATENSIS* L. When I gathered this species in Monmouthshire in 1908—it had been recorded for the county in *Journ. Bot.* 285, 1903—it was evident that two forms of it were present, as Mr Shoolbred points out in *Rep. B.E.C.* 365, 1915. In 1915, in the company of Messrs Shoolbred and Marshall, I once more gathered it in the same spot, taking roots. Grown on in the garden they show marked distinguishing characters. Mr Shoolbred, *l.c.* accurately distinguishes the flower colours. Roughly we may speak of dark and light blue forms. The former is apparently typical. The foliage characters, however, are also well marked. The dark-flowered plant, which in the garden bloomed (1916) several days ahead of the other, looks robuster in habit. It has leaves of a full green, broader (in proportion to their length) especially at the base; often so truncate below as to be triangular; coarsely crenate, sometimes lobed, occasionally deeply; plicate and strongly wrinkled above with prominent veins below. Mr Druce places it near *rostrata* Reichb. f. It was distributed in 1915. The light blue form has leaves of a rather yellowish green; narrower, lanceolate, usually with the broadest part some way above the base; much more finely crenate-serrate; more regular in outline, without lobes; not plicate, with smoother surface and less prominent veins below. I refrain from describing it under a name as a variety, as I only know of it from one locality; and, moreover, it is possibly already so described. If the root in my garden flourishes well enough, I hope to distribute this form in 1917. With regard to the size of the flowers, my specimens from Oxon and Monmouthshire, and one from E. Gloster exhibit the very large flowers which are familiar in this species. Other specimens, *e.g.*, from Surrey, distributed by Mr Marshall in 1910, have flowers considerably smaller, and less exerted from the calyx. The same thing occurs in a plant sent me from another place in E. Gloster. But smaller flowered still is a plant from a third locality in E. Gloster.

is last has certain points of difference, in calyx also, from both *pratensis* and *verbena*. Moreover, it grows in a meadow along with those species, and although it shows definite *pratensis* foliage, may nevertheless prove to be a hybrid between the two. H. J.

DELSDELL.

Salvia pratensis is an extremely common plant on the continent. It is rarely out of one's sight in the long journey from Trieste or Fiume to Calais, and naturally assumes many forms. Two described by Rouy (*Fl. de Fr.* xi., 326) were alluded to in our last *Report* (p. 365), but for the benefit of those members who may not possess a key that work the six varieties into which Rouy divides it are here given:—

Var. *c.* *ROSTRATA* Reichb. f. *l.c.* *Fl. Germ. et Helv.* xviii., 29, t. 252, f. 3, em. Rouy. Flowers large, hermaphrodite, exceeding the calyx by 12-20 mm.; leaves crenate, or incise-lobed, not pinnatifid, the limb broadly oval-triangular, cordate, with open sinus, regularly arranged upon the stem. Reichb. *l.c.* merely says "foliis pinnat. dentatis" and the leaf only is figured.

Var. *APRICA* Rouy. Flowers of *rostrata*: leaves very rugose, all radical in a large basal rosette, sometimes with a pair of leaves on the upper part of the stem.

Var. *VULGARIS* Reichb. *l.c.* Basal leaves oval or elliptic-oblong, cordate, but with a narrow sinus, more or less crenate, not pinnatifid; calyx small (5-6 mm. long whilst flowering), corolla hermaphrodite, projecting 12-15 mm.

Var. *b.* *MODESTA* Briq. *Lab.* 529. Flowers of *vulgaris*; basal leaves elongated, narrowly oblong, more or less truncate or attenuated at the base. The Griston, Norfolk, plant (*Rep. B.E.C.* 365, 1915) of Mr F. Robinson's, I think, belongs here. The flowers are smaller and of a duller and darker blue.

Var. *PARVIFLORA* Lec. and Lam. *Cat.* 296. Female plant small-flowered. Flowers 12-15 mm. long, the stamens included or sub-atrophied; style longly exerted. Rather a biologic state than a variety, since the leaves are sometimes of one variety, sometimes of another.

Var. *NICAEENSIS* Briq. *l.c.* 528. Leaves of *vulgaris*; calyces large, membranous, with very prominent nerves, 7-9 mm. long whilst flowering; corolla hermaphrodite, projecting about 2 cm.

2102 (11). *PARONYCHIA POLYGONIFOLIA* DC. Fl. de Fr. iii., 403. Alien, S. Europe. Gala, Selkirk, A. BROTHERSTON in *Berwick Proc.* 136, 1873.

2122. *CHENOPODIUM MURALE* L., var. *MICROPHYLLUM* (Coss. and Germ. Fl. Env. Paris 452, 1845, as sub-var.) Gürke Pl. Eur. ii., 132, 1897. Trent Meadows, Nottingham, A. R. HORWOOD. See *Rep. B.E.C.* 367, 1915.

2213 (2). *ARISTOLOCHIA ROTUNDA* L. Alien, S. Europe. On the N. Downs, near Shoreham, West Kent, in a thicket. One well-grown plant, for two or three seasons, about 1901. C. E. BRITTON, in *lit.*

2227 ×. *EUPHORBIA AMYGDALOIDES* × *PILOSA* = × *E. TURNERI*. In the classic locality, near Prior Park, Bath, for *E. pilosa*, grows also a quantity of *E. Amygdaloides*, but *pilosa* has nearly or quite disappeared. When I first saw it there many years ago I found *E. Amygdaloides* with hairy capsules and more hairy leaves than usual. This still continues, although I was unable to find *pilosa* with it this year. There is little doubt that this hairy-capsuled form is a natural hybrid as above stated. *E. pilosa* seems reduced to a single plant which still occurs in the vicinity. The hybrid may be defined as having "capsula pubescentia." The hybrid name is given in honour of the father of British Botany, once Dean of Wells. G. C. DRUCE.

2236. *EUPHORBIA EXIGUA* L., forma *CONDENSATA* mihi. On the south-western cliffs of Berry Head, S. Devon, in full exposure. This differs from the type in being about 8 cm. in height, by having the narrow linear leaves, 7 mm. long by 1-1.2 mm. broad, closely appressed to the stem, and the inflorescence crowded into a head. The fruit and seeds are normal. The presence of it on these cliffs might be held to be a certain proof of its indigeneity. However, near it was a clump of the cut-petalled garden form of *Papaver somniferum*. Perhaps the round seeds of each had been blown over the cliffs, where finding small competition they easily established themselves. G. C. DRUCE.

[2338 (2). *HABENARIA ODORATISSIMA* (L.). *Gymnadenia odoratissima* Rich. in Mem. Mus. Paris iv., 57, 1817. *Orchis odoratissima* L. European distribution : Sweden, Luxemburg, Germany, Switzer-

nd, N. Italy, Austria-Hungary, Rumania, and Russia. Mr J. W. eslop Harrison tells me he found a single specimen on the Magnesian mestone in E. Durham. He is positive as to its identity. Pending rther material being found this record is bracketed. It differs from *Gymnadenia (conopsea)* by its linear leaves, and the very slender, ense, short inflorescence. The middle lobe of the lip is broad and ominent, and the spur pendant and rather short, about as long as e ovary. The flowers are much smaller and are strongly vanilla cented. This was first recorded as British by Mr W. Pamplin in the *Jag. of Nat. Hist.* ix. 475, 1836, between Juniper Hill and Box Hill, urrey, on June 28, 1833. But it was not 'taken up' by Brewer or eeby. Corroboration is highly desirable.]

2361 (2). *SISYRINCHIUM CHILENSE* Hook. in *Bot. Mag.* t. 2786. Alien, Chilean coast. A half-hardy species introduced into cultivation about 1826. Now naturalised in New Zealand. Ware gravel pits, 1916, Mrs KNOWLING and Miss M. DRUMMOND, vide sp.

2388. *CONVALLARIA MAJALIS* L., forma *ROSEA*. Corolla stained with dull red or crimson at bottom. Quantocks, Somerset, F. J. HANBURY and F. STRATTON. See *Journ. Bot.* 211, 1916; Farley Wood, Winchester, Townsend's *Flora of Hampshire* 431.

2411 (3). *SCILLA ITALICA* L. Alien, Europe. N. Lincoln, 1896.

2489. *POTAMOGETON VENUSTUS* Baagoe in *Compt. Rend. Congr. Bot. Paris* 517, 1900. *P. crispus* × *alpinus* A. and G. *Syn. ed.* 2, 515, 1913; and in *Pflanzen* iv., ii., 1907. In the Earn, near Dunning, Mid Perth, W. BARCLAY, who distributed specimens last year. See *Rep. B.E.C.* 376, 1916. Mr Arthur Bennett, under the above names, gives an account of it in *Proc. Perth. Soc. N.S.* vi., pt. iii., 10, 1916. Mr Barclay showed me the plant *in situ* in August last. Its hybrid origin seemed evident. It had the colouring of *alpinus*, and the leaf-margins of *crispus* were quite distinct.

2502. *POTAMOGETON PERFOLIATUS* L., var. *OVALIFOLIUS* Wallr., teste A. Bennett. King's Weir, Oxford, G. C. DRUCE. See *Rep. B.E.C.* 376, 1915.

2617 e. *CAREX PANICULATA* L., var. *PSEUDO-PARADOXA* (S. Gibson in *Phyt.* i., 778, 1843, as a species) Asch. and Graeb.

Syn. ii., 2, 46, 1902. See C. E. Salmon in *Journ. Bot.* 14, 1916. This was first recorded from near Manchester [Seaman's Moss Pits, Cheshire] as one of the "two varieties of *C. teretiuscula*, this having the fruit [nut] of *C. paniculata*." *Phyt.* 366, 1842. In the same publication (778, 1843), Mr Gibson published it as a species. "*C. pseudo-paradoxa*. Spikes paniced, branches approximate; perigynium oval, gibbous, acuminate into a serrulate bidentate beak, more or less plano-convex, with seven nerves on the convex side (three very slender in the middle and two strong ones on each side of them), the outer nerves, or those nearest the margin, being very short; nut rhomboidal, narrowing from below the middle; style enlarged at the base; stem three-angled, angles rough on the upper part; leaves narrow, rough on their edges." He says it grows plentifully by Malham Tarn. In a long note (*l.c.* 1038-1044) Gibson replies to his acrid critics of the plant in question and says that when mature "it differs from *teretiuscula* in its nut being narrowed from below the middle, and in the perigynium being broader and truncate at the base; it also differs from that plant in its stem having three acute angles, with their interstices flat. From *paniculata* it differs in the perigynium being differently ribbed and less distinctly bifid at the point, and in having narrower leaves. From *C. paradoxa* it will be found to differ in the perigynium being less distinctly ribbed on its inner side, and also in the form of the stem. And from all the other three it differs in its mode of inflorescence." Mr C. E. Salmon (*l.c.* 17) describes it as "whole plant more delicate and graceful, not forming immense tussocks; stems $3\frac{1}{2}$ - $5\frac{1}{2}$ dcm. high; leaves narrower, $2\frac{1}{2}$ - $3\frac{1}{2}$ mm. broad; inflorescence simulating that of *C. teretiuscula* [i.e. *diandra*] or with short erect branches as in *paradoxa*." Found by C. E. Salmon and E. G. Baker at Restennet, Forfar, in 1912. In 1899 I found similar plants there and in the adjacent marsh at Rescobie, which I thought might be *diandra* \times *paniculata*. I submitted them to Pfarrer Kükenthal, who named them *C. paniculata*, var. *simplicior* Anderson Pl. Scand. 67, 1849, where it is described "spica angusta, spiculis parum decompositis, pedunculis arrectis." There is an earlier name var. *simplex* Petermann, which is used in the *List*; but S. F. Gray used the same name for a slender starved form of *paniculata*, "panicle simple, lower spikelets distant," *Nat. Arr. Br. Pl.* ii., 46, 1821, which does not fit Gibson's plant. However, Anderson's varietal name is earlier than that of Ascherson & Graebner.

2669 (6). *STIPA SETIGERA* Presl Reliq. Haenke i., 226, 1830. *intricata* Godr. Fl. Juvenal in Mem. Acad. Mont. sect. med. i., 49, 1853. *S. Neesiana* Trin. & Rupr. in Mem. Acad. Peters. ser. 6, 27, 1842. Alien, S. America, Uruguay, Argentina. First noticed in Europe at Port Juvenal, S. France. Introduced with wool in 1853, and abundant near the wool-washing at Montplaisir in 1877, and at Médaricus in 1904. Also adventive at Berlin, Anhalt. (See Thellung *l. Adv. Montp.* 94). Found by Mr RAKE on a rubbish heap near the destructor at Mortlake, Surrey (see *Observer*, October 1916). What is probably the same plant (teste Dr Thellung) was gathered in 1915, at Selkirk, by Miss I. M. HAYWARD.

2717. *AVENA FATUA* × *SATIVA*. Drayton, Middlesex; Slough, Bucks., 1909, teste E. Hackel. This interesting hybrid has the Black Oat as one of its parents, the Wild Oat as the other. One of the glumes only is awned, and there are a few hairs at the base of the dark coloured lower glume. It is probably the *A. intermedia* Lind. G. C. DRUCE.

Gen. 687 (2). *SCHISMUS* Beauv. Agrost. 73, t. 15, f. 4, 1812.

2757 (10). *SCHISMUS CALYCINUS* (L.) Coss. in Bull. Soc. Bot. Fr. iv., 399, 1857. (*S. marginatus* Beauv., *l.c.*). Alien, S. Europe, Central Asia, N Africa. Levenhall, Midlothian, 1916, J. FRASER, *vide sp.* I have only gathered it on the site of the Roman City, Tingad, N. Africa.

2760. *POA PALUSTRIS* L., var. *d. MURALIS* Aschers. Canal bank, Litterland, S. Lancs., J. A. WHELDON and W. G. TRAVIS. See *Rep. B.E.C.* 386, 1915. Plant slender, leaves narrow, panicle small, ellipsoid, contracted.

2775. *GLYCERIA FESTUCIFORMIS* Heyn. In *Rep. B.E.C.* ii., 482, 1901, I drew attention to the fact that the Irish plant found by Mr R. Ll. Praeger, was not identical with the Adriatic species, and I suggested that it should be called var. *hibernica*. Recently I have collected a series in W. Sussex which very closely approximates to this plant. Indeed Dr Stapf, who has kindly examined my series of British and Irish specimens, considers they all belong to *G. maritima*, not to *festuciformis*, and that my Sussex specimens are the same as the Irish plant. Dr Rendle thought the Irish plant was nearest to

festuciformis, and that also was Hackel's view. The true *festuciformis* is very critical. It seems to be represented in exsiccata by two or three very different plants. The descriptions of authors are also divergent. Certain characters which Rouy lays stress on are also possessed by forms of *maritima*, itself most polymorphic. Its range of variation is illuminative of the influence of soil and conditions of growth and throws a side-light upon the forms of *Salicornia* which are subject to the same influences.

2776. GLYCERIA MARITIMA Wahl., sub-var. AMETHYSTINA Meyer Chlor. Hannov. 629, as var. Florets dark violet. Chichester Harbour, Sussex, 1916, G. C. DRUCE.

2778. GLYCERIA PROCUMBENS Duin. To change a well-known name of a plant is never popular with botanists, and if a trivial for upwards of a century has been universally adopted, only the strongest and most unmistakable evidence would justify a change. Since 1795 *Poa procumbens* Curtis has afforded such a trivial, which has been in use throughout the world. Unfortunately we cannot absolutely fix the date of the publication of the plate 11 in the 6th Fasc. of Curtis' *Flora Londinensis*, where it first appeared, but we have very strong presumptive evidence that it was before the end of 1795, possibly at the end of 1794. Curtis found it on the edge of the river, near St Vincent's Rocks, in August 1793. He took home the root, planted it, and sowed seeds. The next season, 1794, it flowered, and he was convinced it was a new species. Not satisfied with having only a single specimen, he says "We delayed publishing this account, hoping that it might be found more abundantly elsewhere" [?1794]. Sir Thomas Frankland sent him from Bristol on the 7th of August [?1794] fresh specimens from "waste ground west of the wet dock, below Clifton." This confirmation of his discovery doubtless induced him to publish this new species at once. Withering (*Nat. Arr. Brit. Pl.* 146, t. 26, 1796) described it as *Poa rupestris* (it is not a rock plant), from the same locality, gathered by Mr Milne, "who observed to me that Mr Curtis first found it there." He quotes, moreover, Sir Thomas Frankland's having also found it there, and also on the new pier at Scarborough, both these localities being published by Curtis from Frankland's letter of August 7th. Although Withering does not quote Curtis' plate, yet there seems a presumption that he must

we seen the letterpress, unless Frankland also wrote to him respecting it. There is at least one plate in Curtis' 6th Fasc. which was published after 1796, for instance *Lobelia urens*, which was sent to Curtis in 1796 by Lord Webb Seymour, as Curtis says "two years ago." But 31 of the 78 plants are cited by Sibthorp in *Fl. Oxon* 1794. Plates 8 and 9 were published in 1791 and No. 13 before 1794, *Poa procumbens* being No. 11. This is not conclusive, since the plates were not issued consecutively, and the binder had directions to sort them into proper sequence according to the Index, an instruction which unfortunately he obeyed too well. For the last ten years I have examined every copy I could lay my hands on in the hope of finding one in the original sequence, but not even the copy at Longleat gave one what one wished. Nor have the other 25 copies given any satisfaction. Withering not citing Curtis is no proof that *P. procumbens* was not already issued, any more than Withering's name is not cited by Curtis. The two works were in preparation at the same time. Those who wish to replace a good name by a bad one have overlooked the contemporary evidence. In 1799 Sowerby produced the plate, t. 532, of *Poa procumbens* for *English Botany*. Is it at all likely that Smith, in whose memory the publication of both works was quite fresh, and who had no great liking for Curtis, should go out of his way to publish a later instead of an earlier name, well knowing that such a proceeding would lay him open to censure? His choice of *Poa procumbens* was never challenged by Withering, and in 1799 in the *Flora Britannica*, in 1800 in his *Compendium*, he still retained Curtis' name, as in the *English Flora* of 1824, when he put it in the genus *Glyceria*. Prior to this both Knapp (*Brit. Grasses*) and Sir W. Hooker (*Flora Scotica*, 1821) used the same trivial. In 1828 Gray, under *Sclerochloa* called it *procumbens*, and he cites Withering's *rupestris* as a synonym. Surely such a conspiracy of injustice to Withering could not have prevailed had there been a shadow of doubt as to the first user of the name. Again, Withering was a friend and a frequent guest of the Countess of Aylesford at Packington, yet her painting of this grass, sent her by Dickson, made in 1802, is named *P. procumbens*. Recently, through the kindness of its present owner, the Earl of Dartmouth, I have had an opportunity of examining it. Again there is no question here of ambiguity. Contemporaneous botanists were fully cognisant that *Poa procumbens* and *P. rupestris* were one and the same species. They deliberately

chose one, and rejected the other, having the circumstances of the case clearly before them, and no protest is to be found by Withering or his friends, as they doubtless considered he had been properly forestalled in its description by its discoverer. Clarke (*First Records*, 182) gives the date of Curtis', *circa* 1794, and ignores Withering. Dr Daydon Jackson, than whom no one can speak with more authority, puts the date of the publication as 1795, that is prior to Withering's publication in 1796, and with that we may safely leave it. *Rupestris* as a trivial must not replace *procumbens*. Recently continental botanists have adopted the name *Atropis*, itself antedated by *Puccianella* for the section of *Glyceria* containing the above species. Probably both will be found to be invalid.

2807. *BROMUS COMMUTATUS* Schrad., var. *APRICORUM* Sim. Teste W. B. Turrill. Wolvercote, Oxon, 1915, G. C. DRUCE.

Gen. 712 (2). *LEPTOLEPIA* Metten. Kuhn. Chaet. 348, 1882. (*DAVALLIA* Sm.)

2888 (2). *LEPTOLEPIA NOVAE-ZEYLANDIAE* (Col. Tasm. Journ. ii., 182, 1844) Kuhn. *l.c.* Alien, New Zealand. On lower stone-work, bridge over the Swale, near Thirsk, York, 1874, F. ADDISON in *Journ. Bot.* 78, 1875.

2932 (2). *SELAGINELLA KRAUSSIANA* A. Br. in *Ind. Sem. Hort. Berol.* 22, 1859. *Lycopodium denticulatum* Hort. Alien, S. Africa, Azores, Madeira (? Sicily). Introduced in 1878, and frequently grown in greenhouses. This was shown me last June by the Duke of Richmond and Mr Brock, growing in a grassy hollow of Goodwood Park, Sussex, where it had been known for some time. Doubtless some clearings from the conservatory had been thrown there, but it is somewhat remarkable that this plant should survive our English winter.

RECENT PUBLICATIONS.

ILLUSTRATIONS OF THE BRITISH FLORA. A series of Wood Engravings with Dissections of British Plants, drawn by W. H. Fitch, F.L.S., with additions by W. G. SMITH, F.L.S., forming an illustrated companion to Bentham's Handbook of the British Flora. Fourth

vised edition, pp. xvi., 338, 1916; 9s net. L. Reeve & Co., London. These small but very pleasing and vivid figures by Fitch, with which botanists were well acquainted, have now been printed on paper which will take water-colours, so that the increasing number of "Benthamites" may with advantage secure a copy of this very clearly printed edition for the purpose of painting in a reminiscence of their discoveries. The work is rendered more useful by the addition of a few synonyms and by a letter, denoting the main colour of the flower. A terse but useful guide to the Natural Orders has been inserted. The only regrets that the Handbook itself, which has so many valuable points, is not brought up to date. Its omission of important species is often a pitfall to the beginner. As it is, we are grateful for this instalment, which we are confident will have a large sale.

SOME ALIEN PLANTS OF THE MERSEY PROVINCE. J. A. WHELTON, F.L.S. Reprinted from the *Lancashire and Cheshire Naturalist*, September 1914. In this tersely written account Mr Wheldon has very clearly given the salient features of the numerous adventitious plants of the area mentioned, as well as much valuable information about them. Quite a large number of those recorded as having been found in Britain are passed under review. Up to the present time we have had nothing of the kind so useful. *Poa palustris*, an increasingly frequent alien, occurs in the area mentioned, and also its varieties *effusa* and *muralis*. *Apera interrupta* has also appeared both there and in Yorkshire.

THE FLORA OF THE BAGSHOT DISTRICT, H. WOLLASTON MONCKTON, Treasurer of the Linnean Society, London, pp. 32, 1916, is curiously unsatisfactory, considering the eminence of its compiler as a geologist, inasmuch as it contains nothing like a complete account of the plants already recorded for that area in the *Flora of Berkshire*. The recent Surrey and Hampshire records have not been examined to see if it is equally imperfect with regard to them. Many Berkshire species are omitted, and numerous records of localities are cited without acknowledgment. Indeed, the *Flora* is more usually cited when the author has been unable to find a species. That the search has not been minute is shown by the failure to find *Trifolium filiforme*, *Carex pilulifera*, or *Leontodon nudicaule*, all of which occurred, and doubtless still occur, within a short radius of Wellington College.

Among other omissions which leap to the eye are *Rosa Eglanteria*, *R. obtusifolia*, *Potamogeton alpinus*, *Carex vesicaria*, *C. elongata*, *C. hirta*, and *Agropyrum caninum*. On the other side, there are a few plants given which are new to the *Flora*. *Hieracium surrejanum*, *H. grandidens*, *H. scanicum* (the last two having been described since the *Flora* was written; the Rev. A. Ley named a specimen from the locality of the last species, *H. cacuminatum*; do both occur?), and *Helleborine atrorubens* from Sandhurst. One would like to see a specimen of the latter, as *H. media* has occurred there, a locality more suited for it, since *atrorubens* grows usually on calcareous, not acid soil. Another critical plant is recorded which might well occur — *Deschampsia setacea*—which grows at Fleet Pond, not far distant, in Hampshire, but it eluded my search in the Berkshire locality given. Failing the production of specimens, it will be safer to hold these records over. *Phegopteris Dryopteris* is also included, but in answer to my enquiry Mr Monckton kindly tells me he was misinformed. Some records attributed to me belong to others; for instance, *Samolus* from Cæsar's Camp. This was found there by Miss de la Motte eighty years ago, and it is probably extinct. In other ways the citation of authorities leaves much to be desired. The two pages on the Geology of the area are very useful. This country is so fascinating that a complete and accurate list of its plants, with their published localities, their source and date, and the correlation of their occurrence with soil-conditions would be most acceptable. Persevering search by a resident ought to result in several additions being made to the flora as already ascertained.

THE EXCURSION TO SUNNINGDALE, SURREY. *Proc. Geol. Assoc.* xxvii. (2) 110, p. 114, 1916. Contains a pleasing description of the Geology of that district.

ANNALS OF BOTANY, vol. xxx., 1916. An able and appreciative memoir (pp. 1-24, with portrait) of that talented botanist, David Thomas Gwynne-Vaughan, supplied by Dr Dukinfield H. Scott, contains much of general interest, since it includes short descriptive incidents of Gwynne-Vaughan's journeys in South America and Siam. He was born at Llandovery, March 12, 1871, and his premature death from tuberculosis took place on September 4, 1915. In 1894 he published his discovery of *Arabis stricta* on an ancient camp near

andrindod, Radnor (see *Science Gossip* 1894). The Evolution of species in Ceylon. J. C. Willis, M.A., D.Sc. Contests the statements, based largely on Wallace's *Island Life*, that endemic species are local species developed in response to local needs or conditions. He considers they are of more recent age. He does not believe that any angiospermous species in Ceylon is dying out at the present time. Morphology and anatomy of the genus *Statice* as represented at Blakeney Point, by E. de Fraigne, p. 239, states that Blakeney yields all the British species except *S. Dodartii* (Gri.) [sic]. Photographs of the dwarf and broad-leaved forms of *S. binervosa* are given, the latter, it is suggested, is a hybrid of *S. binervosa* and *S. bellidifolia reticulata*). The Distribution of Species in New Zealand, J. C. Willis, proposes to substitute age for natural selection as the chief agent in determining the area occupied by any given species, and holds that New Zealand and Ceylon support his contention. Variations in *Anemone nemorosa*, E. J. Salisbury, D.Sc., describes two new varieties of the Wood Anemone from Hertfordshire. See p. 397. On Endemism and the Mutation Theory, H. N. Ridley, F.R.S., combats the views of Mr Willis and states that endemic species are nearly all the relics of an old flora rapidly disappearing, and that in most cases they cannot be evolutions of a later date, as there is nothing in the land from which they can have evolved, and therefore they must be the oldest, not the youngest part, of the flora. Alfred Stanley Marsh, born February 1, 1892, killed by a German sniper, January 5, 1913. Memoir by R. H. Compton.

JOURNAL OF BOTANY. Among the papers of interest to British botanists are:—Notes on *Sorbus*, Rev. E. S. Marshall, p. 10. Dr Hedlund's paper, from which his remarks are quoted, gives as British *S. arranensis* Hedl. (which he thinks was conveyed by birds to Arran from Norway), *S. minima* (Ley) Hedl., *S. Aria* × *torminalis*, *S. minima* × *latifolia*, from a station not known to yield *minima*, *S. salicifolia* × *torminalis*, and *S. incisa* (Reichb.). *Carex pseudo-paradoxa* S. Gibson in *Phyt.* i., 778, 1843, and i., 7, 178, 1844 (*C. paniculata* var. *pseudo-paradoxa* A. & G.), C. E. Salmon, p. 15, suggests that the Sedge which evoked so acrid a discussion in the *Phytologist*, and which was named a species by Gibson, is a variety of *C. paniculata*. Messrs Salmon and E. G. Baker found it at Restennet in 1912. This is the plant I found there in 1899, and which, on the

authority of Pfarrer Kükenthal, I recorded as *C. paniculata* var. *simplicior* And. in *Ann. Scot. Nat. Hist.* 106, 1901, the var. *simplex* Peterm., a name which precedes Gibson's. East Wiltshire Mosses, C. P. Hurst, p. 17. New British Plant Galls, E. W. Swanton, p. 24. Dialysis of the Corolla in *Convolvulus arvensis*, G. S. Boulger, p. 37. Botany of Antigua, L. R. Wheeler, p. 41. Note on *Rubus fruticosus* L., by R. A. Rolfe, p. 54, suggests using this name for *R. rusticanus* Merc. Plants of Salisbury's Prodrum, J. Britten, p. 57, includes a new combination under a proscribed name. *Spergularia* is conserved by the Actes. *Nepeta Glechoma* forma *parviflora* in Hereford, E. Armitage, p. 65. *Juncus tenuis*, Lilliput Common, Dorset, C. B. Greene p. 65 (see *Rep. B.E.C.* 75, 1914). *Euphrasia nemorosa* and *E. curta*, E. Drabble, p. 73. A New Hybrid Willow-Herb, *Epilobium hirsutum* × *palustre* = × *E. Waterfallii*, Rev. E. S. Marshall, p. 75 (see *Rep. B.E.C.* 198, 1915). Bibliographical Notes on Lord Bute and John Miller, J. Britten, p. 84. *Juncus tenuis* in Carnarvonshire, near Capel Curig, A. H. Wolley-Dod, p. 88. *Phleum alpinum* in England, H. S. Thompson, p. 88, already recorded in *Rep. B.E.C.* 397, 1913. Somerset Plant Notes for 1915, E. S. Marshall, p. 97, adds *Eriophorum gracile* to the County. Note on *Puccinellia* Parl. by the Editor, p. 108. Surrey Plants, including *Azolla filiculoides*, at Lower Morden, C. E. Britton, p. 112. *Crocus vernus* in the Isle of Wight, near Freshwater, F. Stratton, p. 114. *Epilobium palustre* × *tetragonum* and *E. hirsutum* × *palustre*, near the Dungeness Light-house, Kent, R. H. Compton, p. 114. Notes on the Flora of Derbyshire, E. & H. Drabble, p. 133, confirms *Habenaria bifolia* for the County (see *Top. Bot.* 391). William Peete and his Herbarium, S. H. Bickham, p. 139. Notes on some Devon Plants, Rev. E. S. Marshall, p. 140. *Carex rariflora* on Ben Lawers, L. Cumming, p. 145. Index to Curtis's "Flora Londinensis," B. Daydon Jackson, p. 153. Notes on Plants from Skye, C. E. Salmon, p. 165, includes a reference to an interesting *Statice* which Dr Clement Reid thought might be *sibirica*. *Epipactis ovalis*, from the limestone pavement of Ben Suardal, and a useful note on *Eleocharis uniglumis* are also given. Plants of West Sutherland and Caithness, Rev. E. S. Marshall, p. 169, includes two new *Euphrasia* hybrids, *E. Rostkoviana* × *scottica* and *E. brevipila* × *latifolia*. *Hydrilla verticillata* in Britain, G. C. Druce, p. 172. An Overlooked Irish Botanist,

Andrew Caldwell, J. Britten, p. 173. *Potomageton Drucei*, pp. 37, 180. *Rubus fruticosus*, p. 181. The Rev. H. J. Riddelsdell shows that this name cannot be used in the sense of *R. rusticanus*. Study of *Barbarea vulgaris*, A. B. Jackson, p. 202, includes a new var. Thomas Wainwright, W. P. Hiern, p. 208. An Overlooked British Mint, James Britten, p. 224. Isle of Wight Plants, includes erroneous record of *Stachys germanica*, F. Stratton, p. 232. Hertfordshire Poplars, J. E. Little, p. 233. Henry Andrews and the Botanists' Repository, a valuable paper on the dates and text of a work by J. Britten, p. 236-246. *Carex basilaris*, H. S. Thompson, p. 246. This was gathered by me as a new record for Catalonia on Mont d'Oiseaux, Hyères (for which department *C. basilaris* is already recorded) was at first thought to be *basilaris*. It was subsequently named *C. Halleriana*. Both my Spanish and French plants are in the Fielding Herbarium, Oxford, to which my continental specimens are given. *Helleborine viridiflora* in Anglesey, W. G. Travis, p. 277. *Viola montana* L., A. J. Wilmott, p. 257. County Lists of Mosses for Berks., Wilts., &c., C. P. Hurst., p. 262. The Word Herbarium, J. Britten, p. 274. The Vegetation of Harptree Combe, H. S. Thompson, p. 295. John Fleming, J. Britten, p. 301. *Potomageton alpinus* × *lucens*, Bindon Mill-dam, near Wool, and the River Frome, above Wareham, Dorset, found by Mr Green, G. Bennett, p. 306. Wm. Sherard's Jersey Plants, G. C. Druce, p. 335. On the Name *Lamprothamnus*, J. Groves, suggests that our plant should be named *Lamprothamnium papulosum* (Wallr.) Groves, p. 336. *Aquilegia alpina* in Scotland, R. H. Corstorphine, p. 337. *Matricaria suaveolens* in Essex, Salop, and Wicklow, J. Britten, p. 338. William Anderson (1778) and the Plants of Cook's Third Voyage, J. Britten, p. 345. *Sieglingia decumbens* in Lincolnshire, E. A. Woodruffe-Peacock, p. 359. Isle of Wight Plants, F. Stratton, p. 371. Supplement. Flora of Seychelles and Aldabra, W. Botting Hemsley, LL.D., F.R.S.

THE NEW PHYTOLOGIST FOR 1916 contains, among other papers, the Vegetable Anatomy of *Molinia caerulea*, by Rev. T. A. Jeffries, F.L.S., pp. 49-71.

BRITISH WILD FLOWERS: THEIR HAUNTS AND ASSOCIATIONS. 8vo., pp. x. 320, with 50 plates illustrating over a hundred species.

WILLIAM GRAVESON. Headley Bros., Kingsway, London (n.d. ? 1917); 7/6 net. With a pleasing cover, well printed, and freely and tastefully illustrated, this work by one of our members comes in an attractive guise. Nor is it only the outer appearance that is satisfactory, for the literary matter is equally deserving praise, arranged as it is in chapters beginning with the harbingers of Spring—would there were a spring to welcome them—and then carrying the reader along the various months all too speedily through the haunts of the flowers till he finds himself among the autumn berries. Under each heading is a great amount of useful and accurate notes, full of well-assorted information, which has been judiciously culled from many sources and placed before the reader in a pleasing style. Treating of Weeds and Wayside Flowers, Mr Graveson tells of some experiments made by Mr W. C. Collinge, M.Sc., in the Journal of the Board of Agriculture relating to the examination of the excreta of the House Sparrow, Greenfinch, and Bullfinch. Fifty-four droppings of the first yielded 133 plants belonging to seven species, of the second 38 gave 52 plants consisting of seven species, and of the last 50 droppings afforded 96 plants and nine species. Seventeen different species were thus obtained from these three birds. The Ribwort Plantain occurred in each, 67 specimens altogether. Other species, consisting of *Cerastium vulgatum*, *Senecio vulgaris*, *Brassica arvensis*, *Rumex crispus*, occurred in two lists, and the following appeared in one list only, *Rumex Acetosella*, *Bellis*, *Achillea Millefolium*, *Ranunculus repens*, *Taraxacum*, *Polygonum aviculare*, *Galium Aparine*, *Prunella*, *Sonchus oleraceus*, *Senecio Jacobaea*, *Chrysanthemum segetum* and Hawkweed. This method of weed-introduction may account for the sudden and unusual appearance of *Prunella* in so many urban lawns last season, and certainly points to the moral of preventing too many birds from holding their levees in one's garden. Illustrations in the book in most cases are quite admirable—the Coppice full of Wood Anemones, the Daffodils amongst the grass, the Pollard Willows and *Populus serotina* in the Lea meadows, the Wild Cherry by the highway, the Water Crowfoot in the woodland pool, the Sea Mayweed on the sea cliffs, the Purple Loosestrife by the stream, and the Heather and Bracken on the moor. Excellent too are the flower photographs—*Stellaria Holostea*, *Orchis mascula*, *Crataegus monogyna*, *Silene maritima*, *Papaver Rhoeas* and the Privet Berries— which have a crispness and exactitude in

giving contrast to the travesties of British plants which have appeared in more pretentious works. These photographs and its terpress make the book a delightful present for the intelligent youth of both sexes, since there is nothing to repel but much to attract, and its perusal is almost certain to secure another worker at the still unexhausted mine of pleasure open to the Field Botanist.

THE JOURNAL OF ECOLOGY OF 1916 contains, among other communications:—Recolonisation of Cultivated Land allowed to revert to Natural Conditions, W. E. Brechley and Helen Adam. Ecology of Breckland, E. P. Farrow. Oak-Hornbeam Woods of Hertfordshire, E. J. Salisbury, notes that *Epipactis violacea* (*Helleborine purpurata*) does not produce its leaves until after the inception of the shade-phase, and often grows where the canopy is moderately dense. *Ranunculus auricomus* is given as one of the members of the deep shade flora. One's experience hardly supports this as a general rule. With us it prefers the shelter of hedges rather than the shade of woods. Botanical Results of a Fenland Flood, R. H. Compton. *Phudophora flavescens* covered a very large proportion of the flooded area, acres at a stretch. So thick was it in some places that it was necessary to rake it off before the land could be ploughed. In the upper meadows of the Thames it has also covered great areas with a blanket-like growth. Mr Compton shows photographs illustrating its heavy texture. *Polygonum amphibium* and *Alisma Plantago* were present in local abundance, and *Chara hispida* "climbed out of the ditches and formed a zone several feet broad on either side. This natural experiment compares with the sterilisation of Krakatoa, and gives a striking demonstration of the rapidity and completeness of the invasion of a new adaptive flora." Salt Marshes of the Dovey Estuary, R. H. Yapp, D. Johns, and O. T. Jones.

THE NATURALIST, 1916, edited by T. Sheppard, M.Sc., and T. W. Woodhead, contains papers on—Wild Roses of Durham, J. W. Harrison; Yorkshire Hawkweeds, J. Cryer; Plants of Comondale, by our veteran honorary member, Mr J. Gilbert Baker; Botanical Problems at Austwick, C. A. Cheetham (survival of *Silene maritima*); Casual and Alien Plants from Wakefield, J. Cryer.

THE IRISH NATURALIST, 1915 to April 1916. *Orchis Morio*, *O. pyramidalis*, *Circaea lutetiana* on Lambay, Cecil Baring; *Ranun-*

culus auricomus in North Kerry, Mrs Jenner and R. W. Scully; *Ophrys apifera* Huds. in Donegal, Rev. A. H. Delap; *Trichomanes radicans* and *Asplenium lanceolatum* in Co. Carlow, R. A. Philips. *Nasturtium sylvestre* in Co. Down, Rev. C. H. Waddell.

GLASGOW NATURALIST, 1915. *Castanea* in the Clyde Area, J. Renwick; *Goodyera repens* in Scotland, J. Renwick; Alpine Lousewort, R. Brown; Banffshire Flowering Plants, L. Watt; Visit to Source of River Falloch, J. R. Lee; *Claytonia sibirica* in Clyde Area, A. Shanks.

PROC. PERTHSHIRE SOCIETY OF NATURAL SCIENCE. Perthshire Roses, vol. v., pt. ii, pp. 66, 74, 1910, W. Barclay. Under *R. coriifolia* our expert describes *incana* Kit., *bovernieriana* Lagg. and Pug. He also records *R. pimpinellifolia* × *mollis* and *R. pimpinellifolia* × *rubiginosa*, the latter from the Tay side below Caputh Bridge. Our Native Hybrid Roses, l.c. vol. v., pt. iii., 1911, includes *R. pimpinellifolia* × *rubiginosa* from Port Seaton, Haddingtonshire. Notes on Roses, *R. mollis*, *R. involuta*, *R. glauca*, and *R. coriifolia* form the subject of his address as President. Vol. vi., pt. ii., 1915, gives an extremely interesting history of Smith's *Rosa mollis*, *R. involuta*, *R. hibernica*, and *R. spinosissima* × *mollis* from Betty Hill, Sutherland; Kinfauns, Perth; Boyne and Tomintoul, Banff; *R. spinosissima* × *rubiginosa* from near Abbotsford, Roxburgh, Miss Hayward; the Aberdeen plant was of garden origin. *R. pimpinellifolia* × *alpina*, *R. rubella* Sm., was believed by some botanists to be this hybrid, but Mr Barclay thinks the Durham plant to be a form of *R. spinosissima*. *R. gallica* × *canina* = *R. collina* Jacq., from Calstock, Devon, he thinks may have this origin. A luminous account of *R. spinosissima* completes these very suggestive papers by Mr Barclay, which we regret space does not allow us to give in entirety. I may add that the red flowered form of *spinosissima* occurs in Jersey, and on the limestone of Ballyvaughan, Co. Clare.

PLANTS OF THE LATE GLACIAL DEPOSITS OF THE LEA VALLEY. CLEMENT REID, F.R.S., F.L.S., V.P.G.S. Nearly 70 species are enumerated, including *Thalictrum alpinum*, *Draba incana*, *Silene coelata* (nov. sp.), *Linum Praecursor* (nov. sp.), *Armeria arctica*, *Oxyria*, *Betula nana*, *Salix Lapponum*, *S. herbacea*, *S. reticulata*, *Scheuchzeria*, *Carex incurva*, and *Isoetes lacustris*. Many of these had been previously

recorded in the fossil state, and two are new species. The *Silene* in Ponder's End seems to be the first undoubtedly extinct form that has yet been found in British Pleistocene deposits. Perhaps it may still linger in the mountains of China. *Linum Praecursor*. Seeds are abundant in all four localities in the Lea Valley, . . . and in the Arctic plant-bed at Hoxne in Suffolk, beneath a deposit of Acheulian implements, and a single seed has been discovered at Beeston (Norfolk), at the base of the whole Glacial deposits. In each case the flax seeds are associated with the dwarf Arctic willows, and with a moss flora of thoroughly Arctic characters. The living form which they most resemble is the cultivated *L. usitatissimum*, which the wild form is unknown. . . . But *L. usitatissimum* is not an Arctic plant. . . . (Its) origin has been much discussed, . . . it has been grown over a great part of the world, and in no region can it be said definitely that a corresponding wild form is found. As a cultivated plant it is found in Roman deposits and in the Swiss Lake dwellings, seeds from the Roman layer in Tooley Street being indistinguishable from recent specimens. Comparing these fossil seeds with cultivated ones, the only important difference is the narrower and more oblong outline. This is a difference which may well be due to thousands of years' cultivation. The cultivated flax is essentially a temperate species, and it is not easy to imagine that the flax of ancient cultivation in Egypt, found also in the Swiss Lake dwellings, can be descended from a plant essentially arctic. Possibly the common Flax . . . may be a hybrid between this Arctic plant and a southern form, for there is more than one variety of flax in cultivation, though none quite match this fossil." *Armeria arctica* fruiting calyces are common in the Lea Valley. The plant is no longer living in Europe or Asia. (Siberia is an error.) Figures of the seeds of *Linum* and *Silene* are given. See *Quarterly Journ. Geol. Soc.* lxxi., pt. 2, pp. 155-161, 1916.

JOURNAL OF GENETICS, vol. vi., 1916. On the Number of Nodes and their Distribution along the Main Axis in *Senecio vulgaris* and its Segregates, and On Albinism in *Senecio vulgaris*, Prof. A. H. Trow. White seedlings appeared in the progeny of a cross *S. sylvaticus* × *S. viscosus* in 1911, and in 1912 the segregates *lanuginosus* and *praecox* of *vulgaris* threw white seedlings in the F 2 and F 4 generations. Experiments led him to believe in the doubly recessive

character of albinism in the seedlings of the cross. The highly technical character of the paper prevents any condensed report. It is an important contribution towards the elucidation of a little understood subject.

LINNEAN SOCIETY. January 20, H. W. Monckton gave a paper on some aspects of the Flora of the Bagshot district. March 2, Dr Stapf explained the presence of the Southern Element in the British Flora. He adopts the views of Dr Christ as to the Box being a relict of the Tertiary flora of Southern Europe, and the discontinuous distribution as brought about by disintegration of an old continuous and much larger area. So far as the English stations are concerned, to me they recall the fact of the four hundred years of the Roman occupation and its possible influence in plant distribution. Solms-Laubach, Hooker, and Bentham believed it to be native. But have we any evidence of its existence in Britain in pre-Roman times? March 16, Notes on Plants collected in Sikkim, Mr C. C. Lacaita. Early Botanical Exploration of North America, B. D. Jackson. May 4, E. A. Bunyard on the Origin of the Garden Red Currant. This, until recently, was believed to be the descendant of *R. rubrum* L. In 1907 Janczewski showed that the parent species was *R. vulgare* Lam., which had been in cultivation since the early 15th century. *R. petraeum* was introduced to gardens by Conrad Gesner in 1561, and a few years after Camerarius alluded to it as "baccis rubris majoribus." Mr Bunyard thinks the inter-hybridisation of the three species, *rubrum*, *petraeum*, and *vulgare*, accounts for the numerous varieties of red currant now grown in gardens. November 30, Mr J. Small exhibited an apparatus to determine the exact velocity of the wind required to blow the fruits of the Compositae to ensure proper dispersal. *Tussilago Farfara* requires less than half the force necessary for *Senecio vulgaris* or *Taraxacum*. T. A. Dymes contributed a note on the seeds of *Iris Pseudacorus*, the capsules of which contain (1) flat seeds, (2) seeds more or less rounded, which are present in the curved base and apex of the capsule. The seed lies over till the late spring, its loose light testa floats for a period of at least four months, and it germinates on or near the surface of the water in the latter half of May.

THE JOURNAL OF THE LINNEAN SOCIETY FOR 1916 contains, *inter alia*, Ecological Notes, chiefly Cypogamic, from the pen of our late

member, William West; Lichens of South Lancashire, by J. A. Heldon and W. G. Travis; and an elaborate and painstaking account of the Structure and History of Plav, the floating fen of the delta of the Danube, by our member, Miss Marietta Pallis, which is of great interest since a comparison is made with the reed-fens of East Anglia. The form of *Phragmites* of the Danube is the var. *rescens* Gren & Godr. (See *Rep. B.E.C.* 217, 1915). Excellent photographs of the floating islands of the Danube and of the Reed-beds and Sedge Fen of Norfolk are given, as well as lists of the plants found in the Danube delta. The issue for December 1916 contains a suggestive paper on The Seed-Mass and Dispersal of *Helleborus foetidus* by T. A. Dymes, in which he proves that the seeds in the curious larval-like masses which break away from the elaiosome are conveyed for some distance by snails which eat the elaiosome, and in doing so accidentally carry the seeds on their bodies. The seeds themselves are not eaten. The young foliicles are even eaten through by the snails in order to reach the elaiosome. One has always been struck by the number of snails sheltered by the leaves of *H. viridis*, despite its virulent acidity. *H. viridis* drops its seeds singly and has not developed elaiosome. Ants are also said to feed on it, and its larval-like appearance suggests, though this has not been proved, that birds may also act as a distributing agency.

LINNEAN SOCIETY TRANS., vol. ix., 1916. Report of the Wollaston Expedition to Dutch New Guinea, 1912-13, by Mr H. N. Ridley, (C.M.G.), assisted by Messrs E. G. Baker, &c. The plants collected by Mr Wollaston included over 500 new species and 11 new genera, 9 being described by our member, Mr Ridley, and two by Mr Wernham, one being named *Neowollastonia*.

KEW BULLETIN, 1916. The contents of this very cheap publication include: Description of *Lathyrus hirsutus* used to hybridise one of the garden varieties of the Sweet Pea, and *L. laxiflorus* Kuntze (*Orobis hirsutus* L.) from the Balkans and Crete. Brazil Wood. J. H. Holland describes the source of the dye-wood yielded by *Caesalpinia Sappan* and allied trees. An excellent account is also given of Logwood yielded by *Haematoxylon campechianum*, a common and beautiful tree in Jamaica, Tobago, and other West Indian Islands. Culinary Herbs—their Names and Culture. *Stipa Neesiana* in Eng-

land, p. 206. Botany of Tapu de Nuku (9500 feet) in New Zealand, records the discovery at 8500 feet of the curious plant, *Haastia pulvinaris*, known as the Vegetable Sheep. A Collection of Drawings, belonging to Sir Arthur Church, given by Lady Church to Kew. They include *Dabeocia polyfolia* by G. Ehret, *Sedum Telephium* by P. J. Redoute, *Campanula glomerata* and *Geranium pratense* by T. Stothard. The Arboretum at Tregelhan, Cornwall, is well described by W. J. Bean. Junipers and their Commercial Importance, W. Dallimore. Lists of Seeds of Hardy Herbaceous Plants, Trees, and Shrubs. New Garden Plants for 1915. This list of papers shows that the scientific work at Kew is well maintained despite the adverse influence of the war.

NOTES FROM THE ROYAL BOTANIC GARDEN, EDINBURGH, vol. ix. Fifty new species of *Primula* from Asia are described by Prof. I. Bayley Balfour. A new genus of Ranunculaceae, *Beesia*, is described, allied to the Japanese *Glaucidium*, after the firm Bees Limited, founded on a species collected in northern Burma at an elevation of 9000 feet in the dense shade of the rain forest, called *Beesia cordata* Balf. f. and Smith Diagnoses Spec. Nov. in Herb. Hook. Reg. Bot. Soc. Ed. cognitarum species Chinenses. August 1916.

TRANSACTIONS OF THE BOTANICAL SOCIETY OF EDINBURGH. *Pilularia globulifera* in Glamorganshire, Orr, 281-5, 1914, given without personal authority in *Top. Bot.* *Stratiotes Aloides* near Crieff, 180, 1914. Plants from West Lothian, J. Fraser. Flora of Orkney, A. Bennett, 54, 1915, states that *Sison Amomum* was an error of identification. A hybrid new to Britain, *Potamogeton venustus* Baagoe in *Compt. Rend. Paris* 517, 1903. This is the plant of the river Earn recently distributed by Mr Barclay.

YORKSHIRE'S CONTRIBUTIONS TO SCIENCE, WITH A BIBLIOGRAPHY OF NATURAL HISTORY PUBLICATIONS. T. SHEPHERD, p. 233, A. Brown & Co., London, 1916, 5/-.

THE THIRTY-SECOND ANNUAL REPORT OF THE WATSON BOTANICAL EXCHANGE CLUB, 1915-1916. Hon. Sec. and Editor, G. Goode, M.A.

BRITISH ASSOCIATION. Report of Correspondence Society Committee and of the Conference of Delegates held in Manchester 1915.

Address on the Organisation of Scientific Societies, Sir T. Holland, C.I.E., F.R.S. Colour Standards, by Mr J. Ramsbottom, a useful and practical paper. Meeting at Newcastle 1916. The Presidential Address, by Dr A. B. Rendle, D.Sc., F.R.S., was a suggestive and thoughtful discussion of practical use in connection with Botany and its economic applications. He deplored the inadequate systematic work which up till recently such an accessible and beautiful island as Jamaica had received—its most complete flora, that of Sir Hans Sloane, being pre-Linnean. He suggested the holding of an Imperial Botanical Congress at which matters of general and special interest might be discussed.

A CENSUS OF NEW SOUTH WALES PLANTS. J. H. MAIDEN, Director of the Botanic Garden, Sydney, and the late E. BETSCHIE. 8vo. pp. xx., 216, W. Gulliver, Sydney, 1916. About 4000 species are enumerated occurring in an area of 310,000 square miles.

THE WEEDS OF QUEENSLAND, J. F. BAILEY and C. T. WHITE, in the Queensland Agricultural Journal, treats of *Aster subulatus* and *Erigeron canadensis*. An Amarantaceous species, *Alternanthera achyranthes*, from S. America, is becoming a nuisance on sheep runs from its prickly fruits becoming entangled in wool, and has already earned the vernacular name Khaki Weed. The Asclepiadaceous shrub *Gomphocarpus fruticosus* is one of the worst introductions to the State.

CONTRIBUTIONS TO WEST AUSTRALIAN BOTANY. The Sea Grasses by C. H. OSTENFELD in *Dansk. Bot. Ark. B.* 2, 6, pp. 1-44, 1916. Deals with species of Potamogetonaceae and Hydrocharitaceae.

ILLUSTRATIONS OF THE NEW ZEALAND FLORA. Edited by T. F. CHEESEMAN, F.L.S., assisted by W. B. HEMSLEY, F.R.S. Plates drawn by Miss M. Smith, Vol. ii., 4to., tt. 122-250. John Mackay, New Zealand, 1914. The drawings and their reproductions are excellent and the text clear and good. *Agathis australis*, the tree yielding Kauri Resin, was discovered by Marion du Fresne, and incidentally led to his massacre in 1772. Resin from this tree to the declared value of £465,244 was exported in 1910.

REVISED LIST OF THE NORFOLK ISLAND FLORA. R. M. LAING, in *Trans. New Zealand Inst.*, vol. 47, 1915. The island is remarkable

for the paucity of Composites, only seven being enumerated. The Norfolk Island Pine *Araucaria excelsa* is common from the coast to the top of Mount Pitt. No Myrtaceous species is native, but 40 species of ferns occur. Twenty-nine per cent. of the species are said to be endemic.

FLORA BATAVA. J. KOPS, F. VAN EEDEN, L. VUYCK, 380e-383e, 1915. The coloured illustrations are a great improvement upon those of the earlier volumes and include *Rubus diversifolius*, *Vicia calcarata*, *Briza minor*, *Bromus arvensis* var. *velutinus*, *Carex axillaris*, *Rumex maximus* (stated to be a hybrid of *Hydrolapathum* and *aquaticus*, but this combination cannot be present in our British plant which occupies areas in which *aquaticus* is absent), *Rumex aquaticus*, *Crepis pulchra* (adv.), *Melilotus macrocarpa* (adv.), (of which the large fruits full of Coumarin are said to be used as spice by Arabs), *Iva xanthiifolia* (adv.), and *Azolla filiculoides* (said to have been first noticed in Holland in 1880).

FLORA DER SCHWEIZ. SCHINZ AND KELLER, ii. Teil. Kritische Flora. Dritte stark vermehrte Auflage, bearbeitet und herausgegeben von Prof. Dr Hans Schinz unter Mitwirkung von Dr Albert Thellung, Zurich. Albert Raustein, pp. 582, 8vo. mit figuren, 1914, 10 francs.

ERGANZUNGEN ZUR FLORA VON BASEL, A. BINZ. Verh. Naturf. Ges. Basel, xxvi., 176-221, 1915, includes a large number of adventitious plants with the hybrids *Chenopodium album* × *hircinum*, *C. album* × *striatum*, and *C. hircinum* × *striatum*.

BEITRAGE ZUR KENNTNIS DER SCHWEIZERFLORA. H. SCHINZ AND A. THELLUNG. In this article the authors direct attention to the change suggested by the Fern authority H. Woynar (*Hedwigia*, lvi., 385, 1915) to *Filicula* Seguiet Pl. Veron. Suppl. 54-5, 1754, from *Cystopteris* Bernh. dating from 1806. They prefer *Dryopteris Oreopteris* (Ehrh. 1789) Maxon, to *D. montana*, the latter being based on a "totgeborener" name of Vogler's. *Dryopteris Villarsii* (Bell.) Woynar is suggested to replace *D. rigida* Underw. Bellardi's trivial dates from 1792 in Mem. Act. Turin v., 255, 1792 (as *Villarsii*). *Polypodium rigidum* Hoffm. Deutsch. Fl. ii., 6, 1796, is not the *P. rigidum* of Aublet. Another of our Fern names is also changed, *Dryopteris spinulosa* Kuntze becoming *D. austriaca* (Jacq.) Woynar,

sed on *P. austriacum* Jacq. Obs. Bot. i., 45, 1763, which is much earlier than *P. spinulosum* Müll. Fl. Dan. xii., 7, 1777, t. 707, and for *Polystichum angulare* becomes *Dryopteris setifera* (Forsk.) Oymar says the Linnean specific *aculeatum* is = *P. lobatum* Hudson, but has become, sensu stricto, a "nomen confusum." Perskál's *Polypodium setiferum* dates from his Fl. Aeg.-Arab. 185, 175. *Polygonum patulum* M. Bieb. Fl. Taur. Cauc. i., 304, 1808, replaces *P. Bellardi* All., which is said to be an *aviculare* form, perhaps *rurivagum*, and *Lythrum meoanthum* Link, 1808 (sine descr. but with a ref. to Brot.) they suggest should replace *L. raefferi* Ten., 1811. Schinz and Thellung, *l.c.*, pp. 414-430, 1916, have *Cystopteris fragilis* Bernh. as more correctly *C. Filix-fragilis* (L.) Chovenda in Ann. di Bot. i., 210, 1904. They adopt *Eupteris* Newman for the Bracken instead of *Pteridium*, rejecting Scopoli's genus of 1760. Our species stands as *Eupteris aquilina* Newman, in *Phyt.* ii., 278, 1845. For *Setaria glauca* the authorities are Roemer and Schultes. Beauvois' name is a "nomen nudum." Once again our Common Sedge has to change its name. *Carex flacca* (which some botanists continue to call *C. glauca*) is said to be *C. diversicolor* Drantz Inst. i., 415, 1766, and therefore the varietal names var. *Micheliana* (Sm.)—itself antedated by *ambliocarpa* (Willd.)—var. *stictocarpa* (Sm.), var. *erythrostachya* (Hoppe), and var. *acuminata* (Ar. Benn.) must be placed under *diversicolor*, and the hybrid \times *Jaegeri* is *acutiformis* \times *versicolor*. *Melilotus messauensis* All. becomes *M. sicula* (Turra) Jackson Ind. Kew. ii., 199, 1895. In *Ind. Kew.* iii., 199, the plant stands as *M. sicula* Vitm. Summa Pl. iv., 326, but according to Le Grand, Vitman wrote *Trifolium M. sicula*.

THE FLORA OF MALTA AND ITS NEIGHBOURING ISLANDS, by SOMMIER & GATTO, pp. 500, 1916, contains accounts of 916 Phanerogams and Vascular Cryptogams, 78 Mosses, 18 Hepatics, 183 Lichens, 296 Algae, and 499 Fungi.

ON OENANTHE AQUATICA, OE. FLUVIATILIS AND OE. CONIOIDES IN DENMARK. C. H. OSTENFELD in *Bot. Tidskr.* B. 33, 117. In this communication our hon. member records for the first time *Oe. fluviatilis* for Denmark, one of our supposed endemic species, which has also been found in Germany, and will surely be discovered in

Holland, Belgium, and France. Ostenfeld found it in two rivers in the western part of Jutland, the Linding Aa and Varde Aa. *Oe. conioides* Lange, which has no submerged leaves, should be specially sought for in our eastern fen-lands. At present it is only known from the Elbe, round Hamburg. It is closely related to *fluviatilis*.

WILD WHEAT IN PALESTINE, O. F. COOK in U.S. Dep. of Agric. Bulletin, n. 274, 1913. In this most interesting and valuable paper Mr Cook shows that the progenitor of one of our wheats, for which he proposes the name *T. hermonis*, is found wild on Mount Hermon, where it was discovered by Mr Aaronsohn. Koernicke used the tautological trivial *dicoccoides* under *T. dicoccum*. On Mount Hermon it grows chiefly on calcareous soils, and a spontaneous form of *T. monococum* was found also in the same area. A tradition of remote age has been discovered in ancient Egypt that wheat was originally brought from the Hermon range, and it is now substantiated. That the culture of wheat is of immense antiquity is no longer doubted. The presence of two kinds in the Neolithic remains not only in Switzerland but in Britain is a sufficient proof. A few years back the writer had some well-formed carbonised grains of *T. antiquorum* and another species given him, which were found on Hunsbury Hill, Northants., in a cinerary urn of the Neolithic period. Cook believes agricultural civilisation may have existed in the Old World for 20,000 years, while in America it may have extended for 100,000 to 200,000 years. Prof. Percival, the greatest authority on cereals in Britain, says that for the past 2,000 years the actual grain of wheat has been but little improved, but that wheat plants have been made to yield more grains. Mr Cook's paper is illustrated by photographs showing the Wild Wheat growing among nummulitic limestone near the lake of Gennesaret, and of a variety of it growing on the slopes of Mount Hermon at about 4,000 feet altitude. This species readily hybridises with other wheats when brought into cultivation, and our wheat may be one of these fixed hybrids.

FLORA OF ADEN. The third and concluding part by Father ETHELBERG BLATTER, F.L.S. See *Rep. B.E.C.* 235, 1915.

THE FLORA OF THE PRESIDENCY OF MADRAS. J. S. GAMBLE. (S. T. Dunn prepared a draft of the first 128 pages.) Adlard & Son, Part 1, pp. 200, 1916. Ranunculaceae to Aquifoliaceae. 8/-. Keys

are given for the genera and species. The elevations of localities are frequently stated. *Ranunculus muricatus* ascends to 7000 feet at Ootacamund Lake. The name *Nasturtium* is still employed for the Water Cress, which, it is suggested, may be adventitious.

THE FLORA OF THE NILGIRI AND PULNEY HILLTOPS (above 6500 feet) . . . round the hill stations of Ootacamund, Kotagiri and Oodaikanal. P. F. FYSON, B.A., F.L.S., Prof. of Botany, Presidency College, Madras. 8vo., vol. i., pp. xxvi., 475, 4 maps; vol. ii., 268 plates. 10 rupees or 15/-.

FLORA OF THE UPPER GANGETIC PLAIN. J. F. DUTHIE. Vol. iii., part 1, pp. 168. Gov. Press, Calcutta, 1915; 1/10.

NOTES ON THE FLORA AND FAUNA OF THE VEDDA COUNTRY AND ITS PEOPLE, by F. LEWIS, appears in *Solia Zeylanica*, x., pt. 37, 1915.

ICONES PLANTARUM FORMOSANARUM nec non et Contributiones ad Floram Formosanam. Dr HAYATA. Vol. v., pp. vi., 358, 1915.

FLORA MONTANA FORMOSAE. Materials for a Flora of Formosa. Dr HAYATA. These volumes succeed the *Enumeratio Plantarum in Insula Formosa*, 1906. The eight volumes deal with 3325 species, which have been found in an island only about half the size of Scotland, but the highest mountain, Mount Arisan, reaches 14,000 feet, while sea cliffs on the eastern half, facing the Pacific, attain 5000 to 6000 feet. One of its species, a beautiful *Alpinia*, was discovered by Mr Elwes. It has flowered in his garden at Colesborne, and our member Mr W. B. Turrill described it in *Bot. Mag.* t. 8651, 1916, as *Alpinia Elwesii*. From Formosa Camphor has been long exported. See article by A. Henry in *Gard. Chron.* (2), 55, 1916.

THE FLOWERING PLANTS OF AFRICA. FR. THONNER. pp. xvi., 647, Dulau & Co., London; 15/-.

BEITRAGE ZUR KENNNTNIS DER AFRIKANISCHEN FLORA. HANS SCHINZ and A. THELLUNG in *Viert. der Naturf. Ges. Zurich* Bd. 61, pp. 431-464. Includes descriptions of many new species as well as critical *Lepidium* species, e.g. *L. papillosum* Muell. and *L. oxytrichum* Sprague, the latter a Tweedside plant.

A NATURALIST IN MADAGASCAR. JAMES SIBREE, F.R.G.S. 8vo., pp. 320, with 52 illustrations and 3 maps. Seeley, Service, London,

1915; 16/-. A well written and illuminative record of fifty years' experience with the natives and a study of the animal and vegetable life of an island which exceeds France, Belgium, and Holland in land surface.

WILD FLOWERS OF THE NORTH AMERICAN MOUNTAINS. JULIA W. HENSHAW. M'Bride, Nast & Co., London and New York. Cloth 8vo., pp. 383, with 19 cold. and 64 uncold. plates, 1916. Those who have seen Mrs Henshaw's beautifully painted lantern slides of mountain flowers and have heard her charming lectures on the flowers she loves and the country in which they grow, would expect to find in any work she prepared on the subject a whole-hearted enthusiasm which would make it at once pleasant reading and at the same time a valuable assistance to one wishing to become acquainted with the flora of the region whence Douglas brought back so many of his discoveries which now adorn our gardens. In every way the accomplished task fulfils its aim. The first 44 pages are devoted to a General Key to the Families, which is terse and practical. Then follows a description of the species enumerated, and one is rather surprised to find so many that are native of Britain, especially among the Ferns. Trees of whatever order are described in Section 2. The third section is devoted to Reeds, Grasses, Sedges and Rushes, and the other sections are based on floral colour. There is an excellent figure of *Veratrum viride* and of *Clintonia uniflora* which Mrs Henshaw christens by the English name Queen-cup, "a lovely chalice" which once delighted my eyes in the Selkirks. There is a good plate of *Spiranthes Romanzoffiana*, which "is the last Orchid" of the American season, growing in wet, marshy places just when the power of the summer sun is beginning to wane. My visit was too early to see it, but the photograph suggests its being identical with the Irish plant which flowers in July. *Corallorrhiza* (rightly called *trifida*), *Polygonum viviparum*, *Dryas octopetala*, *Silene acaulis*, *Linnaea borealis*, *Astragalus alpinus*, and *Campanula rotundifolia* are among the British plants occurring in the Rockies. They are all beautifully figured. Even good as the colour productions are, they do not compare with Mrs Henshaw's own magnificent paintings. The memory of the Tree Cornel and of the flame-like *Castilleja* will abide with one. In these times when our travellings are confined to narrow limits such a book as this is especially welcome, as it cheaply

It easily transports us to charming climes where these lovely alpine snow-countries of our own race, the inhabitants of which are now fighting with us the common foe.

BRITISH COLUMBIA. Third Annual Report of the Botanical Office J. DAVIDSON, F.L.S. pp. 081-0150, 1916. Contains interesting photographic reproductions of *Lewisia rediviva*, and the effects of irrigations on ground covered with Sainfoin.

FLORA OF THE NORTH-WEST COAST. C. V. PIPER and R. K. MATTIE. 8vo., pp. xiii, 418. Lancaster, Pa., 1915. Takes in part British Columbia to the south part of Lane County, Oregon, and from the summit of the Cascade Mountains to the Pacific.

FLORA OF THE VICINITY OF NEW YORK. NORMAN TAYLOR, Curator at the Brooklyn Bot. Garden. Memoirs of the New York Botanical Garden. Large 8vo., pp. vi., 683, 1915. The fertility of American botanists and the liberality of its institutions make a British botanist envious of the facility with which such works as this are produced. The printing is excellent, and the maps of plant distribution show how far behind even a University Press in England can be in supplying these important details. The financial aid rendered by the New York Academy of Science and the Esther Hermann Research Fund is acknowledged in the Introduction. The area treated of contains 2038 native species and 613 weeds of adventitious origin. The introduction gives a vivid account of the geologic features, and of the plants associated with particular soils. A good bibliography is appended. The various species are described and generic and specific keys given. The comparison of plant names with those employed in Britain shows that before uniformity is attained a whole Atlantic must go under a bridge. The author generally follows the plan adopted by Britton and Brown in their classic work on the *Flora of the Northern States*. *Cystopteris fragilis* stands as *Filix fragilis* (L.) Gilib. *Dryopteris* is the Oak Fern; *Elodea* is replaced by *Philotria* Rafin, *Tragus* Scop. by *Nazia* Adans. (a name arbitrarily barred by the *Actes*). *Chaetochloa* is used for *Setaria*, and *Homalocenchrus* for *Leersia*. *Spartina stricta* Roth has as a synonym *S. alterniflora* Loisel. We keep them as distinct species. *Panicularia* Fabr. is used instead of *Glyceria*, and *Puccianella* is kept distinct for the halophytic section. 155 species of *Carex* are described. *Juncoides*

is used instead of *Luzula*, *Unifolium* instead of *Maianthemum*, and *Ibidium* for *Spiranthes*. *Persicaria* is a distinct genus, and *P. dumentorum* and *P. Convolvulus* are in the genus *Tiniaria*. The genus *Dondia* is rightly kept instead of *Suaeda*, and *Tissa* is still used instead of *Spergularia*. *Castalia* and *Nymphaea* are used in their correct meaning. *Batrachium* is a distinct genus. *Bicuculla* is used for *Dicentra*, and *Capnoides* for *Corydalis*. *Radicula* is rightly used for *Nasturtium*, but the Water-Cress is called *Sisymbrium*. *Grossularia* is kept distinct from *Ribes*, as is *Filipendula* from *Spiraea*. *Sorbus* and *Malus* are separated from *Pyrus*. 29 species of *Crataegus* are given. *Padus* is apart from *Prunus*. *Geranium Robertianum* is in a separate genus, *Robertiella*. 34 species of *Viola* occur. *Limonium* is wisely used instead of *Statice*, *Centaureum* for *Erythraea*, and *Nymphoides* for *Limnanthemum*. *Rhinanthus* is retained. *Specularia* is one of the few instances where a name clearly antedated (by *Legousia*) is retained. *Ambrosia artemisiaefolia* L. is replaced by *A. elatior* L. In the area it is a pernicious weed. 39 species of *Aster* are given. *Cirsium* is correctly used for the Plume Thistles, *Cnicus* being kept for *C. benedictus*. As only 11 *Hieracia* are enumerated, the American botanist has an additional cause for being optimistic.

VEGETATION OF FLORIDA. J. W. HARSHBERGER in *Trans. Wag. Inst.* vii., pp. 49-190, 1914.

VEGETATION OF NANTUCKET. J. W. HARSHBERGER in *Bull. Geog. Soc. Phil.* xii., pp. 70-79, 1914.

BOTANICAL EXPLORATION OF S. CALIFORNIA. E. A. GILMAN in *Cont. from the United States National Herbarium*, vol. xvi., pt. 14, 1916. Twenty-two new species were discovered.

BULLETIN OF THE TORREY BOT. CLUB. Ferns and Flowering Plants of Nantucket, E. P. Bicknell, p. 265. Vegetation of Connecticut, G. E. Nicholls, p. 235. Flora of S. Patagonia, W. W. Rowlee. Phytogeographic Notes of the Rocky Mountain Region, P. A. Rydberg, p. 343. Notes on *Carex*, K. K. Mackenzie, p. 423. Notes on Plants of S. United States, F. W. Pennell, pp. 93 and 407. Studies of W. Indian Plants, N. L. Britton, p. 441. Flora of Ladak, R. R. Stewart, p. 571.

MONOGRAPH OF THE NORTH AND CENTRAL AMERICAN . . .
 CENECIO. J. M. GREENMAN. *Ann. Missouri Bot. Gard.* ii., pp.
 3-626, 1915.

TERCERA CONTRIBUCION AL CONOCIMIENTO DE LAS GRAMINACEAS
 ARGENTINAS. T. STUCKERT in *Ann. Mus. Mac. Buenos Aires*, xxi.,
 p. 1-214, 1911. Contains descriptions of many new species and
 varieties from Argentina.

THE NATURAL HISTORY OF HAWAII . . . and the Native and
 Introduced Plants and Animals. Prof. W. A. BRYAN, pp. 596,
 E. Steehart & Co., London.

TREES OF INTEREST AT GOODWOOD. THE DUKE OF RICHMOND AND
 GORDON. 4to., pp. 53, 1912. Goodwood is celebrated for its fine
 trees, the Cedars of Lebanon being among the most magnificent in
 Britain. They were planted in 1761 by the third Duke. Peter
 Collinson says "he paid John Clarke, a butcher of Barnes, who was
 very successful in raising Cedars, for 1,000 plants, 8th of June, 1761,
 £79 6s on behalf of the Duke of Richmond." Of these trees Loudon
 in 1837 saw 139. In 1911, 108 were still growing. No. 4 is probably
 the finest example in Britain. The examples of the Cork Oak,
Quercus Suber, are extraordinarily good. A great Tulip tree was
 brought from Virginia in 1739. Collinson was largely instrumental
 in introducing trees of American origin, he being in constant
 communication with the New England botanists of that period.
 The specimen of *Taxodium distichum*, still growing at his home at
 Mill Hill, was sent him by John Bartram of Philadelphia.

THE BLACK POPLARS. A. HENRY in *Trans. Royal Scottish
 Arboricultural Society*, vol. xxx., January 1916.

TREE WOUNDS AND DISEASES: their Prevention and Treatment,
 with a special chapter on FRUIT TREES. A. D. WEBSTER. 32 full-page
 illustrations, pp. 215, Williams & Norgate, cloth 8vo., 1916. 7/6
 net. To any people having trees under their care this work is of
 extreme importance, for in the thirteen chapters it contains will be
 found practical advice of the greatest value. The first chapter is
 devoted to the Management of Decaying Trees. Examples are shown
 of the Wilberforce Oak before and after "treatment." Hollow Trunks
 and their treatment are next dealt with, and methods are shown of

filling them with various compositions, for which recipes are given. Chapter 3 is on Supporting Heavy and Diseased Branches. One of the methods suggested has been successfully adopted with the magnificent specimen of *Sophora japonica* at the Oxford Botanic Garden. The weight of the lateral branches was opening a fissure in the main trunk. Then comes advice on Injured Bark, and a photograph illustrates an elm killed by piling earth on the roots, whence comes an attack of *Stereum purpureum*. Chapter 5 gives advice on Pruning Diseased Trees. Chapter 6 describes the Injurious Influence from Soil or Atmosphere, and Chapter 7 Fungus Growth. Excellent photographs show the various kinds which are inimical, and methods are fully given by which these unwelcome hosts are best attacked. Chapter 8 describes the insects which are so often destructive of tree growth, such as Sawflies, Beech Coccus, various Beetles, Aphides, and Moths. It is stated that in 7,000 square miles of Eastern Europe the Spruce was killed by *Liparis monacha*. Injuries arising from Animals and Birds are enumerated. Fruit Trees and their enemies are especially well treated, good illustrations of the principal foes being given, as well as of the best ways of meeting their devastations. Chapter 11 gives directions for Preventing Disease, and Chapter 12 is devoted to the Accidents and Diseases to which Trees are liable, the last Chapter giving an account of Preservatives. The book is well printed, has a good index, and certainly supplies a long-felt want.

BRITISH FORESTRY: Its Present Position and Outlook after the War. EDWARD PERCY STEBBING, Head of the Forestry Department, University of Edinburgh. Cloth 8vo. pp. xxx., 257, tt. 13. John Murray, Albemarle Street, London, 1916. 6/- net. The work, a powerful piece of special pleading, is divided into four parts. (1) A National Planting Scheme; (2) British Timber Supplies and the Forests of Russia; (3) Timber Supplies and the War; and (4) The Employment of Women in Forestry. The author estimates that there are 4,000,000 acres of waste ground in England; 4,200,000 acres in Scotland; 700,000 in Wales; and 1,500,000 in Ireland—a considerable proportion of which might be used for tree growth. There are also about 16,500,000 acres of mountain and heath land in the two islands, part of which could be afforested. The author contends that there will be an immense demand for timber after the war, and Britain, once covered with forests, is now one of the most

poorly wooded countries in the world, the percentage being only 4. We purchase nearly half the timber exported from all countries to the value in 1913 of £37,300,000, and of wood pulp to the value of £5,425,000. Of this £2,400,000 was for pit props, the price of which, even when the book was written, having in some cases nearly trebled. We could easily increase the percentage to 12%, and he urges that ½ million acres in the British Isles should be planted with Conifers. The volume teems with points of interest and is full of practical suggestions to meet our needs in timber for the next half century.

A GLOSSARY OF BOTANIC TERMS WITH THEIR DERIVATION AND ACCENT. B. DAYDON JACKSON, Knight of the Polar Star, Hon. Ph.D., Upsala, Gen. Sec. Linn. Soc. of London. Third edition, revised and enlarged; pp. xii., 428, Duckworth & Co., London, 1916; 7/6 net. British and foreign botanists owe a great debt to the compiler of this important and useful work, prepared as it is by a born lexicographer. In his *Guide to the Literature of Botany* he showed this power, and the catalogues of the Linnean and Kew Libraries evince the same masterly capability of dealing with masses of material, a gift which had its culmination in the herculean task of preparing that magnum opus the *Index Kewensis*. During the last four months the writer has had to consult many thousands of plant names in it, and has been struck with the great accuracy of the references, even the weak spots being almost entirely those which were due to his not having an entirely free hand in its arrangement. Mr Jackson's great skill and knowledge of literature have enabled him to give us this splendid glossary, well thought out in detail and arranged so carefully that there will be few cases in which the consulter goes empty away. Although of useful size and weight, Mr Jackson has packed over 20,000 names into this work, and if the various meanings are added the total number would be over 22,000. The Glossary is well printed in clear and distinct type on good paper and with ample margin. It is an indispensable book for all working botanists, and a useful and practical vade mecum for those to whom Botany is a recreation rather than a life's work. Its moderate price in these times is remarkable, since its preparation and printing must be of considerable technical difficulty. The thought in one's mind in looking through it is first amazement at the industry of the compiler, and secondly that so many of the terms "ought never to have been made." Systematists

may with some justice be charged with the multiplication of synonyms, but surely morphologists and ecologists are not those who should throw stones considering their rampant exuberance of name construction. Mr Jackson has explained most of the cryptic words used by students of the latter subject. He, however, wisely avoids introducing such triple hyphenated compounds as *Carex-Sieversia-Polygonum-Coryphium*. He has not even included one suggested by the writer to that distinguished ecologist, Dr Schroeter, who when in Ireland saw a disused tannery, and asking its name was told that it was a place for tanning leather, which we called a Tannery, and which I suggested should be known as a Tana-cetum! His Roland for an Oliver was to call me a Periclinal-Chimaera, which, teste the Glossary, is "the product from a bud with mechanical coalescence of two parent forms, a Graft-hybrid," which he anglicised into a union of botanist and humourist.

JOURNAL OF THE HORTICULTURAL SOCIETY. December 1915. Flora of North-Western Yunnan, G. Forrest, p. 200. May 1916. Some Books on Rock-Gardening and Alpine Plants, E. A. Bowles, p. 393, a very readable and useful guide to the literature of the above subject. Under Common-place Notes there is an incidental reference to Sir J. D. Hooker, and a capital illustration of the plaque which has been placed to his memory in Westminster Abbey. On it is carved "Josephus Dalton Hooker, 1817-1911. Herbarum scientia praestantissimus."

THE GARDENERS' CHRONICLE FOR 1916 contains among other matter Mr Reginald Farrer's racy descriptions of his experiences in China, and vivid pen-pictures of the many new plants observed. Our member, Mr H. J. Elwes, gives a series of articles on a Cotswold Garden which teem with interesting matter. Mr E. G. Baker contributes a paper on the Botany of Mount Kenja—nearly 20,000 feet high—illustrated with photographs taken by Mr C. L. Blackburne-Maxe. These include a view of the vegetation at 14,000 feet, in which giant Groundsels and Lobelias are prominent features. One of the latter species, named by Mr Baker, *L. Gregoriana*, is 5-6 feet high, and there is a Senecio 15 feet high. Mount Kenia is nearly equatorial, and such is the spread of civilisation that its foot can be reached by motor car. Nettles, which "sting like bees," 8 feet high,

rough which a path had to be cut, offered a change of scenery. At 5,000 feet the thickets of Bamboos were so dense that elephants made them their haunts. The *Senecios* occurred at as high a level as 10,000 feet. The ascent of the peak itself is quite steep. A paper on New Balsam Poplars is supplied by Augustin Henry. An account of the Aldenham Garden is also given.

STANDARD CYCLOPEDIA OF HORTICULTURE. Edited by L. H. BAILEY. Vol. iii., F-K, pp. 1201-1760, figs. 1471-2422; vol. iv., L-O, pp. 1761-2422, figs. 2048-2693. Macmillan & Co., New York. 25/- each vol. It contains 160 short biographies of prominent deceased horticulturists connected with America. In the third vol. the genus *Prunus*, with 109 species and their varieties, is very practically treated. The genus *Lilium* is described in the fourth vol.

THE PRINCIPLES OF PLANT CULTURE, by the late E. S. GOFF. Revised by J. G. Moore and L. R. Jones. Eighth edition, pp. xxiii. 295. Macmillan & Co., New York, 1916. 5/6.

MY GARDEN IN AUTUMN AND WINTER. E. A. BOWLES, M.A. 8vo. pp. iii., 272. Jack, London, 1915. 5/-. A companion volume to his *Garden in Spring* and his *Garden in Summer*.

POPULAR HARDY PERENNIALS. T. W. SANDERS, F.L.S. Collingridge, London, 1915. 5/.

MY GROWING GARDEN. J. H. M'FARLANE. Macmillan & Co., New York, 1916. 8/6. Tells graphically how a city man turned an old much-neglected two-acre garden into one after his own taste. It includes a pleasant chapter on weeds.

ROCK GARDENS AND ALPINE PLANTS, including Water, Bog, and Moraine Gardens. T. W. SANDERS. 8vo., pp. 206. Collingridge, London, 1915. 3/6. A sound practical work on this popular subject.

THE BOOK OF HARDY FLOWERS. H. H. THOMAS. 8vo., pp. 492. Cassell & Co., London, 1915; 12/6. Contains 30 coloured plates and numerous illustrations.

POTTER'S CYCLOPEDIA OF BOTANICAL DRUGS AND PREPARATIONS. Second edition by R. C. WREN, F.L.S., with additions by E. M. HOLMES,

F.L.S. Small 8vo., pp. 339. Potter & Clarke, Ltd., Artillery Lane, London. In this modern Culpepper a great number of the vegetable drugs used in medicine are briefly but clearly described. Their vernacular and scientific names, their synonyms, and the natural orders to which they belong are given, with their medicinal properties and doses, as well as the chief preparations made from them, both the British and United States pharmacopeias being freely quoted. Mr E. M. Holmes, a recognised authority on matters connected with pharmacology, has revised the botanical names of the drugs and supplied a useful glossary of botanical terms. He has added a useful list of botanical authorities with their names in full. It explains what are often cryptic abbreviations, such as H.B.K. and W.K. to those who are not botanical adepts. The various forms of medicinal preparations are clearly described and doses with their equivalents shown. A chapter is devoted to Continental Herbal Compounds, one of which, Thé de Santé, is made from fennel, cream of tartar 1 part, elder flowers and aniseed 2 parts, senna leaves 4 parts. It is to be infused in hot water. Drug culture, now so fashionable, will doubtless largely stimulate a demand for such a work as this, which seems to be the best on the subject produced in Britain. As an example of the description of drugs we may give that of "Cherry Laurel, *Prunus Laurocerasus* L. N. O. Rosaceae. Part used, leaves. Action, sedative. Mostly used to produce cherry laurel water, and as such of value in cough, whooping-cough, and asthma; useful as an addition to other medication, and in dyspepsia, indigestion, &c. Preparation, water B.P. Dose, $\frac{1}{2}$ -2 drachms. Distinctive character—Leaves leathery, shining, about 5-6 in. long by $1\frac{1}{2}$ -2 in. wide, oblong-lanceolate, pointed, and serrate at the margins. At the back of the leaf there are two or three dot-like glands close to the midrib near the base. Odour when the leaves are bruised like that of oil of bitter almonds."

The Cultivation of Medicinal Herbs attracted a very large amount of attention during last year—indeed, wholly out of proportion to the economic returns likely to accrue, bearing in mind the transference of labour from the culture of cereals and vegetables to this technical industry. The Board of Agriculture and Fisheries issued a useful *Leaflet, No. 288*, in which it was stated that an acre of ground yielded in the first year 6 cwt. of dried Belladonna leaves and 15 cwt. of

ied Henbane leaves. 35 cwt. of *Cnicus Benedictus* were also obtained from an acre. Details as to the method of cultivating conite, Belladonna, Stramonium, Henbane, &c., are given.

ATROPA BELLADONNA L. Several members have recently made inquiries about the cultivation of *Belladonna* since there is now a shortage of supplies of this medicinal plant. I have therefore made an abstract of a paper in the *Pharmaceutical Journal* of 1860, where many details are given respecting its culture on the land of the late Mr Ransom of Hitchin. It is propagated in two ways, by division of the roots and by seeds. Root division, as adopted by Mr Perks, is made when the plants are about three or four years old. The roots are divided, and the cuttings are planted out in autumn, in rows about a yard apart, and at a distance of about a foot between the plants, in a damp stiff loamy soil. After this planting has been performed, a good top dressing of farmyard manure is applied. This is given not only to supply nourishment to the young plants, but also to preserve their young shoots from injury by late spring frosts, when, as sometimes happens after a mild winter, they appear above ground at an early period. Mr Ransom grew his plants from seed sown about March in a moist loamy soil. The seedlings appear about May, and grow very slowly for two months, but towards the autumn they progress more rapidly. They usually flower little or not at all during the first year's growth. The first frosts in the autumn cause the plants to die down to the ground; then before winter approaches, while the weather is still open, these young first year's plants are planted about two feet apart in rows placed also about two feet apart. The ground is then well manured on their first appearance in the spring.

PROFITABLE HERB GROWING AND COLLECTING. ADA B. TEETGEN.
The Country Life Library, 3/6 net.

THE PRACTICAL PRINCIPLES OF PLAIN PHOTO-MICROGRAPHY.
GEORGE WEST, Lecturer University College, Dundee. Small 4to., pp. x., 146. 4/6 net.

THE ANTHOCYANIN PIGMENTS OF PLANTS. MURIEL WHELDALD.
Camb. Univ. Press. pp. xii., 318. 1916. 15/- net.

THE EVOLUTION OF SEX IN PLANTS. JOHN MERLE COULTER. Cr. 8vo., 46 text figures. Camb. Univ. Press. 4/6 net.

PLANTS IN HEALTH AND DISEASE. F. E. WEISS, A. D. IMMS, and W. ROBINSON. Longmans, Green & Co., pp. 143, 1916. 1/6.

THE PRINCIPLES OF PLANT TERATOLOGY. W. C. WORSDELL. London, Ray Society. Vol. i. 8vo., pp. xxiv., 270, pl. 25, text fig. 60, 1915. 25/- net.

PLANT LIFE. Prof. J. BRETLAND FARMER, F.R.S. Williams & Norgate, London, pp. 255. Cloth. 1/3 net. The Home University Series. The work has numerous illustrations. Twenty chapters are devoted to the phenomena connected with plant life which are treated in the masterly manner we should expect from the writer. Without the employment of too many scientific terms he clearly explains Vegetable Reproduction, Sexual Reproduction, and the Cell Nucleus and Fertilization. The chapter on Fungal Parasites is especially interesting. This inexpensive work is sure to have, as it deserves, a wide circulation.

A MANUAL OF MENDELISM. JAMES WILSON, M.A., B.Sc. A. & C. Black, Ltd., pp. 152. 1/- net.

A SCHOOL FLORA, for the use of Elementary Botanical Classes. W. MARSHALL WATTS, D.Sc. New edition, with 205 illustrations. Longmans, Green & Co., pp. viii., 208, 1915. 3/6.

ALGAE. Vol. i. Myxophyceae, Peridinieae, Bacillarieae, Chlorophyceae, together with a brief summary of the Occurrence and Distribution of Freshwater Algae, by G. S. WEST, M.A., D.Sc., A.R.C.S., F.L.S., Mason Professor of Botany in the University of Birmingham. Large royal 8vo., pp. x., 476, 271 illustrations of 1284 lettered or numbered figures. Camb. Univ. Press, 1916. 25/-. An indispensable work to the students of this group, and the outcome of most laborious research on the part of its author over a protracted period.

BRITISH FUNGI AND HOW TO IDENTIFY THEM. J. H. CRABTREE. pp. 62. C. H. Kelly, 26 Paternoster Row, London, 1916. 1/-. Some forty species are here represented by good photographs, each

with a page of useful descriptive sketch, affording a ready help in identifying them. The compact Introduction describes the method of spore examination and the outlines of classification. It states that the Common Puff Ball produces seven billions of spores, of which even one may perchance fructify. A few sheets of blank paper for notes are inserted in this handy and useful pocket-handbook for those who wish to commence the study of Fungi.

FUNGOID AND INSECT PESTS. F. R. PETHERBRIDGE. Camb. Univ. Press. pp. 174, 1916. 4/-.

CATALOGUE OF THE MESOZOIC PLANTS IN THE BRITISH MUSEUM (NATURAL HISTORY). The Cretaceous Flora, pt. ii., Lower Greensand (Aptian) Plants of Britain. Dr MARIE C. STOPES, D.Sc., Ph.D., pp. xvi., 360, tt. 32. British Museum Publication.

THE PROCEEDINGS OF THE ROYAL SOCIETY contain a Preliminary Report on the Purbeck Characeae by Clement Reid and J. Groves. They describe a new fossil genus, *Clavator*, and state that there are seven or eight species, belonging to four genera, to work out from the close-grained limestone.

AN ADDRESS TO THE ENTOMOLOGICAL SOCIETY OF LONDON by the President, the Hon. N. C. ROTHSCHILD, describes at length the efforts which have been made in various countries of the world to obtain Nature Reserves. Special allusion was made to Kingley Bottom, near Chichester, the property of the Duke of Richmond and Gordon, which is a virgin Yew-forest of some hundreds of acres. No reserve in any part of Europe is of greater beauty and interest. Canada possesses in its Dominion and Provincial Parks over 12,000 square miles dedicated to the public. The United States has 5,000,000 acres conserved. Recently the Falls of Iguaza (perhaps the largest in the world), with 50,000 acres, have been reserved in the Argentina. Photographs of *Orchis militaris*, *Senecio paludosus*, and *S. palustris*, *Veronica spicata*, *Orchis hircina*, *Cypripedium*, *Sonchus palustris*, *Pyrus domestica*, *Lathyrus maritimus*, *Anemone Pulsatilla*, *Draba aizoides*, *Potentilla rupestris*, *Mibora*, *Helianthemum Breweri*, *Cotoneaster*, and *Lloydia* were shown as examples of plants whose habitats it was desirable to preserve in Britain. See *Ent. Soc. Journ.* 1916.

OBITUARIES.

CHARLES CROSSLAND, born 1874, died at Halifax in December 1916. He was a butcher by trade. When he was about the age of forty, his daughter took part in a wild flower competition. This at once interested him in the study. Five years later Mr G. Masee of Kew induced him to study fungi. It resulted in a special Committee of the Yorkshire Naturalists' Union being formed to promote investigations in this branch of Natural Science. Crossland assisted Masee in the compilation of a Fungus Flora of Yorkshire which enumerated 2626 species, and was published in 1905. He was the colleague of our member, Mr W. B. Crump, in preparing the excellent *Flora of Halifax*. A more painstaking and exact worker it would be difficult to find.

HENRY NICHOLSON ELLACOMBE, born at Bitton, near Bristol, February 18, 1822, died there February 7, 1916, having succeeded his father as Rector in 1850. His beautiful garden was visited by most British horticulturists, and few came away without being recipients of his generosity. Sir Joseph Hooker, in the 107th vol. of the *Botanical Magazine*, which he dedicates to him, justly says, "Allow me, when adding your name to the list of recipients of this modest tribute, to record my high appreciation of the value of your venerable father's and your own intelligent interest and zeal in the introduction and cultivation of interesting, rare, and beautiful hardy plants, and your disinterested liberality in the distribution of them among horticulturists." His best known work is the *Plant-Lore and Garden-craft of Shakespeare*, which first appeared in *The Garden* in 1877, and was reprinted as a separate work in 1878. A second edition appeared in 1884. To the *Gardeners' Chronicle* he also contributed *Flowers of Chaucer, Spenser, and Milton*. See an appreciative Memoir by his friend, Mr H. J. Elwes, in the *Gardeners' Chronicle* 108, 1916, where there is a reproduction of a pastel portrait of him by Mr Graham Smith.

EDWARD GILLET GILBERT, M.D., born at Harleston, Norfolk, March 12, 1849, died at Tunbridge Wells, December 17, 1915. He was Secretary and Vice-President of the Tunbridge Natural History Society. He critically studied the British *Rubi*, and adopted views

to their origin which ran counter to those of other British students in the group. He published (*Journ. Bot.* 129 and 339, 1907) papers on the *Suberecti*, in which the hybrid origin of some "species" was suggested. The recent Monograph by Dr Focke suggests a hybrid origin also of plants which have been considered good species; he, however, considered *R. Rogersii* a good species. In 1912 (*l.c.* p. 280), Gilbert continued these notes. All his papers show that he was a critical observer. He also contributed a few notes to the *Flora of Kent*. His *Rubi* have been given to the Herbarium at Kew.

PROFESSOR OCTAVE LIGNIER, born at Pougy, Aube, Champagne, died at Caen, March 19, 1916. A distinguished palaeobotanist.

ARTHUR STANLEY MARSH, born at Crewkerne, 1892, killed in action in France, January 5, 1916. An Exhibitioner of Trinity, Cambridge, 1909, he obtained a double first and acted as assistant demonstrator at the Botany School, Cambridge. A valuable paper on *Azolla* (see *Rep. B.E.C.* 43, 1914) appeared in the *Proc. Camb. Phil. Soc.* 1914, and another on the *Maritime Ecology of Holme, Norfolk*, in *Journ. Ecol. Soc.* 1915. He had attained the rank of Captain when his promising career was prematurely cut off in the trenches by a German sniper. See Memoir in *Ann. Bot.* 1916.

NICHOLAS HENRY MARTIN, J.P., Ph.C., F.C.S., F.R.S.E., born at Trebartveith, Cornwall, May 2, 1847, died at Ravenswood Low Fell, Gateshead, July 5, 1916. He was apprenticed as a pharmacist at Penrhyn, and became assistant to Henry Deane, the excellent microscopist at Clapham. Later he took over W. Ranson's business at Hitchin, and eventually became partner with Henry Brady, F.R.S., the great authority on *Foraminifera*, at Newcastle. Martin, although interested in Field Botany, never took seriously to it, his scientific bent lying in the direction of Chemistry. He filled the Chair of his section when the International Society of Chemical Industry visited London. He was President of the Pharmaceutical Conference at the Oxford Meeting, when he laid special stress on the need for more thorough scientific teaching. His comparatively sudden death came as a great shock to his old colleagues, who valued his alert mind, and his readiness to help in promoting scientific research.

CLEMENT REID, born January 6, 1853, died at Milford-on-Sea, after a short illness, December 10, 1916. He became a member of

the Geological Survey in 1874, working in the south-west. He soon migrated to the eastern counties, the results of which are seen in his *Geology of the Country round Cromer*, which was published in 1882, of *Holderness* in 1885, and the *Pliocene Deposits of Britain* in 1890. He became specially interested in plant-remains of the later geologic periods, and his investigations were made public in 1899 under the title of *The Origin of the British Flora*. Another work on this subject appeared in 1913, as *Submerged Forests*. He possessed a critical knowledge of the British Flora, as is evidenced by his note on *Geranium modestum*, which appeared in *Rep. B.E.C.* 429, 1909. Recently he became convinced that our alpine Thrift from Culrannoch and the Breadalbanes was specifically distinct from the coastal plant, and this year some plants which Mr C. E. Salmon sent him from Slioch, W. Ross (I recorded it from that station in *Trans. Bot. Soc. Ed.* 150, 1894, as *planifolia*), convinced him we had a third species in Britain. This helped to explain the difficulty about a Ross-shire plant which I had collected on Ben Dearg, as well as the Slioch, which had the calyx of *planifolia*, but narrow leaves. His recent account of the *Late Glacial Plants of the Lea Valley* is noticed elsewhere in the *Report*. In 1901 he was placed in charge of the Geological Survey work in Cornwall and Devon. Since 1913 he had lived in Hampshire. He was made a Fellow of the Royal Society in 1899, and has been the recipient of the Bigsby and the Bolitho Medals. He was Vice-President of the Geological Society in 1913, and contributed papers of great interest to the British Association meeting at Portsmouth. He was a most kindly helper, and his place as a consultant on seeds and recent plant remains will be very difficult to fill. He was working at the fossil Characeae with Mr James Groves, a preliminary note on which was read before the Linnean Society last June.

DANIEL OLIVER, born at Newcastle-on-Tyne, February 6, 1830, died of heart failure at Kew, December 21, 1916, aged 87. Educated at the Friends' School at Brookfield, near Wigton, he early showed his love for Natural Science, contributing to the *Phytologist* (986, 1847) a *List of a few Plants found in Bouldersdale and Teesdale*, with the formations on which they were found. In the same *Journal* (676, 1852) he gave the results of an Irish tour as *Botanical Notes of a Week in Ireland*. There he describes a much misunderstood plant,

clampyrum pratense var. *ericetorum*. He visited the Aran Isles, here he found a species of *Euphrasia* which Babington thought was *gracilis*, but which is doubtless, as Oliver suggests, *E. salisburgensis*, and the first British record. In 1851 he became a Fellow of the Edinburgh Botanical Society, and in 1853 he joined the Linnean Society. He became assistant at Kew in 1858, publishing *Lessons in Elementary Botany* in 1864, three volumes of the *Flora of Tropical Africa* between 1868 and 1877, his *First Book of Indian Botany* in 1869, and his *Illustrations of the Principal Natural Orders of the Vegetable Kingdom* in 1874, Fitch being responsible for the plates. He also prepared a *Guide to Kew Gardens*, and a volume on its *Museums of Economic Botany*. He was appointed Professor of Botany at the University College in 1861. He was made an F.R.S. in 1863, and became keeper of the herbarium and library at Kew in 1864, retiring from that office in 1890. He continued to edit, on Hooker's retirement, the *Icones Plantarum* till 1895. He was made an LL.D. of Aberdeen University, and received the medals of the Royal and of the Linnean Societies.

H. H. W. PEARSON, Professor of Botany at Cape Town, born at Long Sutton, Lincoln, in 1870, died prematurely at Mount Royal Hospital, Wynberg, S. Africa, November 3, 1916. After completing his studies at Cambridge, where for a time he was assistant-curator of the Herbarium, he joined the staff at Kew in 1893. In 1903 he was appointed to the Chair of Botany in the South African College. Here with Sir Lionel Phillips and other public men in South Africa he started the National Botanic Garden at Kirstenbosch. He travelled widely, visiting Damaraland, Namaqualand, Angola, &c. He contributed interesting accounts to the *Gardeners' Chronicle* in 1911 et seq. Shortly before his death he was made a Fellow of the Royal Society. When wandering over the slopes of Table Mountain in 1914 I accidentally met him. Then he was full of enthusiasm to make the Gardens a model of what such institutions should be, and he was keenly alive to the desirability of retaining great areas for the preservation of the flora and fauna. The Silver Leaf thickets on Table Mountain had been already protected against depredation. An interesting letter from him to Prof. Herdman appeared in *Nature* for March 2, 1916, giving details of his visit as a Captain, with the permission and goodwill of General Botha,

through the recently conquered "South-West," and the land inhabited by the Bastar Hottentots, into which no German dare penetrate. He found the native inhabitants could hardly do enough for him. They seemed profoundly thankful that the German régime was over. There is an excellent portrait of him in the *Gardeners' Chronicle*, 250, 1916.

HERMAN GRAF ZU SOLMS-LAUBACH, Ph.D., Berl., Sc.D., Cantab. Born at Laubach, December 23, 1842, died at Strassburg, November 24, 1915, of which University he was Professor of Botany. He was son of Count Otto zu Solms, a Prince of Wied. Formerly he held the chair of Botany at Göttingen. A very distinguished scientist, whose work covered a vast area, he specialised in Fossil Botany. His work, bearing that title in English, was published by the Clarendon Press in 1891, having been translated by Mr H. E. Garnsey. The results of his investigations of the Isle of Wight Fossil *Bennettites Gibsonianus* were made public in 1890. He monographed the Cycads, and the Acetabulariaceae, a family of calcareous algae, the latter appearing in the *Transactions of the Linnean Society*. In 1905 he published his work on the *Principles of Plant Geography*. In 1900 he described a curious indehiscent-fruited form of *Bursa pastoris* as *Capsella Hegeri*. For many years he studied the genus *Fragaria*, and he was much interested in a variety (*bercheriensis*) which is described in the *Flora of Berkshire*. This he cultivated for several years, and eventually suggested that it was the descendant of a plant formerly in cultivation, which had now gone wild. This is quite possible, as it grew on the park-border at Haines Hill, where it is now probably extirpated. Its fruit was white and strongly fragrant. Count Solms-Laubach was a Fellow of the Royal Society, and he received the gold medal of the Linnean Society. Frequently he attended the British Association meetings. He was a man of courteous kindness, and of original thought, and he was anxious to secure a good feeling with England. At the Darwin Celebration at Cambridge in 1909 I saw him receive the degree of Sc.D. He then told me the Berkshire strawberry was still alive in his garden. He was Editor of the *Bot. Zeitung* from 1872, and in 1908 with Prof. Just he founded the *Bot. Zeitschrift*.

FREDERICK STRATTON, born at Newport, Isle of Wight, November 16, 1840, died at Mount Pleasant House, Newport, December 5, 1916,

ged 76. His wife, the mother of eleven children, survives him. For 33 years he had been in practice as a solicitor, and for 40 of these he served as Clerk to the Guardians at Newport, where he was widely known and greatly respected. In 1900 he published a small work on *The Wild Flowers of the Isle of Wight*. He was a Fellow of the Linnean Society, and contributed several articles to the *Journal of Botany*. Two notes by him are in that *Journal* for 1916, one containing the record of *Stachys germanica* for the Island, but the specimen is the garden plant *S. lanata*. He is frequently quoted in *The Flora of Hampshire*. He was a landscape painter of considerable merit. At the Winchester Diocesan Conference he was a well-known figure and a welcome speaker. In his younger days he was an expert climber and knew Switzerland well. His herbarium has been acquired by myself.

THOMAS WAINWRIGHT, born at Leeds, April 7, 1825, died at Barnstaple, April 29, 1916. For many years he was Librarian and Secretary of the North Devon Athenaeum. He was a good all-round naturalist and discovered *Hypericum undulatum* in North Devon (*Journ. Bot.* 296, 1875). See *loc.* 208, 1916, for a Memoir by W. P. Hiern.

NEW COUNTY AND OTHER RECORDS.

ABBREVIATIONS.—*Ir. Nat.* = *Irish Naturalist*; *J. B.* = *Journal of Botany*; *Nat.* = *The Naturalist*; * = New County Record; † = Adventive; ! placed after the plant name = that the compiler has seen the specimen; if after the locality, that the compiler has seen it in the locality.

9. ANEMONE NEMOROSA L., var. CAERULEA DC.! Ashdown Forest, E. Sussex, TALBOT. Mr Grant Allen sent it me in 1891 from near Dorking, Surrey. Alverstone, Isle of Wight, DRUCE.

20. RANUNCULUS ACRIS L. agg., forma MINUTIFLORUS! Flowers very small, but petals well formed. Sent from Strensall, York, by Colonel GODFERY, 1916.

*21. R. AURICOMUS L. North Kerry, Mrs JENNER and R. W. SCULLY, in *Ir. Nat.* 106, 1915.

†29. *R. TRILOBUS* Desf. Mill-yard, Portishead, N. Somerset, Miss I. M. ROPER, in *Wats. B.E.C.* 480, 1914-15.

32. *R. PARVIFLORUS* L. Twerton-on-Avon, N. Somerset, Misses COBBE.

46. *R. HEDERACEUS* L., forma *NATANS* (var. *HOMIOPHYLLUS* auct. ? if *R. HOMIOPHYLLUS* Tenore). Lyndhurst, S. Hants. Specimens will be distributed in 1917. DRUCE.

†55. *NIGELLA DAMASCENA* L. Brechin, Forfar, R. & M. CORSTORPHINE and DRUCE.

†66. *ACONITUM LYCOCTONUM* L. Brechin, Forfar, with †67 (2) *A. VARIEGATUM* L., Brechin, Forfar, R. & M. CORSTORPHINE and DRUCE.

†79. *PAPAVER SOMNIFERUM* L., var. *HORTENSE* (Huss.), forma *LACINIATUM*. Low down the cliffs of Berry Head, S. Devon, in some plenty. Lady DAVY and DRUCE.

80. *P. RHOEAS* L., var. *PRYORII* Druce. The Lizard, Cornwall, Misses COBBE. Var. *OMPHALOPHORUM* Fedde. Hambledon, Bucks.; Wootton, Berks, DRUCE.

o/ †88. *MECANOPSIS CAMBRICA* Vig. ! Woodland, Haslemere, Surrey, J. LAMB.

†90. *GLAUCIUM CORNICULATUM* Curtis. Ware, Herts., Mrs KNOWLING and HIGGENS; near Lunan, Forfar, R. & M. CORSTORPHINE and DRUCE.

†94. *HYPECOUM GRANDIFLORUM* Benth. Wakefield, CRYER, in *Nat.* 250.

†95. *H. PROCUMBENS* L. Portishead Dock, N. Somerset, Miss LIVETT, ex WHITE.

†97. *BIKUKULLA FORMOSA* Planch. (*DICENTRA*) ! Garden stray, between Penrith and Edenhall, Cumberland, 1915, WALLIS, in *Hb. Salmon*.

†100. *CAPNOIDES SOLIDA* Moench ! Patshull, Staffs., ex Lady JOAN LEGGE.

104. *FUMARIA CAPREOLATA* L., var. *BABINGTONII* Pugs. Orkney, ENNETT, in *Trans. Bot. Soc. Edin.* 54, 1915.
- *106. *F. PURPUREA* Pugs. West Lothian, FRASER, in *Trans. Bot. Soc. Edin.* 54, 1915.
- *109. *F. BASTARDI* Bor. West Lothian, FRASER, *l.c.*
- *124. *RADICULA SYLVESTRIS* Druce. River Quoile, Downpatrick, Collymount, WADDELL, in *Ir. Nat.* 188, 1915.
125. *R. AMPHIBIA* Druce, var. *PINNATIFIDA* Druce. Aylestone, Leicester, HORWOOD, in *lit.*
- †137. *ARABIS ALBIDA* Stev. Mardock, HIGGENS; Hitchen, Herts., LITTLE.
- †155. *ALYSSUM ALYSSOIDES* L. Mullion, Cornwall, Miss A. B. COBBE.
- †158. *A. MARITIMUM* Lam. Naturalised on cliffs at Ventnor, Isle of Wight, HIGGENS.
161. *DRABA INCANA* L., var. *CONFUSA* (Ehrh.). Cliffs of Caenlochan, Forfar, DRUCE.
- †176. *HESPERIS MATRONALIS* L.! Langdale End, Scarborough, York, HORRELL.
- †177. *WILCKIA MARITIMA* Scop.! Barmouth, Merioneth, Miss COBBE.
- †178. *W. AFRICANA* F. v. Muell.! Ware, Herts., HAYLLAR.
- †184. *SISYMBRIUM ALTISSIMUM* L. Very abundant at Ware, both in the brick-yards and gravel pits, and at Hertford, &c., Herts., since 1906, DRUCE: 1916, HIGGENS; Portmadoc, Carnarvon, Misses COBBE: Buryport, Carmarthen, HAMER: Wareham, Dorset, ! NOEL SANDWICH; St Cyrus, Kincardine, Mrs CORSTORPHINE and DRUCE: Dundee, Forfar, DRUCE and CORSTORPHINE: Thetford, Norfolk, ROBINSON: Arnley, Leeds, HORRELL; Goring, Oxon, GAMBIER-PARRY; * Wakefield, York, CRYER, in *Nat.* 250.

*†185. *S. ORIENTALE* L. Wye, Kent, a N.C.R., inasmuch as the record in *Fl. Kent* is based on an erroneous naming by the Rev. W. R. Linton of a specimen rightly sent as *S. pannonicum* to the *B.E.C.* by WOLLEY-DOD; Buryport, Carmarthen, DRUCE; Portinadoc, Carnarvon, Misses COBBE; two plants in Mr Graveson's garden at Hertford, HIGGENS; Dundee, Forfar, CORSTORPHINE, DRUCE, and SMITH; Elland, York, HORRELL; Wakefield, York, CRYER, in *Nat.* 250.

*†187. *S. LOESELII* L. Brislington, N. Somerset, Miss M. COBBE.

†188. *S. IRIO* L. Wakefield, York, CRYER, *l.c.*

†196 (2). *ERYSIMUM SUFFRUTICOSUM* Sprengel. On a wall near Fishbourne, W. Sussex, DRUCE and BURDON.

†200. *CONRINGIA ORIENTALIS* Dum. ! Watton, Norfolk, 1915, ROBINSON; Lambourne, Cornwall, RILSTONE; Elland, York, HORRELL, Goring, Oxford, GAMBIER-PARRY.

*†203. *CAMELINA SYLVESTRIS* Wallr. Baptist Mills, Bristol, Misses COBBE; Wakefield, York, CRYER, *l.c.*; Grasmere, Westmorland.

205. *BRASSICA OLERACEA* L. Braunton, N. Devon, ! Countess FORTESCUE. Is it a real native of England ?

†224. *B. INCANA* F. Schultz. Portinadoc, Carnarvon, Misses COBBE; Buryport, Carmarthen, DRUCE.

†226. *DIPLOTAXIS TENUIFOLIA* DC. Abundant near the embankment and in other places, Portinadoc, Carnarvon, Misses COBBE, Kirkstall, York, HORRELL.

†227 (2). *D. VIMINEA* DC. Baptist Mills, Bristol, Miss M. COBBE.

†228. *ERUCA SATIVA* Mill. Watton, Norfolk, 1915, ROBINSON Ware, Herts., Mrs KNOWLING; Belgrave, Leicester, HORWOOD.

†230. *MORICANDIA ARVENSIS* DC. ! Ware, Herts., HAYLLAR.

†231. *CARRICHTERA ANNUA* Ger. Ware, Herts., HAYLLAR.

*†233. *CORONOPUS DIDYMUS* Sm. Wakefield, York, CRYER, in *Nat.* 250.

- *†235. *LEPIDIUM GRAMINIFOLIUM* L. Portmadoc, Carnarvon, Miss L. COBBE.
- †237. *L. DRABA* L. On rubbish at Portmadoc, Carnarvon, Miss L. COBBE; Brampton Burrows, N. Devon, Countess FORTESCUE and W. TRETNEWY; Tingley, HORRELL; Wakefield, York, CRYER, *l.c.*; Dundee, Forfar, DRUCE and CORSTORPHINE.
- *†239. *L. PERFOLIATUM* L. Wakefield, York, CRYER, *l.c.*
- †240. *L. RUDERALE* L. Thetford, Norfolk, ROBINSON.
- †240 (2). *L. NEGLECTUM* Thell. Thetford, Norfolk, ROBINSON, *in lit.*
- *†243. *L. INCISUM* Roth. Wakefield, York, CRYER, *l.c.*
- †247 (11). *L. FASCICULATUM* Thell. ! Tingley, York, HORRELL.
249. *THLASPI ARVENSE* L. On rubbish at Portmadoc, Carnarvon, Miss M. COBBE; Thetford, Norfolk, ROBINSON.
250. *T. PERFOLIATUM* L. In the parish of Snowhill, Gloster, 1916, Earl of GAINSBOROUGH, *in lit.*
- †258. *VOGELIA PANICULATA* Horn. Elland, York, HORRELL; Bletchley Railway, Bucks., DRUCE.
- †263. *BUNIAS ORIENTALIS* L. Dundee, Forfar, DRUCE; near Taplow, Bucks., DRUCE.
- †267. *RAPISTRUM ORIENTALE* DC. Montrose, Forfar; St Cyrus, Kincardine, DRUCE.
- †268. *R. RUGOSUM* All. Morley, York, HORRELL; Twerton, N. Somerset, DRUCE.
- †273. *ERUCARIA MYAGROIDES* (L.) Halac. ! Ware, Herts., Mrs KNOWLING, Miss TROWER and DRUCE; Kirkstall, York, HORRELL.
293. *VIOLA SYLVESTRIS* Kit., var. *PUNCTATA* Druce. Cribbs Causeway, Henbury, W. Gloster, Miss I. M. ROPER; Wassail Copse, N. Hants., 1882, Miss C. E. PALMER; Blenheim Park, Oxon, 1880,

DRUCE. Forma ROSEA. Compton Abdale, E. Gloster, GREENWOOD, in *lit.*

294. V. RIVINIANA Reichb., var. PSEUDOMIRABILIS (Coste). St Cyrus, Kincardine, DRUCE. Var. DIVERSA Greg. Canon's Wood, Walton in Gordano, N. Somerset, Miss I. M. ROPER; Benscliffe, Horwood; Wakefield, York, CRYER, in *Nat.* 250.

296. V. CANINA L., var. LANCEOLATA Martr.-Don. St Cyrus, Kincardine, Mrs CORSTORPHINE and DRUCE.

296. V. CANINA × RIVINIANA. Henwood, Berks.; Elsfield, Oxon, 1880, DRUCE; Yate Lower Common, W. Gloster, Miss I. M. ROPER; Sibstone, Leicester, Bishop MITCHINSON.

297. V. LACTEA Sm., var. PUMILIFORMIS R. and F. Pradannack Downs, Cornwall, Miss COBBE.

298. V. ODORATA L., var. PRAECOX Greg. Beckley, Oxon, DRUCE; Almondsbury, W. Gloster, Miss I. M. ROPER.

298. V. ODORATA × HIRTA = × V. COLLINA Bess. Alveston Common, W. Gloster, WHITE.

301 (2). V. EPIPSILA Ledeb. On Snowdon, 1850, Miss LIGHT-FOOT, in *Hb. Druce*. The hybrid with *palustris* was found in Carnarvonshire at Coed Fynnon, near Bettws-y-Coed, by Miss C. E. PALMER, where I was unable to see type *epipsila*; Fenmoor, Goathland, N.E. York. Var. GLABRESCENS. Crianlarich, Mid Perth, DRUCE.

*303. V. LLOYDII Jord., var. INSIGNIS Drabble. Melvich, W. Sutherland; Wick, Caithness, MARSHALL, in *J.B.* 169, 1916.

*304. V. DERELICTA Jord. Melvich, W. Sutherland, MARSHALL, *l.c.*

305. V. NANA Godr. Scilly Isles, *Hb. Druce*.

*311. POLYGALA CALCAREA F. Schultz. Roundstone Pit, near Bloody Oaks Wood, Empingham, Rutland, Earl of GAINSBOROUGH and Horwood. An interesting extension of its eastern range. Also in Leicestershire, Horwood, in *Rep. B.E.C.* 329, 1915.

314. *FRANKENIA LAEVIS* L. "Very common in mud-flats on Payling Island, 1862, Trimen," *Fl. Hampshire*. Since become very scarce. A few patches growing on sand, not mud, were found by Mrs and Master NOEL SANDWICH in 1916.
- †321. *DIANTHUS CARTHUSIANORUM* L. ! New Farm, St Albans, Herts., DICKENSON, in *Hb. Salmon*; a patch of about a dozen stems at Colesborne, Gloster, J. EDWARDS and H. J. ELWES.
- †331. *SAPONARIA VACCARIA* L. Buryport, Carmarthen, DRUCE; Votton, Norfolk, ROBINSON; Calow, Derby, DRABBLE, in *J.B.* 135, 916; Elland, Garforth, W. Riding, HORRELL; Wakefield, York, CRYER, *l.c.*
- †332 (2). *S. CALABRICA* L. ? A garden weed at Longleat, Wilts., Lady KATHLEEN THYNNE.
- *†337. *SILENE JUVENALIS* Del. Wakefield, York, CRYER, in *Nat.* 250.
- *340. *S. NOCTIFLORA* L. Portmadoc, Carnarvon, Miss COBBE.
- †341. *S. DICHOTOMA* Ehrh. Sibford, Leicester, Bishop MITCHINSON.
- †342. *S. GALLICA* L. Sibford, Oxon, J. LAMB.
343. *S. ANGLICA* L. Saham Toney, Norfolk, ROBINSON; Woodhall Spa, Lincoln, HORWOOD.
- †344. *S. QUINQUEVULNERA* L. Between Truro and Malpas; field near Ruan Minor, Cornwall, Misses COBBE. A colonist likely to spread.
- †345. *S. PENDULA* L. Garden weed, Walton, Liverpool, 1916, ex TRAVIS; Galashiels, Selkirk, Miss I. M. HAYWARD.
- †347. *S. ARMERIA* L. Wakefield, York, CRYER, *l.c.*
- †352. *S. LAETA* A. Br. In cultivated ground, Stoborough, Dorset, Mrs SANDWICH.
- *†356. *S. ANNULATA* Fenzl. (*S. CRETICA* L.) Milverton, S. Somerset, Misses B. and M. FALCON, ex E. S. MARSHALL, in *J.B.* 97, 1916.

360. *LYCHNIS DIOICA* × *ALBA*. Near Selham, West Sussex, in quantity, and varying towards one or other parent, *LACAITA* and *DRUCE*; Wareside, Herts., *HIGGENS*; Uppingham, Rutland, *HORWOOD*; near Byfield, Northants; Brill, Bucks.; and Edgehill, Warwick, *DRUCE*.

†367 (2). *CERASTIUM TOMENTOSUM* L. Railway bank, Maidenhead, Berks., *RIDDELSDELL*; Brechin, Forfar, *DRUCE* and R. and M. *CORSTORPHINE*.

372. *C. PUMILUM* Curt. Snowhill, Gloster, 1916, Earl of *GAINSBOROUGH*.

380. *STELLARIA NEGLECTA* Weihe, b. *UMBROSA* (Opiz.) Park Wood, Bramfield, Herts., 1915, *LITTLE*, in *Wats. B.E.C.* 530, 1915-16; the type at Selham, W. Sussex, *LACAITA* and *DRUCE*; Stoke by Nayland, W. Suffolk, *BROWN*.

*392. *ARENARIA LEPTOCLADOS* Guss., var. *VISCIDULA* R. & F. Lea, Derby, *DRABBLE*, in *J.B.* 135, 1916.

394. *A. TENUIFOLIA* L. Railway tunnels, Welwyn, Herts., *HIGGENS*.

399. *SAGINA NODOSA* Fenzl, var. *MONILIFORMIS* Lange. Pembrey Burrows, Carmarthen, abundant; Whitehorn Point, Glam.; Montrose, Forfar, *DRUCE*.

403. *S. SAGINOIDES* (L.) Dalla Torre. Sparingly on the cliffs of Glen Phee, Glen Dole and Caenlochan, Forfar. Not seen on Little Culrannoch around which *S. scotica* is so abundant. On Ben Laoigh, Mid Perth, *DRUCE*.

403 (2). *S. SCOTICA* Druce. Very abundant by the rills on the table land of Clova, and there apparently with a higher and a lower altitudinal range than *saginoides*, with which I saw no intermediates. In the West and Winter Corries, Clova, where *saginoides* was not observed; on the slopes and cliffs of Ben Laoigh and in Corrie Ardran, Mid Perth, *DRUCE*.

408. *S. PROCUMBENS* L., var. *COROLLINA* Ledeb.! Littleworth Common, Surrey, *BRITTON*. With more conspicuous petals at Rescobie

id on the Esk at Montrose, Forfar, but having a different facies
om *S. scotica*. DRUCE.

*411. SPERGULARIA RUPESTRIS Lebel. Rhos-on-Sea, Denbigh,
WATERFALL in *Rep. B.E.C.* 331, 1915.

†417. PORTULACA OLERACEA L. Nursery-garden weed, Christ-
church, S. Hants., LINTON, in *Wats. B.E.C.* 488, 1914-1915.

†418. CLAYTONIA SIBIRICA L. In the Clyde area, see *Glasgow*
Val. 1915.

†419. C. PERFOLIATA Donn. Road bank, Hertford, 1916, HIGGENS.
Confirms the doubtful record in the *Flora*.

423. ELATINE HYDROPIPER L. ! which has for the time disappeared
from Berkshire owing to military operations, and is now excessively
rare in Surrey, has been found in its old locality at Lynn Coron,
Anglesey, 1916, by Mr G. MACONCHY.

†441. ALTHAEA ROSEA L. Twerton, N. Somerset, DRUCE.

†443. A. HIRSUTA L. In a field near Itchen, Stoke, Hants., Mrs
SANDWICH.

†445. LAVATERA SYLVESTRIS Brot. Rubbish-heaps, Ware, Herts.,
HIGGENS.

†448. L. PUNCTATA All. Waste ground, Woodmill, Southampton,
RAYNER.

452. MALVA MOSCHATA L., var. HETEROPHYLLA Lej. & Court.
Bladon, Oxon., DRUCE; Copley Wood, S. Somerset, MARSHALL, in
J.B. 98, 1916. This is already recorded for the county in Woods'
Tourist Flora 62, 1850, where Mr Borrer says it has propagated itself
as an annual for 20 years without alteration. The white-flowered
form with heterophyllous leaves also remains remarkably constant in
cultivation. Patshull, Stafford, ex Lady JOAN LEGGE. *Var.
INTEGRIFOLIA Lej. & Court. Copley Wood, S. Somerset, MARSHALL,
l.c.

†452 (2). M. NICAEENSIS All. Meanwood, Leeds, HORRELL.

†454. *M. PUSILLA* With. Newport, Isle of Wight, STRATTON, in *J.B.* 371, 1916.

†456. *M. PARVIFLORA* L. Meanwood, Leeds, HORRELL; Dundee, Forfar, DRUCE and CORSTORPHINE; Little Ellingham, Norfolk, ROBINSON. See *Rep. B.E.C.* 332, 1915.

465. *TILIA CORDATA* Mill. In a hedgerow, probably planted, near Chichester, W. Sussex. Shown me by Rev. Preb. BURDON: *Dolgelley, Merioneth, BARTON, in *Rep. B.E.C.* 333, 1915.

466. *RADIOLA LINOIDES* Roth, with *CENTUNCULUS*. Talsarnau, Merioneth, Miss M. COBBE.

†475. *GERANIUM VERSICOLOR* L. On hedge-banks in great plenty near Leary, N. Devon! Completely naturalised and known for some years. Countess FORTESCUE.

486. *G. PUSILLUM* L. At Portmadoc, Carnarvon. ?† Miss COBBE. Confirms Robinson's record in *Top. Bot.*

488. *G. ROBERTIANUM* L., with tri-lobed petals. Wareside, Little Hadham, Herts., HIGGENS.

†494. *ERODIUM MOSCHIATUM* Ait. Meanwood, Leeds, from skin-dressing works, HORRELL.

497. *E. CICUTARIUM* Ait., var. *PIMPINELLIFOLIUM* (Sibth.). Clover field, Haslemere, Surrey, HIGGENS.

†499. *E. CYGNORUM* Nees! Meanwood, Leeds, HORRELL.

†501. *TROPAEOLUM MAJUS* L. ! Hertford, Ware, Herts., HIGGENS; Taplow, Bucks.; Cardiff, Glamorgan, DRUCE.

†502. *IMPATIENS PARVIFLORA* DC. ! Hertford, HIGGENS.

†513. *I. GLANDULIFERA* Royle! By the river at Flete, S. Devon, in great quantity, Mrs MILD MAY; on waste ground at Perth, BARCLAY and DRUCE; West Runton, E. Norfolk, in brick-yard, R. CREED.

†531. *LABURNUM ANAGYROIDES* Med. Seedlings on Oxford Castle: Slough, Bucks., DRUCE.

538. *ULEX GALLII* Planch. Near Southampton, ! RAYNER.
539. *U. MINOR* Rotli, var. *LONGISPINOSUS* (R. & F.) Druce. See *Rep. B.E.C.* 192, 1915. Bedwyn Brailes, N. Wilts., HURST. The strong spines of this plant, associated with a strong erect habit, have led to its being mistaken for *Galli*. DRUCE.
- †540 (2). *CYTISUS MONSPESSULANUS* L. Milford-on-Sea, S. Hants., MELVILL. See *Rep. B.E.C.* 334, 1915.
543. *ONONIS REPENS* L. Orkney, BENNETT, in *Trans. Bot. Soc. Edin.* 1915. Var. *HORRIDA* Lange. Brading Harbour, Isle of Wight, HIGGENS.
- †548. *TRIGONELLA FOENUM-GRÆCUM* L. ! Elland, York, HORRELL; Slough, Bucks., DRUCE; Wakefield, York, CRYER, *l.c.*
- *†552. *T. CORNICULATA* L. Wakefield, York, CRYER, *l.c.*
- †554. *T. M. CAERULEA* (L.) Druce. Buryport, Carmarthen, DRUCE; Wakefield, York, CRYER, *l.c.*
- †562. *MEDICAGO FALCATA* L. Rough field, Hoddesdon, Herts., HIGGENS; Dundee, Forfar, CORSTORPHINE and DRUCE. Var. *TENUIFOLIOLATA* Vuyek ! Portmadoc, Carnarvon, Misses COBBE; Elland, York, HORRELL; Pewley Hill, Guildford, KENNEDY.
- †574. *M. TUBERCVLATA* Willd. Colchester, Essex, BROWN. Teste A. THELLUNG.
- †579. *M. HISPIDA* Gaertn. Meanwood, Leeds, HORRELL. †Var. *DENTICULATA* Burnat. Meanwood, Leeds, HORRELL; Portmadoc, Carnarvon, Misses COBBE. †Var. *CONFINIS* Burnat. Froggart, Derby, 1915, FORDHAM. †Var. *LAPPACEA* (Desf.) Ware, Herts., 1907, DRUCE; Foss Island, York, 1889, WHELDON; Thetford. Norfolk, ROBINSON.
- †581. *M. MINIMA* Desr. ! Railway side, Tingley, York, HORRELL.
586. *M. LUPULINA* L., var. *WILLDENOWIANA* Koch. Pyrford, Surrey, Lady DAVY; Wareham, Dorset; Kidwelly, Carmarthen, DRUCE.

†592. *MELILOTUS SULCATA* Desf. Slough, Bucks., Miss A. B. COBBE.

†595. *M. ALBA* Desr. Newport, Isle of Wight, STRATTON, in *J.B.* 232, 1916; Portmadoc, Carnarvon, Miss M. COBBE; Dore, Derby, DRABBLE, in *J.B.* 135, 1916; Wakefield, York, CRYER, *l.c.*

†596. *M. ARVENSIS* Wallr. Newport, Isle of Wight, STRATTON, *l.c.*; Portmadoc, Carnarvon, Miss M. COBBE; Wakefield, York, CRYER, *l.c.*

†597. *M. INDICA* All. Newport, Isle of Wight, STRATTON, *l.c.*; *Steetley, Calow, Derby, DRABBLE, *l.c.*; Halifax, York, HORRELL; St. Cyrus, Kincardine, DRUCE; Wakefield, York, CRYER, *l.c.*

†605. *TRIFOLIUM LAPPACEUM* L. ! Sibford, Oxon., LAMB.

609. *T. MOLINERII* Balb. Between Cadwith and Poltesco, Cornwall, Miss M. COBBE.

617. *T. BOCCONEI* Savi. Near the quarries, Poltesco, Cornwall, Miss M. COBBE.

619. *T. STRIATUM* L., var. *ERECTUM* Gasp. Near Errol, Mid Perth, Miss TODD.

†622. *T. RESUPINATUM* L. Ware, Herts., HIGGENS; Sibford, Oxon., LAMB.

626. *T. STRICTUM* L. Between Cadgwith and Landevednach, Cornwall, Miss M. COBBE.

†630. *T. NIGRESCENS* Viv. Portishead, N. Somerset, Miss LIVETT, ex WHITE.

†642. *CIRCINNUS CIRCINNATUS* Kuntze (*HYMENOCARPUS*)! Tadcaster, York, W. JOHNSON.

†651. *GALEGA OFFICINALIS* L. Hoddesdon, Herts., HIGGENS; Brislington, Bristol, Miss M. COBBE.

†652. *ROBINIA PSEUDO-ACACIA* L. Seedlings in a copse near Thundridge, Herts., HIGGENS.

- †657. *ASTRAGALUS BAETICUS* L. ! Colchester, Essex, BROWN.
- †665. *SCORPIURUS SUBVILLOSA* L. Tingley, York, a sub-glabrous form. Teste A. THELLUNG.
- †666. *CORONILLA VARIA* L. Ware, Herts., DRUCE and Miss TROWER; Bewdley, on the Severn bank, established there since 1853. LAMB. In abundance and completely naturalised on steep cliffs and at their base near Dundee, Forfar, CORSTORPHINE, DRUCE, and SMITH.
- †667. *C. SCORPIOIDES* Koch. Ware, Herts., Miss TROWER and DRUCE; Elland, HORRELL; Wakefield, York, CRYER, *l.c.*
- †670 (2). *ORNITHOPUS ROSEUS* Dufour. Woking, Surrey, 1913, Miss SAUNDERS, in *Hb. Salmon*.
- †676. *CICER ARIETINUM* L. Ware, Herts., Mrs KNOWLING; Brislington, Bristol, Miss M. COBBE.
- †678. *VICIA TENUIFOLIA* Roth. Lower Wick, Worcester, growing spontaneously in a nursery, CARLETON REA, in *lit.*
- †683. *V. VARIA* Host. Cobham, Kent, Miss RIDLEY.
- †691. *V. LUTEA* L. Poltesco Little Cove, Cornwall, abundant, Miss M. COBBE; Ware, Herts., Miss TROWER and DRUCE.
- †694. *V. PANNONICA* Crantz, var. *STRIATA* (Bieb.). Brislington, N. Somerset, Miss I. M. ROPER, ex WHITE.
- †706. *V. GRACILIS* Lois. Cornfield hedge, near Grange Court Station, W. Gloster, Miss VACHELL.
- †707. *LENS CULINARE* Med. Ware, Herts., Mrs KNOWLING; Watton, Norfolk, ROBINSON. See *Rep. B.E.C.* 337, 1915.
- †709. *LATHYRUS LATIFOLIUS* L. Near Hamworthy, Dorset, DRUCE; gravel-pit, Wareside, Herts., HIGGENS.
- †722. *L. SATIVUS* L. Watton, Norfolk, ROBINSON.
- 722 (2). *L. HIEROSOLYMITANUS* Boiss. St Philip's Marsh, Bristol, Miss COBBE. This is doubtless the pretty pea referred to in White's *Flora of Bristol*.

†724. *L. OCHRUS* L. Ware, Herts., Miss TROWER and DRUCE.

†726. *L. APHACA* L. Ware, Herts., HIGGENS, Miss TROWER, and DRUCE; near Welbeck, Notts., Countess de BAILLET-LATOUR.

738. *PRUNUS CERASUS* L. Chichester, DRUCE; Aldbourne, Wilts., Miss TODD.

748 *b.* *RUBUS IDAEUS* L., var. *OBTUSIFOLIUS* (Willd.). Cothill, Berks., DRUCE. Var. *LEUCOCARPUS*, with white or pale yellow fruits, found by Miss TODD, in E. Harptree, Combe, N. Somerset, 1916; near Forres, Elgin, DRUCE.

The following *Rubi* have all been verified by the Rev. W. MOYLE ROGERS :—

*761. *R. IMBRICATUS* Hort. Boxted, N. Essex, BROWN.

*770. *R. NEMORALIS* P. J. Muell. Todenham, Gloster, RIDDELSDELL.

*780. *R. RHOMBIFOLIUS* Weihe. Tiptree Heath, Essex, BROWN.

*782. *R. LEUCANDRUS* Focke. Bergholt, N. Essex, BROWN.

*793. *R. SALTERI* Bab. Okeford, Dorset, CUMMING. See *Rep. B.E.C.* 339, 1915.

*795. *R. SPRENGELII* Weihe. Langham, N. Essex, BROWN.

*798. *R. HIRTIFOLIUS* Muell. and Wirtg. Tiptree Heath, N. Essex, BROWN.

*842. *R. FUSCUS* W. and N. Boxted, N. Essex, BROWN.

*849. *R. FOLIOSUS* W. and N. Tiptree Heath, N. Essex, BROWN.

*855. *R. HOSTILIS* P. J. Muell. Todenham, E. Gloster, RIDDELSDELL; West Bergholt, Little Horkesley, N. Essex; Stoke by Nayland, W. Suffolk, BROWN.

*872. *R. DUMETORUM* Weihe, var. *RADULIFORMIS* Ley. Alkerton, Oxon, RIDDELSDELL. Var. *DIVERSIFOLIUS* (Lindl.). White Colne, N. Essex, BROWN.

- *875. *R. BALFOURIANUS* Blox. Gt. Bromley, Tiptree, Chappel, I. Essex, BROWN.
883. *GEUM RIVALE* L. Caenlochan, Forfar, alt. 3000 feet, as a curious monstrosity. The plant was only two inches high with a single large flower ($\frac{3}{4}$ in. across) with crimson petals in three rows. Could such a form have been mistaken for *Rubus arcticus* reported from Ben-y-Gloe? Near Castle Hill, N. Devon (queried in *Top. Bot.*), Countess FORTESCUE and DRUCE.
883. \times *G. INTERMEDIUM* (Ehrh.), growing with *G. RIVALE* at Castle Hill, N. Devon. Without personal authority for v.c. 4 in *Top. Bot.*
- *†885. *FRAGARIA MOSCHIATA* Duchesne. Near Chichester, W. Sussex, Rev. Partington; Castle Hill, Countess FORTESCUE and DRUCE; Haslemere, Surrey; timber-yard, Hertford, HIGGENS (I have not seen these two specimens).
895. *POTENTILLA ARGENTEA* L. Near Selham, W. Sussex, LACAITA; †Dundee, Forfar, DRUCE and CORSTORPHINE.
902. *P. PROCUMBENS* \times *REPTANS*. Alphamstone, N. Essex, BROWN.
903. *P. ERECTA* Hampe, var. *SCIAPHILA* (Zimm.) Druce. *Fermoy, Co. Cork, LEACH. *P. ERECTA* \times *REPTANS*. Tiptree Heath, N. Essex, BROWN.
- †906. *P. NORVEGICA* L. Racecourse, Northampton, GOODE; Portmadoc, Llanberis, Carnarvon, Miss A. B. COBBE; Welbeck, Notts., Mrs DRUMMOND.
- †910. *ALCHEMILLA ARGENTEA* Don (*A. CONJUNCTA* Bab.) On a railway bank near Perth, v.-c. 88, far from houses, and known there for many years. Shown me by Mr Barclay in 1916. Doubtless originally adventive. The Glen Dole locality we have repeatedly searched, but in vain.
914. *AGRIMONIA ODORATA* Mill. *Herts., GRAVESON and HIGGENS; Hayling Island, S. Hants., NOEL SANDWITH.
- †915. *A. AGRIMONOIDES* L. Quite naturalised at Annat, near Errol, E. Perth, Miss TODD.

†916. *ACAENA ANSERINIFOLIA* (Forster) comb. nov., vice *A. SANGUISORBAE* Vahl Enum. i., 294, 1884, based on *ANCISTRUM ANSERINIFOLIA* Forst. Char. 1772-5. Tweedside, Roxburgh, quite naturalised. Shown me by Miss I. M. HAYWARD.

917. *POTERIUM SANGUISORBA* L. A curious monstrosity sent from Winchester by Mr G. J. TALBOT, had the lateral branch bearing heads of stalked flowers instead of a solitary branch as normally.

925. *ROSA SYSTYLA* Bast., with dark red flowers. A beautiful rose at Hamsworthy, Dorset, DRUCE.

935. *R. CORIIFOLIA* FRIES. Medbourne, Leicester, HORWOOD and CHESTER.

*945. × *R. INVOLUTA* (Sm.) var. Armadale Burn, W. Sutherland, MARSHALL, in *J.B.* 170, 1916.

The following Roses are enumerated as occurring in Durham in a paper by J. W. Heslop Harrison in the *Naturalist* for 1916. *Rosa arvensis* Huds., rare in plantations, Ravensworth, with *R. systyla* Desv., both probably adventive. *R. canina* L., var. *lutetiana* (Lém.), common; var. *flexibilis* (Déség.), Birtley, Billingham; var. *sentiosa* (Ach.), Cowpen Bewley; *R. sarmentacea* Woods, common; var. *biserrata* (Mér.), Lamesley; var. *Malnundariensis* (Ley), Wolsingham, Greatham. *R. andegavensis* Bast., Wolsingham; *R. scabrata* Crép., var. *vinacea*, scattered; *R. dumetorum* Thuill., widely spread; var. *urbica* (Lém.), common; var. *hemitricha* (Rip.), rare; var. *platyphylla* (Rau), Billingham; var. *frondosa* (Baker), Cowpen Bewley; var. *incerta* (Déség.), Wolsingham. *R. glauca* Vill., Witton Gilbert, Greatham, etc.; var. *complicata* Gren., Eggleston; *R. caesia* Sm. (*coriifolia*) Satley, Thorpe, etc.; var. *Watsoni* (Baker), Birtley Fell; var. *subcollina* (Christ), Vigo, on mineral line; var. *Bakeri* (Déség.), between Birtley and Lamesley; var. *pruinosa* (Baker), Wolsingham. *R. obtusifolia* Desv., var. *Borreri* (Woods) Bewicke Main. *R. micrantha* Sm., generally on magnesian limestone. *R. Eglantheria* L, var. *comosa* (Rip.), Team Valley, Wolsingham; var. *echinocarpa* (Rip.), between Satley and Wolsingham. *R. mollissima* Willd. (*tomentosa*), general; var. *cinerascens* (Dum.), Billingham, uniserrate; var. *pseudo-mollis* (Baker), Birtley Fell; var. *cuspidatioides* (Crép.),

paringly throughout the area; var. *Sherardi* (Davies), Wreckerton, etc.; var. *scabriuscula* (Winch), Langley Park; var. *eminens* Harrison, Volsingham, Satley and Lancheater. *R. omissa* Déség., var. *resinoides* (Crép.), Waldridge, Billingham, etc.; var. *submollis* (Ley), Nolsingham. *R. villosa*, common in the east; var. *caerulea* (Woods), Beamish. *R. pomifera* Herrm., between Greatham and Cowpen Bewley, possibly a garden escape, a single plant in hedge. *R. spinosissima* L., var. *pimpinellifolia* (L.), inland on Falcon Clints. *R. involuta* Sm., f. *Subini*, Horden, etc. *R. hibernica* Templ., Haverton Hill.

†959. *PYRUS INTERMEDIA* Ehrh. Hampstead Heath, Middlesex, HIGGENS; Haste Common, Surrey, SWAINTON, ex HIGGENS. Under this is an unpublished plant (! *SORBUS ANGLICA* Hedlund), possibly of hybrid origin, in the Wye Valley, W. Gloster. Hereford and Monmouth; Cheddar, N. Somerset, and Craig Cille, Brecon (LEY). See MARSHALL in *J.B.* 13, 1916, where he translates Hedlund's paper (*Ove Dahl: Bot. Unders. i Helygeland* ii., 181-4, 1914).

*961. *P. ARIA* × *TORMINALIS* Hedl. (as *SORBUS*). *l.c.* Symond's Yat, W. Gloster. Gathered as *P. latifolia* by MARSHALL and LEY in 1901.

†972. *COTONEASTER MICROPHYLLA* Wall. On the craggy sides of the limestone undercliff near Niton, Isle of Wight, 1916, HUNNYBUS, in *lit.*; Great Orme, Carnarvon, WATERFALL, in *Rep. B.E.C.* 348, 1915; Whitchurch, Caterham, Surrey, ! Mrs HANBURY TRACY; near Scarborough, in a wood on the Forge valley, York. Occasionally planted for game-covers.

†972 (2). *C. SIMONSII* Baker! White Mill, near Caterham, Mrs LEITH.

*1000. *PARNASSIA PALUSTRIS* L., var. *CONDENSATA* Trav. and Wheld. Melvich, W. Sutherland, MARSHALL, in *J.B.* 170, 1916; Thurso, Caithness, DRUCE.

†1004 (3). *RIBES SANGUINEUM* Pursh. Wall-top, Wadham College, Oxford, 1916, DRUCE. Bird sown.

†1006 (4). *CRASSULA SIEBERIANA* (Schultes Mantissa iii., 345, 1827), comb. nov., as *TILLAEA SIEBERIANA* comb. nov. Tweedside, Galashiels, Selkirk, Miss I. M. HAYWARD.

†1016. *SEDUM ALBUM* L. Cliff-bank at Cadgwith, Cornwall, Miss A. B. COBBE.

†1017 (2). *S. LYDIUM* Boiss. Roadside near Auldbar, Forfar DRUCE and R. and M. CORSTORPHINE. Quite naturalised. Some plants were brought in from Clovenfords, Selkirk, where we first found it wild in Britain, by Miss Hayward to her garden. It quickly spread to the gravel paths, where it flourishes exceedingly well, a curious instance of the accommodation to the Scottish climate of a plant from the Orient.

*1029. \times *DROSERA OBOVATA* M. and K. Britty Common, S. Somerset, W. D. MILLER, ex MARSHALL, in *J.B.* 99, 1916.

1036. *CALLITRICHE OBTUSANGULA* Le Gall. Braunton, N. Devon, Chichester, W. Sussex, DRUCE.

1039. *C. PLATYCARPA* Kuetz. Exton, Rutland, HORWOOD.

1047. *EPILOBIUM HIRSUTUM* \times *MONTANUM* = \times *E. ERRONEUM* Haussk. ! Growing on waste ground at Perth with plenty of both parents, BARCLAY. Det. DRUCE. Hook Norton, Oxon, LAMB.

1047. *E. HIRSUTUM* \times *PARVIFLORUM* = \times *E. INTERMEDIUM* Reichb. Peakirk, Northants., HORWOOD and CHESTER.

1047. *E. HIRSUTUM* \times *PALUSTRE* = \times *E. WATERFALLII* E. S. Marshall, in *J.B.* 75, 1916. See *Rep. B.E.C.* 198, 1915. Also found near Dungeness, E. Kent, COMPTON, in *J.B.* 114, 1916.

*1049. *E. TETRAGONUM* L., var. *STENOPHYLLUM* Druce. Copley Wood, N. Somerset, MARSHALL, in *J.B.* 99, 1916.

*1049. *E. TETRAGONUM* \times *PALUSTRE*. Near Dungeness, E. Kent, COMPTON, ex MARSHALL, in *J.B.* 114, 1916. Found wild for the first time in Britain.

*1050. *E. LAMYI* \times *PARVIFLORUM* and *E. LAMYI* \times *TETRAGONUM*. Copley Wood, Somerset, MARSHALL, in *J.B.* 99, 1916.

†1058. *E. NUMMULARIFOLIUM* R. Cunn., var. *PEDUNCULARE*. Roundhay, Leeds, 1908, LEES, but only a garden weed.

- †1061. *OENOTHERA BIENNIS* L. Buryport, Carmarthen, DRUCE.
- †1071. *FUCHSIA RICARTONI* Hort. Landslip, Luccomb, Isle of Wight, HIGGENS.
- *1073. *CIRCAEA ALPINA* L. Near Bala, Merioneth, 1916, Rev. A. B. W. HIGGENS.
- *1073. *C. INTERMEDIA* Ehrh. Between Bettws and Llanrwst, Carnarvon, Miss COBBE.
- †1077 (10). *TETRAGONIA EXPANSA* Murr. W. Kent, WOLLEY-DOD.
- ‡1080. *ERYNGIUM CAMPESTRE* L. Portmadoc, Carnarvon, several plants probably adventive, Misses COBBE. Mr J. Higgens tells me there is a specimen, probably of this species, in the Hertford Museum from the Isle of Man.
1087. *SMYRNIUM OLUSATRUM* L. Between Stanstead and Ware, HIGGENS; Welwyn, Herts., in which county it is rare, *Hb. Blake*.
- †1090. *BUPLEURUM ROTUNDIFOLIUM* L. ! Dry bank, by railway, Fleet, N. Hants., Miss HODGSON.
- †1091. *B. PROTRACTUM* H. & L. Garden weed, Colchester, Essex, BROWN; Elland, York, HORRELL.
- †1092. *B. ODONTITES* L. East Bristol Tip, W. Gloster, WHITE; Elland, York, HORRELL.
- †1101. *AMMI MAJUS* L. Cobham, Kent, Miss RIDLEY, vide sp.; Goring, Oxford, GAMBIER-PARRY; near Madeley, Staffs., DALTRY, in *lit.*
- †1103. *CARUM CARVI* L. On the moor, Glencarse, Perth, Miss TODD; Glen Dole, Forfar, DRUCE; Wakefield, York, CRYER, in *Nat.* 250.
1107. *C. BULBOCASTANUM* Koch. In clover field between Ware-side and Hunsdon, Herts., a new locality, HIGGENS.
1114. *PIMPINELLA SAXIFRAGA* L., var. *POTERIIFOLIA* Wallr. Evington, Leicester, HORWOOD.

†1128. *ANTHRISCUS CEREFOLIUM* Hoffm. ! Near Torquay, S. Devon, C. F. VINCENT.

†1130. *FOENICULUM VULGARE* Mill. On the railway, near Sutton, Surrey, HIGGENS ; waste ground, Hertford, Ware, etc., Miss TROWER and DRUCE.

†1153. *HERACLEUM VILLOSUM* Fisch. Near Slapton Lea, S. Devon, Lady DAVY and DRUCE ; Bunch Lane, Haslemere, Surrey ; Ware, Herts. (or an allied species), HIGGENS ; Twerton, N. Somerset, DRUCE. Abundant and well established on rocky slope near Dundee, on a rubbish-tilt ; Brechin, Forfar, R. & M. CORSTORPHINE and DRUCE.

†1157. *CORIANDRUM SATIVUM* L. Oxford, TROLLOPE ; Pyrford, Surrey, Lady DAVY ; Wakefield, York, CRYER, in *Nat.* 250.

*†1159. *ANIDRUM TESTICULATUM* Kuntze. Wakefield, York, CRYER, in *Nat.* 250.

†1165. *CAUCALIS LEPTOPHYLLA* L. Colchester, Essex, BROWN ; Wakefield, York, CRYER, *l.c.*

†1166. *C. DAUCOIDES* L. Elland, York, HORRELL ; Wakefield, York, CRYER, *l.c.*

†1171. *C. LATIFOLIA* L. Falmouth Docks, Cornwall, Miss A. B. COBBE ; Wakefield, York, CRYER, *l.c.*

1172. *HEDERA HELIX* L., var. *BOREALIS* Druce. Grange-over-Sands, Lake Lancs., WILSON, in *Rep. B.E.C.* 350, 1915. Var. *SARNIENSIS* Druce ! A plant approaching this from Chewton Keynsham, N. Somerset, 1916, Miss I. M. ROPER.

†1175. *CORNUS STOLONIFERA* Michx. By stream, Callestick, Cornwall, RILSTONE ; Mesopotamia, Oxford ; Patshull, Staffs., DRUCE.

†1178. *SAMBUCUS NIGRA* L., var. *LACINIATA* L. Swanage, Dorset, Miss I. M. ROPER ; waste ground, Dundee, Forfar, DRUCE and SMITH. Var. *FOL. TERNATIS*. See Schultes' *Letters*, 1824, where it is said to be wild on an old Roman wall in Wiltshire. Can any member verify this record ?

- †1182. *SYMPHORICARPOS RACEMOSUS* Michx. Very abundant on Week Down, near Ventnor, Isle of Wight, 1916, HUNNYBUN; Nobold, Salop, MELVILL; Bucknye Woods, Undergrowth, Herts., HIGGENS.
- †1187. *LONICERA XYLOSTEUM* L. Near Scampton Hall, York, W. H. ST. QUINTIN and DRUCE.
- †1191. *RUBIA PEREGRINA* L. Rubbish heaps, West Drayton, Middlesex, Miss A. B. COBBE.
1194. *GALIUM ERECTUM* Huds. Wareside, Herts., a rare plant in the county, HIGGENS.
- †1210. *ASPERULA ARVENSIS* L., with pinkish flowers. Ware, Herts., HIGGENS; Wakefield, York, CRYER, in *Nat.* 250.
- †1211. *A. CILIATA* Rochel! Near Churchill, Oxon, W. H. ANSON.
1216. *VALERIANA SAMBUCIFOLIA* Mikan. On the cliffs of Glen Phee, Forfar, about 2400 feet, as a form in which all the flowers are in one dense inflorescence, R. and M. CORSTORPHINE and DRUCE.
- †1229. *DIPSACUS FULLONUM* L., var. *SATIVUS* L. Twerton, N. Somerset, DRUCE; in an oat field, Newport, Isle of Wight, STRATTON, see *J.B.* 371, 1916; Yiewsley, Middlesex, WEBSTER.
- †1235. *SCABIOSA ATROPURPUREA* L. Ventnor, Isle of Wight, 1916, HIGGENS.
- †1244. *SOLIDAGO LANCEOLATA* L.! Between Shard and Axminster, near the village of Alston, Devon, in great quantity in a heathy field far from houses, RAYNER.
- †1255. *ASTER NOVI-BELGII* L. Junction of Tweed and Till, Berwick, 1915, Miss I. M. HAYWARD.
- †1279. *INULA HELENIUM* L. Llanberis, Carnarvon: Harlech, Merioneth, Miss M. COBBE.
- †1284. *I. VISCOSA* Ait. Portmadoc, Carnarvon, Misses COBBE.
- †1284 (2). *I. GRAVEOLENS* L. Tweedside, Roxburgh, Miss I. M. HAYWARD.

†1291. *A. ARTEMISIFOLIA* L. Portmadoc, Carnarvon, Misses COBBE; Thetford, Norfolk, ROBINSON; Silloth, Cumberland, WALLIS, ex SALMON.

†1292. *AMBROSIA TRIFIDA* L. Winscombe, N. Somerset, Miss I. M. ROPER. I have some doubts as to my identification, and Mr J. W. White thinks it may be a species not hitherto recorded in Britain.

†1294. *XANTHIUM STRUMARIUM* L. Brislington, N. Somerset, Miss M. COBBE.

†1295. *X. SPINOSUM* L. Meanwood, Leeds, HORRELL; St Cyrus, Kincardine, DRUCE.

†1312. *GALINSOGA PARVIFLORA* Cav., var. *ADENOPHORA* Thell. ! In the grounds of Buckingham Palace, Mme. DUSSAN.

†1315. *HEMIZONIA PUNGENS* Torr. and Gray. Kirkstall, York, HORRELL; Colchester, Essex, BROWN.

†1317. *H. KELLOGGII* Greene. St Philip's Marsh, Bristol, DRUCE. Det. Dr WERNHAM.

*1337. *DIOTIS MARITIMA* Cass. ! Land's End District, Cornwall, A. J. HOSKING. A most interesting discovery of a dying-out species in Britain.

†1338. *ANTHEMIS TINCTORIA* L. Hertford, ANDREWS.

†1356 (6). *CHRYSANTHEMUM SEROTINUM* L. Landslip, Luccombe, Isle of Wight, 1916, HIGGENS.

†1357. *C. CORONARIUM* L. Brechin, Forfar, R. and M. CORSTORPHINE and DRUCE.

†1358. *C. BALSAMITA* L. Near Carnoustie, Forfar, DRUCE.

†1362. *MATRICARIA SUAVEOLENS* Buch. Gravel Hill, Ludlow, Salop; Bray, Co. Wicklow, BRITTEN, in *J.B.* 338, 1916; Wakefield, York, CRYER, in *Nat.* 250; Tintern, Monmouth, LAMB; St. Cyrus, Kincardine, DRUCE.

†1363. *M. DECIPIENS* C. Koch. Kirkstall, York, HORRELL.

1373. *ARTEMISIA VULGARIS* L., var. *COARCTATA* Fors. Near Stansteadbury, Herts., Miss TROWER and DRUCE; Lathom, Lancs., Hon. Mrs. J. SAVILE; * Spital, Derby, DRABBLE, in *J.B.* 136, 1916; Melvich, W. Sutherland, MARSHALL, in *J.B.* 170, 1916.

†1380. *A. BIENNIS* Willd. Hertford, 1915, Miss TROWER and DRUCE; E. Gloster; Radyr, Glamorgan, RIDDELSDELL; Elland, York, HORRELL.

†1382. *A. ANNUA* L. Ware, Herts., HIGGENS; Flete, S. Devon, Mrs MILD MAY, vide sp.

†1389. *DORONICUM PLANTAGINEUM* L. Great Saling, near Braintree, Essex, Rev. H. E. Fox, in *lit.*

*†1396. *SENECIO SQUALIDUS* L. Near Grove Park, W. Kent, 1916, DRUCE; King Sutton, Northants., carried along the railway from Oxford, DRUCE; Cardigan, Dr. H. CLARKE.

†1399. *S. VISCOSUS* L. Portmadoc, Llanberis, Carnarvon; Blaenau-Festiniog, Merioneth, Misses COBBE.

†1410. *CALENDULA OFFICINALIS* L. Naturalised on cliffs, Ventnor, Isle of Wight; waste ground, Cambridge, HIGGENS.

*1420. *ARCTIUM NEMOROSUM* Lej. Patshull, Staffs., ex Lady JOAN LEGGE.

†1425. *CARDUUS PYCNOCEPHALUS* L. Wakefield, York, CRYER, *l.c.*

1433. *CIRSIUM ARVENSE* Scop., var. *MITE* Koch. Brechin, Forfar, R. & M. CORSTORPHINE and DRUCE. *Var. *SETOSUM* Mey. Brickfield, Ware, Herts.; Rye House, Essex, Miss TROWER and DRUCE, 1912; Buryport, Carmarthen, 1916; Twerton, N. Somerset, 1916, DRUCE.

1434. *C. PALUSTRE* Scop., var. *FEROX* Druce. Winter Corrie, Clova; Corrie Ardran, Mid Perth, DRUCE.

†1442. *CYNARA CARDUNCULUS* L. On the sands at Saunton, N. Devon, DRUCE.

- †1453. *CENTAUREA MONTANA* L. Ware, Herts., HIGGENS.
- †1462. *C. SOLSTITIALIS* L. Thetford, Norfolk, ROBINSON : Goring, Oxford, GAMBIER-PARRY ; Wakefield, York, CRYER, *l.c.*
- †1463. *C. MELITENSIS* L. Near Rye House, Herts., Miss TROWER and DRUCE ; Thetford, Norfolk, ROBINSON.
- †1465. *C. CALCITRAPA* L. Elland, York, HORRELL ; Wakefield, York, CRYER, *l.c.* ; Ware, Herts., DRUCE.
- †1467. *C. PALLESCENS* Del. Elland, York, HORRELL.
- *†1472. *C. IBERICA* Trev. Wakefield, York, CRYER, *l.c.*, with *1473, *C. VERUTRUM* L.
- †1477. *CARTHAMUS TINCTORIUS* L. Portmadoc, Carnarvon, Misses COBBE ; Ware, Herts., HIGGENS ; Botley, Oxon. ; St. Cyrus, Kincardine, DRUCE.
- †1481. *CICHORIUM ENDIVIA* L. Stiffkey, Norfolk, ROBINSON.
1484. *CREPIS BIENNIS* L. ! Chichester, W. Sussex, BURDON.
1493. *C. PALUDOSA* Moench. Swallow Falls, Carnarvon, Miss A. B. COBBE.
1502. *C. TARAXACIFOLIA* Thuill. Berry Head, S. Devon, DRUCE.
- †1503. *C. SETOSA* Hall. f. Lea Bank, near Roydon, Hertford, HIGGENS.
- *1536. *HIERACIUM HYPARCTICUM* Elfstr. Near the head of Glen Shirra, Laggan, Easternness, MARSHALL, in *lit.*
1588. *H. SURREJANUM* F. J. H. Sandhurst, Berks., MONCKTON. Needs confirmation.
1589. *H. EUPREPES* F. J. H. High on Caenlochan, Forfar, DRUCE. Var. *GLABRATUM* Linton. By the railway, Rannoch, Mid Perth, DRUCE and BURDON.
- 1600 (2). *H. MUTABILE* Ley. Several places in the Burle Valley, above Dulverton, S. Somerset, MARSHALL, in *lit.*

*1607. *H. MACULATUM* Sm. Newburgh, Fife, Miss TODD.

*1609 (2). *H. GRANDIDENS* Dahlst. Plentiful on a railway bank south of East Anstey station, extending into N. Devon and S. Somerset, MARSHALL, in *lit.*

1610 (2). *H. CACUMINATUM* Dahlst. Railway embankment, N.E. of Somerton, Somerset (with some slight doubt), MARSHALL, in *lit.*

1630. *H. RIGIDUM* Fr. Abundant at Perth, 88, DRUCE, as forma. Var. *SCABRESCENS* Dahlst. Bitterne Park, S. Hants., RAYNER.

YORKSHIRE *HIERACIA* by JOHN CRYER, in *Naturalist* 59, 1916.

H. anglicum Fr., var. *Brigantum* (F. J. H.) W. R. LINTON, Ghaistrills, Bastow Wood, near Grassington; **H. lasiophyllum* Koch, var. *euryodon*, F. J. H., Cronkley Scar, Teesdale, 1913; *H. britannicum* F. J. H., Ling Gill, LINTON, and near Skipton; **H. scoticum* F. J. H., Ling Gill and Littondale, T. A. CORTON, 1892, and J. CRYER, 1913; **H. stenolepis* Lindeb., Heseldon Gill, 1915; *H. pellucidum* Laestad., Hackfall Woods, near Tanfield; **H. crebridens* Dahlst., Arneliffe, LINTON, and High Force. Each station yields a different form. **H. sagittatum* Lindeb., var. *subhirtum* F. J. H., Winch Bridge, 1914; **H. rotundum* Kit., Ling Gill, 1912. New to England. **H. caesium* Fr., Bastow Wood, Grassington, 1911; *H. acroleucum* Stenstr., Ling Gill; **H. mutabile* Ley, Heseldon Glen, 1913, Ling Gill, and Bastow Wood; **H. orarium* Lindeb., Heseldon Glen, 1915; *H. maculatum* Sm., Heseldon Glen, Bastow Wood, and Ling Gill; *H. rigidum* Hartm., var. *Friesii* Dahlst., Grassington; *H. crocatum* Fr., Ling Gill.

1641. *HYPOCHAERIS GLABRA* L., var. *BALBISHII* Lois. Woodhall Spa, Lincs., HORWOOD.

1645. *TARAXACUM LAEVIGATUM* DC. Braunton, N. Devon, DRUCE.

†1648. *LACTUCA VIROSA* L. Tiverton, N. Somerset, DRUCE.

1649. *L. SERRIOLA* L. In a chalk pit near Corfe, Dorset, ! Mrs SANDWITH.

†1670. *CAMPANULA MEDIUM* L. Berry Head, S. Devon; Twerton, N. Somerset, DRUCE.

*1672. *C. LATIFOLIA* L. River Barle, above Dulverton, S. Somerset, MARSHALL. Some years ago the Rev. R. P. Murray found a single specimen which he thought was alien there, but Mr Marshall says it is to all appearance native.

1678. *C. PATULA* L. Near Church Stretton, Salop, Misses COBBE. A white-flowered plant from Mr Merriden, Warwick, in 1787, is painted by the Countess of Aylesford.

†1679. *LEGOUSIA SPECULUM-VENERIS* Dur. Wakefield, York, CRYER, *l.c.*

*1691. *ARCTOSTAPHYLOS ALPINA* Sprengel, new to Ireland. In the Herbarium of Bishop Mitchinson, the Master of Pembroke College, Oxford, which he has recently given me, I noticed specimens of the above plant localised Co. Donegal. In answer to my enquiry, the Bishop showed me his diary which contains the following entry:—"1865, July 14. We returned by Gweedore by car, gathering *Acrostaphylos alpina* on the way past Kilmacrenan to Letterkenny." His remembrance is that at their halting place they ascended a rocky eminence on which this plant was gathered. The Bishop had been in Scotland, where he knew *A. Uva-Ursi*, but after consulting his itinerary, it would seem quite unlikely that he should have met with *A. alpina* on his Scottish tour. This record should stimulate search in Donegal for this Alpine Bear-berry, not previously recorded for Ireland. It has a curious distribution in Scotland, its head centre being the western side of the County of Ross, where the plant is usually found about 2000 feet elevation on the rather bare shoulders of rocky hills among *Empetrum*, etc., in fairly full exposure.

*1715. *LIMONIUM LYCHNIDIFOLIUM* Kuntze, var. *CORYMBOSUM* Salm.! Cliffs at Crabbe, Jersey, Sep. 1916, ATTENBOROUGH. An extremely valuable addition to the Flora of Jersey. It is so restricted and in such small quantity in its Alderney station, where it might so easily be exterminated, that a new habitat which from its situation is in little danger of being destroyed, is especially welcome.

*1722. *STATICE MARITIMA* Mill., the holotrichous plant. Slapton Ley, S. Devon, DRUCE.

1745. *CENTUNCULUS MINIMUS* L. Leigh Woods, N. Somerset, Mrs SANDWICH and Rev. E. ELLMAN. A very rare plant in the Bristol district. Near Edenbridge, W. Kent, TALBOT, in *lit.* Talarnau, Merioneth, Miss M. COBBE.
- †1750. *VINCA MAJOR* L. In the beech wood above Roydon Heath, far from houses, HIGGENS; Hitchin, Herts., LITTLE.
1758. *CENTAURIUM CAPITATUM* Druce, in *Ann. Scot. Nat. Hist.* 48, 1905. Above Kynance Cove, Cornwall, Miss M. COBBE.
- †1777. *POLEMONIUM CAERULEUM* L. Quite wild, but adventive, in marshy meadow, Wilsford, near Salisbury, Wilts., Miss JOSEPHINE WILKINSON, vide sp.; Hertford Heath, HIGGENS.
- †1787. *LAPPULA ECHINATA* Gilib. Goring, Oxford, GAMBIER-PARRY; Chelmsford, Miss ROBINSON.
- †1792. *SYMPHYTUM PEREGRINUM* Ledeb. Scalby, near Scarborough, *Hertf. Mus.*; Stanstead, Hertford, HIGGENS.
- †1800. *ANCHUSA OFFICINALIS* L. Brislington, Bristol, Miss COBBE.
- †1800 (2). *A. OCHROLEUCA* Bieb. Kirkstall, York, HORRELL.
- †1802. *A. AZUREA* Mill. Marcham, Berks., DRUCE.
- †1810. *ASPERUGO PROCUMBENS* L. Twerton, N. Somerset, Miss A. B. COBBE.
1822. *LITHOSPERMUM OFFICINALE* L., var. *PSEUDO-LATIFOLIUM* C. E. Salm. Netherlands Copse, near Mellow, Surrey, COMBER.
1845. *SOLANUM DULCAMARA* L., var. *ALBIFLORA*. Helston Road, near Lizard, Cornwall, Miss M. COBBE.
- †1864. *VERBASCUM BLATTARIA* L. ! Sleaford, Lines., F. J. SMITH.
1865. *V. PULVERULENTUM* L. Ware, Herts., Miss TROWER and DRUCE.
1866. *V. LYCHNITIS* L., with yellow flowers. Behind Ware Park Mill, HIGGENS. The type, Hitchin, Herts., LITTLE.

- *1867. *V. NIGRUM* L. Portmadoc, Carnarvon, † Miss M. COBBE.
- †1872 (2). *LINARIA MACEDONICA* Griseb. On a railway wall, Brixham, S. Devon, DRUCE.
1873. *L. VULGARIS* Mill., var. *PROSTRATA* Domin. Pembrey, Carmarthen, DRUCE. *Var. *LATIFOLIA* Bab. Whaley, Derby, DRABBLE, in *J.B.* 137, 1916.
- *1878. *L. REPENS* Mill. Sea shore, near the toy railway, in great abundance, Portmadoc, Carnarvon, Miss M. COBBE. Perhaps introduced, but it also occurs in Cardigan.
- *1883. *L. MINOR* Desf. Near the toy railway, Portmadoc, Carnarvon, Miss M. COBBE.
1892. *SCROPHULARIA AQUATICA* L., var. *APPENDICULATA* Mérat. Cothill, Berks., DRUCE.
- *1893. *S. ALATA* Gilib. Pontuckel Wood, near Ruthin, Denbigh, 1916, HARNAMAN, vide sp.; Melbourne, Leicester, 1916, HORWOOD and CHESTER.
1894. *S. NODOSA* L., var. *BOBARTII* Pryor. Sully Island, Glamorgan, 1898, Miss E. VACHELL, in *lit.*
- †1898. *MIMULUS GUTTATUS* DC. Near Bere, Dorset, Mrs SANDWITH.
- †1899. *M. MOSCHATUS* Dougl. Between Llanberis and Cwm-y-Glo, Miss M. COBBE; near Sticklepath, Okehampton, Devon, Miss L. PER-SHORE at Linn. Soc. Meeting, 1916; Ardingly, Sussex, Capt. A. SMITH, vide sp.
1904. *ERINUS ALPINUS* L.! Near Troy Station, on a wall of Troy House, Monmouth, May 1916, LAMB. It still grows abundantly on a wall at Henbury, W. Gloster, see *Fl. Bristol*, and is plentiful on the Roman remains near the Roman Wall, Northumberland, where it was, I believe, introduced by the father of Lord Stamfordham.
1907. *VERONICA OFFICINALIS* L., var. *GLABRATA* Bab.! Meall Farnin Chor, above Appin, Mid Perth, HAGGART.

1912. *V. ANAGALLIS* L., *VERA*. Near Braunton, Devon; Chichester, W. Sussex, DRUCE.
- *1936. *EUPHRASIA OCCIDENTALIS* Wettst. Black Crag, Stromness, Orkney, HALCRO JOHNSTON. See under *E. curta*, *Rep. B.E.C.* 73, 1912.
1951. *RHINANTHUS MAJOR* Ehrh. Still very abundant at East Laven, Forfar, where it also exists as a modification *var. *ANGUSTIOLIVUS* mihi. *Foliis angustis, 2-3 mm. lata.* DRUCE.
1956. *R. BOREALIS* Druce. *Cuchullins, Skye, SALMON. Abundant in Glen Phee, Glen Dole, Caenlochan, and in the West and Winter Corries, Clova, Forfar, R. & M. CORSTORPHINE and DRUCE; Ben Laoigh, Mid Perth, DRUCE.
- *1960. *MELAMPYRUM PRATENSE* L., var. *HIANS* Druce. Woodland, N. Lancs., PEARSALL. See *Rep. B.E.C.* 362, 1915. Cathole, Derby, DRABBLE, in *J.B.* 138, 1916; Melvich, W. Sutherland, MARSHALL, in *J.B.* 171, 1916.
1962. *OROBANCHE RAPUM-GENISTAE* Thuill. Near Church Stretton, Misses COBBE.
- 1966 (2). *O. RETICULATA* Wallr., var. *PROCERA* (Koch) Druce. Hook Moor, near Aberford, W. Riding, F. ASHWELL, ex HORRELL.
- *1969. *O. PICRIDIS* F. Schultz. Hoo, near Welwyn, Herts., 1822, *Hb. Blake*, as *minor*.
1971. *O. MINOR* Sm. Hamsworthy, Dorset, with ? in *Top. Bot.* DRUCE.
- ?*1976. *UTRICULARIA MAJOR* Schmid., fide Bennett. Common in shallow water among the stems of *Scirpus Tabernaemontani* Gmel., eight feet above sea level, Loch of Graemeshall, Holm, Mainland, Orkney, August 25, 1916. Plants neither in flower nor fruit, HALCRO JOHNSTON, in *lit.* Dr Glück says it is not possible to distinguish barren specimens of *major* from *vulgaris*, but the probability is in favour of *major* rather than *vulgaris* occurring in the Orkneys.

1988. *MENTHA ROTUNDIFOLIA* Huds. ! Near South Church Bishop Auckland, Rev. E. M. REYNOLDS.

†1989. *M. ALOPECUROIDES* Hull. By the Thames at Oxford GAMBIER-PARRY; churchyard, Wigginton, RIDDELSDELL; both adventive.

1990. *M. LONGIFOLIA* Huds. Scampston Park, by the lake W. H. ST. QUINTIN and DRUCE. This may be put under *Nicholsoniana*. Twerton, N. Somerset, with *M. SPICATA* L., DRUCE.

1993. × *M. PIPERITA* L. Gower, Glamorgan, Miss. E. VACHELL Llanmadoc, Glamorgan, DRUCE.

1994. *M. AQUATICA* L., var. *MINOR* Sole. Sand-dunes, Kidwelly Carmarthen, DRUCE. Var. *MAJOR* Sole. Barrington, Combe, N Somerset, Miss TODD.

1997. × *M. GENTILIS* L. ! Ribblehead, York, Rev. E. M. REYNOLDS.

1999. × *M. RUBRA* Sm. Twerton, N. Somerset, DRUCE.

*2001. *M. PULEGIUM* L. ! Wrington, Somerset, on the edge of a wood, Miss TODD. Not given in *Fl. Som.*, but in *Top. Bot.* it says "5 or 6"; Hayling Island, S. Hants., a new locality, NOEL SANDWITH.

2004. *ORIGANUM VULGARE* L., var. *MEGASTACHYUM* Koch, but not an extreme form. Cheddar, N. Somerset, Miss TODD; *Lathkill Dale, Derby, DRABBLE, in *J.B.* 138, 1916.

2011. *SATUREIA CALAMINTHA* Scheele. Wareside, Herts., HIGGENS.

2012. *S. NEPETA* Scheele. Royston, Herts., ANDREWS.

†2017. *MELISSA OFFICINALIS* L. Kingston, N. Somerset, Miss TODD; Churchill, N. Somerset, Miss M. COBBE; Llanmadoc, Glamorgan, DRUCE; Portmadoc, Carnarvon, Miss M. COBBE; Patshull, Staffs., MILLER, ex Lady JOAN LEGGE.

†2020. *SALVIA AETHIOPIS* L. Wakefield, York, CRYER, in *Nat.* 250.

†2029. *S. HORMINUM* L. ! Near Kettering, Northants., CHESTER. Battandier and Trabut treat it as a var. of *S. viridis* in *Fl. Alger.*

- †2039. *DRACOCEPHALUM PARVIFLORUM* Nutt. Wakefield, York, CRYER, *l.c.*
2042. *SCUTELLARIA GALERICULATA* × *MINOR*. Isle of Purbeck, Dorset (*SUPER-GALERICULATA*), Rev. E. ELLMAN and J. GREEN.
- †2048. *SIDERITIS MONTANA* L. Elland, York, HORRELL; Wakefield, York, CRYER, *l.c.*
- †2055. *STACHYS LANATA* Jacq. This is the plant recorded in *J.B.* 33, 1916, as *S. germanica*, from a chalk pit, Steephill, Isle of Wight, as Mr Humbybun kindly informs me. Of course it is adventive.
- *2056. × *S. AMBIGUA* Sm. Patshull, Staffs., MILLER, ex Lady JOAN LEGGE.
2057. *S. PALUSTRIS* L., var. *CANESCENS* Lange. Port Meadow, Oxon.; near Chesters, Northumberland, DRUCE.
- †2059. *S. ANNUA* L. Portishead Station, N. Somerset, Miss TODD; Godalming, Surrey, DRUCE; Halifax, York, HORRELL.
2065. *LEONURUS CARDIACA* L. Talsarnau, Merioneth, Miss M. COBBE.
- †2067. *WIEDEMANNIA ORIENTALIS* F. & M. Portishead, N. Somerset, Miss LIVETT, ex WHITE; Wakefield, York, CRYER, in *Nat.* 250.
- †2089. *PLANTAGO INDICA* L. (*RAMOSA*). Ware, Herts., HAYLLAR; Wakefield, York, CRYER, *l.c.*
- *2091 (2). *P. HUDSONIANA* Druce. Ben Laoigh, Mid Perth, DRUCE.
2092. *P. LANCEOLATA* L., var. *ELLIPTICA* Druce. Babbacombe, S. Devon, Lady DAVY; Ware, Herts., HIGGENS; Slough, Bucks., DRUCE.
- †2095. *P. LAGOPUS* L. Wakefield, York, CRYER, *l.c.*
- †2110. *AMARANTHUS RETROFLEXUS* L. Pyrford, Surrey, Lady DAVY; Thetford, Norfolk, ROBINSON; Portmadoc, Carnarvon, Miss COBBE.

†2114. *A. CHLOROSTACHYS* Willd., var. *ARISTULATUS* Thell. Meanwood Tannery, Leeds, HORRELL. Det. A. THELLUNG.

2117. *CHENOPODIUM RUBRUM* L. Gt. Bedwyn, Wilts., HURST Portmadoc, Carnarvon, Miss M. COBBE. Confirms Robinson's record for 49.

†2118. *C. BOTRYODES* Sm. Wakefield, York, CRYER, *l.c.*

†2120. *C. HYBRIDUM* L. Cardiff, Glamorgan, DRUCE; Hertford canal dredgings, HIGGENS.

†2121. *C. URBICUM* L. Near Ridge, Dorset, Mrs SANDWICH.

†2122. *C. MURALE* L. Buryport, Carmarthen, DRUCE; Meanwood Leeds; near Scarborough, York, HORRELL. Var. *MICROPHYLLUM* C & G. West Drayton, Middlesex; Brislington, N. Somerset, Miss M. COBBE.

†2123. *C. OPULIFOLIUM* Schrad. Thetford, Norfolk, ROBINSON.

†2124. *C. ALBUM* × *BERLANDIERII*. Galashiels, Selkirk, Miss I. M. HAYWARD.

†2125. *C. LEPTOPHYLLUM* Nutt. Pyrford, Surrey, Lady DAVY Thetford, Norfolk, ROBINSON.

†2127. *C. GLAUCUM* L. *Field border, Goonhavern, TRESSIDER between Truro and Malpas, Cornwall, Misses COBBE; near Peters field, S. Hants., still persisting in 1916 on a place where manure had been piled, CECIL and NOEL SANDWICH; Middleton, Durham REYNOLDS.

†2131 (3). *C. HIRCINUM* Schrad. In a farmyard at Barsby Leicester, HORWOOD (as *C. Vulvaria*) in *Rep. B.E.C.* 368, 1915 Portmadoc, Carnarvon; West Drayton, Middlesex, Misses COBBE, vide sp.

†2134. *C. VIRGATUM* Jessen! Elland, York, HORRELL.

†2135. *ROUBIEVA MULTIFIDA* Moq. Winscombe, N. Somerset, Miss I. M. ROPER.

- †2139. *SPINACIA OLERACEA* L. Wakefield, York, CRYER, *l.c.*
- †2145. *ATRIPLEX TATARICA* L. Wakefield, York, CRYER, *l.c.*
- *2158 (2). *SALICORNIA DOLICHOSTACHYA* Moss. Taw Estuary, Devon, HIERN. See MARSHALL, in *J.B.* 141, 1916.
- *2160. *S. RAMOSISSIMA* Woods. Cofton and Dawlish, S. Devon; Taw Estuary, N. Devon, MARSHALL, *l.c.*; Jersey, ATTENBOROUGH.
- *2161 (2). *S. GRACILLIMA* Moss. Taw Estuary, N. Devon, MARSHALL, *l.c.*
- *2161 (3). *S. DISARTICULATA* Moss. Dawlish, S. Devon; Taw Estuary, N. Devon, HIERN. See MARSHALL, *l.c.*
2178. *POLYGONUM MITE* Schrank. St. Helen's Green, Isle of Wight; *Broxbourne Wood, Herts., 1916, HIGGENS.
2184. *P. HETEROPHYLLUM* Lindm., probably slightly crossed with *AEQUALE*. Leicester, A. J. WADE.
- †2191. *P. CUSPIDATUM* S. & Z. Tweedside, Galashiels, Selkirk, Miss I. M. HAYWARD.
- †2193. *FAGOPYRUM TATARICUM* Gaertn. Throxenby Mere, near Scarborough, York, HORRELL.
- *2195 (2). *RUMEX MAXIMUS* Schreb. Near Chichester, W. Sussex, BURDON and DRUCE.
2196. × *R. CONSPERSUS* (Hartm.) Brechin, Forfar, with both its assumed parents, R. & M. CORSTORPHINE and DRUCE; waste ground, Perth, BARCLAY and DRUCE.
2198. × *R. PROPINQUUS* (Aresch.) Brechin, Forfar, with both its assumed parents, R. & M. CORSTORPHINE and DRUCE.
2207. *R. MARITIMUS* L. Goring, Oxon., GAMBIER-PARRY; Pats-hull, Staffs., Lady JOAN LEGGE; †Llanberis, Carnarvon, 1916, Misses COBBE, *vide sp.*; Dundee, Forfar, CORSTORPHINE, DRUCE, and SMITH.
- †2210 (4). *R. BROWNII* Campd. Alien. Meanwood, Leeds, York, HORRELL.

†2229. EUPHORBIA ESULA L. Near Chichester, W. Sussex BURDON; near Midhurst, W. Sussex, DRUCE; gravel pits, Hertfordshire HIGGENS; Ware, Herts., DRUCE; Avon side, Evesham, Worcester LAMB.

†2230. E. CYPARISSIAS L. ! Turfy spot, near Exmouth, S. Devon 1916, Lady DAVY.

*2245. ULMUS GLABRA Mill. Near Chichester, W. Sussex, DRUCE.

†2246. U. WHEATLEYI. Hortal. Near Chichester, W. Sussex DRUCE.

†2248. CANNABIS SATIVA L. In some abundance at Portmadoc, Carnarvon, Miss M. COBBE.

†2249. FICUS CARICA L. Alien. Vacant site in Farringdon Street, Middlesex, with *Pteris*, *Petroselinum sativum*, *Melilotus* etc., J. C. SHENSTONE.

†2263. QUERCUS CERRIS L. In abundance and naturalised (thence self sown) in Limeridge Woods, Tickenham, N. Somerset, WHITE in *lit.*; Nassau Woods, Merioneth, BARTON.

†2264. Q. ILEX L. Hundreds of dwarf bushes on south side of Boniface Down, Ventnor, Isle of Wight, 1916. Said to have been sown there. The south side of the Down is so exposed that they are mere scrub. HUNNYBUN, in *lit.*

2271. × SALIX RUBRA (Huds.). ! St Margaret's, Herts., HIGGENS; sides of Tweed, Galashiels, Selkirk, DRUCE and Miss I. M. HAYWARD; by a small stream-side, St Cyrus, Kincardine, DRUCE.

2274. × S. SMITHIANA (Willd.). In the shingle of the Earn at Dunning, Mid Perth, looking as if it had been seeded there, DRUCE.

†2289. POPULUS CANESCENS Sm. Near Chichester, W. Sussex DRUCE.

†2291. P. EU-NIGRA L. Wareham, Dorset, DRUCE.

*2299. HYDROCHARIS MORSUS-RANAE L. Pond between Norton and Freshwater. New to the Isle of Wight as a native, HIGGENS in *lit.*

2303. CORALLORRHIZA TRIFIDA Chat. Rothiemurchus, Easter-
 cess, Rev. J. ROFFEY, in *lit.*

2316. HELLEBORINE LATIFOLIA Druce, var. ANGUSTIFOLIA Druce.
 Sneyd's Coppice, Worcester, in great quantity, with none of the
 type plants present, only the narrow-leaved variety; therefore it
 seems that Mr Druce's variety is entitled to specific rank." *Rep. of*
Worcestershire Naturalists' Club 1916.

*2317. H. MEDIA Fries. Ayott Green, *Hb. Blake*: Ashridge,
 Herts., DRUCE; Patshull, Staffs., JOYCE, ex Lady JOAN LEGGE.

[2319. H. ATORRUBENS (Roehl.) Druce. Sandhurst, Miss HINDE
 in Monekton's *List*. The record must be queried until corroborated,
 as I have not been able to see specimens.]

*2319 (2). H. VIRIDIFLORA Trav. and Wheld. Newborough
 Warren, Anglesey, TRAVIS, in *J.B.* 247, 1916.

2324. ORCHIS MORIO L. and 2330 O. PYRAMIDALIS L. Isle of
 Lambay, Co. Dublin, CECIL BARING, in *Ir. Nat.* 1915.

2326 (2). O. CRUENTA O. F. Muell. Hawkshead, N. Lanes.:
 Isle of Arran. The name was corroborated at Kew for T. A. Stephen-
 son, who, in *lit.*, remarks that they agree well with the description
 and figure in *Flora Danica*, except in the less heavily spotted leaves.
 The specimens sent me from Hawkshead were spoiled in the post, but
 I thought the labellum was somewhat different from the *Flora*
Danica plate. If these are *cruenta* much of the northern *incarnata*
 probably belongs here.

2331. O. HIRCINA Cr. *On the chalk near Guildford, Surrey.
 A specimen was found by some children and taken to Mrs Gibson,
 who kindly sent me a blossom as a voucher. It flowered this year
 splendidly near Chichester, teste the Duke of Richmond, and also
 near Canterbury, teste Mr Walker.

*2335. OPHRYS APIFERA Huds. Coolmore, Donegal, DELAP, in
Ir. Nat. 270.

2338. HABENARIA ALBIDA × CONOPSEA. Glen Feshie, Easternness,
 ROFFEY, in *lit.*

2343. *H. BIFOLIA* Br. Cathole, Derby. DRABBLE, in *J.B.* 138, 1916
- †2353. *HERMODACTYLUS TUBEROSUS* Mill. By the roadside, near Stogumber, MARSHALL, in *J.B.* 103, 1916.
- †2355. *CROCUS VERNUS* Mill. (*C. AUREUS* Sibth.). Charlton Kent, COOPER, in *Mag. Zool. and Bot.* 495, 1837.
- †2357. *C. ALBIFLORUS* Kit. (*C. VERNUS* All. not Mill.). *Meadow near Freshwater, Isle of Wight, in great quantity, STRATTON, in *J.B.* 114, 1916. At Warley, Brentwood, Essex, Miss E. WILLMOTT, in the *Garden*, March 25, 1916. Miss Willmott has traced its existence in this locality back to 1630.
- †2359 (2). *LIBERTIA FORMOSA* Graham. Quite naturalised at Hartland Abbey Wood, N. Devon. Shown me by Lady STUCLEY.
- †2363 (4). *TRITONIA CROCOSMIFLORA* Nicholson. Between Bettw and Llanwrst, Carnarvon, Misses COBBE; waste railway bank, Newport, Isle of Wight, 1916, HIGGENS; on rubbish heap, Brechin, Forfar R. & M. CORSTORPHINE and DRUCE.
- †2372. *NARCISSUS BIFLORUS* Curtis. In plenty, wild over 20 acres near Colchester. See *Gard. Chron.* 700, 1876. Does it still exist there? Still abundant at Tackley, Oxfordshire, DRUCE; N.-W. of Isle of Wight, near the cliff, WILKINSON, in *Gard. Chron.* 762, 1876.
- †2377. *GALANTHUS NIVALIS* L. Ayston Wood, Rutland, HORWOOD
2395. *ALLIUM SCORODIPRASUM* L. Loch Fithie, Forfar, R. & M. CORSTORPHINE. See *Rep. B.E.C.* 374, 1915.
2396. *A. VINEALE* L., var. *COMPACTUM* (Thuill.) West Kennack Valley, Cornwall, Miss M. COBBE.
- †2402. *A. CARINATUM* L.! Banks of the Esk, at Musselburgh C. R. SCOTT.
- †2408. *HYACINTHUS COMOSUS* L. (MUSCARI). In cornfield, on Upper Cliff, St. Lawrence, Isle of Wight, 1916, HUNNYBUN, in *lit.*; casual in a garden sometimes flooded by the Thames at Sutton Courtenay, Berks., Miss N. LINDSAY.

- †2409. *SCILLA VERNA* Huds. In abundance at Hartland, N. Devon (not in *Top. Bot.* for v.-c. 4). Shown me by Lady STUCLEY.
2410. *S. AUTUMNALIS* L., var. *ALBIFLORA*. St. Helen's Spit, Isle of Wight, HIGGENS, in *lit.*
- †2411 (2). *S. HISPANICA* Miller! Two plants in a gorse bush, Bull's Green, Datchworth, Herts., HIGGENS.
- *†2415. *LILIUM PYRENAICUM* Gouan. This was found in some quantity by the side of the road between Haverford West and St. David's, Pembrokeshire, by Bishop Mitchinson in 1866. A very interesting record.
2419. *TULIPA SYLVESTRIS* L. Well Green, Brickendon, Herts., HIGGENS.
- †2441. *JUNCUS TENUIS* Willd. *Near Wellington College, Sandhurst, Berks., Monckton's *List*, but I have not seen a specimen. Near Llanberis: on mud scrapings near the lake at Capel Curig; in timber yard, on waste ground, at Portmadoc, Carnarvonshire, for which county it is on record, Miss A. B. COBBE, vide sp. Talsarnau, Merioneth, Miss A. B. COBBE. See also Major WOLLEY-DOD, in *J.B.* 88, 1916.
2442. *J. RANARIUS* Perr. and Song. Wareham, Dorset, DRUCE: King's Quay, Osborne, Isle of Wight, STRATTON, in *J.B.* 371, 1916.
2443. *J. MUTABILIS* Lam. Damp cart tracks in the Downs between the Lizard and Hayle, Cornwall, Miss A. B. COBBE.
2444. *J. CAPITATUS* Weig. About 8 miles east of the original locality, Cornwall, 1916, Misses COBBE.
- †2450. *JUNCOIDES NEMOROSUM* Mor.! Near Errol, Perth, Miss TODD.
- †2459. *PHOENIX DACTYLIFERA* L. A great quantity of seedling dates occurred at West Drayton, Middlesex, and at Brislington, N. Somerset, Miss M. COBBE; Mortlake, Surrey, O. STAFF, in *New Bulletin* 1916.
- *2460. *TYPHA LATIFOLIA* L. Braunton, N. Devon, DRUCE.

2478. *ELISMA NATANS* Buchenau. Canal between Manchester and Macclesfield, 1916, ADAMSON, in *lit.*

2488. *POTAMOGETON COLORATUS* Hornem. Hertford Heath, a second locality for Herts., HIGGENS.

2489. *P. ALPINUS* × *LUCENS*. Bindon Mill Dam, near Wool, Dorset, GREEN. See BENNETT, in *J.B.* 306, 1916.

*2489. *P. ALPINUS* × *GRAMINEUS* ? = *P. GRACILIS* Wofg. Loch Moraig, E. Perth, 1916, BARCLAY. The second Scottish locality, the other being Loch of Lumbister, Yell, Shetland. See BENNETT, in *Proc. Perth. Soc. Nat. Sc.* vi., pt. iii., 10, 1916.

2489. *P. ALPINUS* Balb. Near Edenbridge, W. Kent, TALBOT, in *lit.* Rare in Kent.

*2506. *P. OBTUSIFOLIUS* M. & K. Mynydd-y-Gliww, Glamorgan, in a small lake, 1915, Miss E. VACHELL, in *lit.*

2534. *SCIRPUS LACUSTRIS* L., with bract twice as long as inflorescence. Broxbourne, Herts.; Essex, HIGGENS.

2548. *ERIOPHORUM ANGUSTIFOLIUM* Roth, var. *TRIQUETRUM* Fr. Near Wareham, Dorset, Mrs SANDWITH and DRUCE. The Rev. T. A. Jeffries sent me from Wicken Marsh, near Littleborough, an enormous specimen of the above species with a stem 3½ feet high and leaves 46 inches long.

*2549. *E. GRACILE* Roth. Britty Common, S. Somerset, at 900 feet, MARSHALL, in *J.B.* 103, 1916. A very interesting extension of its range.

2559. *CAREX RIPARIA* × *VESICARIA*. Wytham Meadows, Oxon; Berks., with both parents, DRUCE.

2570. *C. HELODES* Link. Castle Hill, N. Devon, DRUCE; Llanbedr, Merioneth, Miss M. COBBE.

*2572. *C. SADLERI* Linton. On the cliffs of Ben Laoigh, Argyll, at about 3000 feet, very rare, August 1916, with Col. F. J. SMITH. In the vicinity grew *C. binervis* var. *nigrescens* but the shorter

stature and the fewer-fruited spikelets, with the longly attenuate perigynium, readily distinguished the plant. It seems sufficiently distinct from the polymorphic *binervis* to warrant specific rank. It indeed recalled *frigida*, for which Mr Sadler, its discoverer in Glen Callater, mistook it.

2588. *C. VERSICOLOR* Crantz, var. *STICTOCARPA* (Sm.) Druce. Ben Laoigh, Mid Perth, DRUCE; Scone, East Perth, Miss TODD, vide sp. Var. *AMBLIOCARPA* (Willd.) Druce. Glen Dole, Forfar, DRUCE.

*2594. *C. RARIFLORA* Sm. Ben Lawers, Mid Perth, CUMMING. Verified by Rev. E. S. MARSHALL. It is an extremely interesting addition to the flora of the Breadalbanes, and along with *Saxifraga rivularis* and *Veronica alpina* is another example of the presence of elements of the Grampian flora. *Cerastium trigynum* should be specially sought for there. Watson says it grows under the dark rocks on the north side from which the snow water trickles down to the spot it occupies. This is near the locality for *Carex helvola*.

2604. *C. GOODENOWII* Gay, var. *MELAENA* Wimm ! Simonsbath, S. Somerset, Lady DAVY. Var. *CHLOROSTACHYA* Aseh. Lizard, Cornwall, Lady DAVY. A very obese form.

2614. *C. LEERSII* F. Schultz. Slapton, S. Devon, DRUCE. To this, I think, belongs a specimen gathered near Petworth, W. Sussex, DRUCE.

2617. *C. PANICULATA* L., var. *PSEUDO-PARADOXA* (Gibs.) A. & G. If Mr Salmon identifies the plant from Restennet, Forfar, as this variety, and I see no reason to doubt it, it will sink in synonymy as Kükenthal named my specimens from the same area as var. *simplicior* Anders. Spica angusta, spiculis parum decompositis, pedunculis arrectis, *Pl. Scand.* 67, 1849, itself antedated by var. *simplex* Peterm. (var. c. of my *List*).

*2632. *PANICUM CRUS GALLI* L. Thetford, Norfolk, ROBINSON. Var. *BREVISETUM* Doell. Brislington, N. Somerset, Miss M. COBBE. Forma *DEPAUPERATA* ! Pyrford, Surrey, Lady DAVY.

†2634. *P. SANGUINALE* L. Brislington, N. Somerset (with *P. MILIACUM* L.), Miss A. B. COBBE.

- †2637. *P. CAPILLARE* L. Thetford, Norfolk, ROBINSON.
- †2639. *SETARIA VIRIDIS* Beauv. Between Truro and Malpas, Cornwall; Portmadoc, Carnarvon; Uxbridge, Middlesex, Miss M. COBBE; abundant near Thetford, Norfolk, ROBINSON; *Wakefield, York, CRYER, in *Nat.* 251.
- *†2640. *S. GLAUCA* R. & S. Wakefield, York, CRYER, *l.c.*
- 2646 (2). *BECKMANNIA ERUCIFORMIS* Host. Near Goring, Oxon. ! GAMBIER-PARRY.
- †2653. *PHALARIS MINOR* Retz. Cobham, Kent, Miss RIDLEY, vide sp.; Avonbank, W. Gloster, Miss M. COBBE.
- †2654. *P. PARADOXA* L. Twerton, N. Somerset; Cardiff, Glamorgan, DRUCE; Avonbank, W. Gloster, Miss M. COBBE.
- †2656 (2). *P. ANGUSTA* Nees! Galashiels, Selkirk, Miss I. M. HAYWARD.
2673. *PHLEUM PRATENSE* L., forma *STOLONIFERUM* (Bab.) Pembrey, Carmarthen, DRUCE.
- †2683. *AGROSTIS VERTICILLATA* Vill. Banks of Avon, Avonmouth, W. Gloster, Miss A. B. COBBE.
2684. *A. ALBA* L., var. *MAJOR* Gaud. Burton Latimer, Northants., CHESTER, vide sp.; *Nether Loads, Derby, DRABBLE, in *J.B.* 139, 1916; Forteviot, Perth, v.-c. 88, DRUCE. Var. *ARMATA* (Celak.) Roslin Glen, Cramond, Midlothian, FRASER.
- †2699. *APERA SPICA-VENTI* Beauv. Dundee, Forfar, CORSTORPHINE and DRUCE.
- †2700. *A. INTERRUPTA* Beauv. In a sand pit of about $\frac{1}{2}$ acre, Flixton, near Scarborough, A. J. BURNLEY, vide sp.; †Wakefield, York, CRYER, in *Nat.* 251.
- †2701. *A. INTERMEDIA* Hackel. Wakefield, York, CRYER, *l.c.*
- 2725 *ARRHENATHERUM TUBEROSUM* Gilib. St. Cyrus, Kincardine, 1916, DRUCE.

- †2737. *CYNOSURUS ECHINATUS* L. Found abundantly on the South Inch, Perth, in June 1916, by Mr J. Menzies. In the previous autumn a company of the Army Service Corps was encamped on the meadow and doubtless fodder supplied to their horses had furnished seed from which sprung this alien grass. BARCLAY. Thetford, Norfolk, ROBINSON; Brislington, N. Somerset, Miss I. M. ROPER.
2742. *KOELERIA ALBESCENS* DC., var. *GLABRA* DC. Abraham's Bosom, Anglesey, TRAVIS.
- †2744. *K. PHLEOIDES* Pers. Thetford, Norfolk, ROBINSON.
- *2759 (2). *POA IRRIGATA* Lindman. In some quantity in a very wet sloping alpine pasture through which water moved, growing with *Phleum alpinum*, Caenlochan, Forfar, DRUCE.
2762. *P. NEMORALIS* L., var. *SUBUNIFLORA* Reichb. Harlech, Merioneth, Col. F. J. SMITH.
2765. *P. COMPRESSA* L. Mid Perth; Dundee, Forfar, DRUCE.
- *2777. *GLYCERIA BORRERI* Bab. Sands of Barry, Forfar, DRUCE.
2785. *FESTUCA RUBRA* L., var. *ARENARIA* (Osb.). Sand dunes, St Cyrus, Kincardine, M. CORSTORPHINE and DRUCE.
- †2789 (2). *F. GENICULATA* Willd. (*VULPIA*)! Musselburgh, Midlothian, 1914, FRASER.
- †2792 (3). *F. CYNOSUROIDES* (*VULPIA CYNOSUROIDES* Boiss.)! Musselburgh, Midlothian, FRASER.
- †2794. *BROMUS RIGENS* L. (*B. MAXIMUS* Desf.). Brislington, N. Somerset, Miss M. COBBE.
- †2797. *B. TECTORUM* L. Falmouth, Cornwall, Miss COBBE; Wakefield, York, CRYER, in *Nat.* 251.
- †2803. *B. UNIOLOIDES* H. B. K. Near Thetford, Norfolk, ROBINSON; Uxbridge, Drayton, Middlesex, Miss COBBE.
- †2806. *B. SECALINUS* L., var. *VELUTINUS* Koch. Uxbridge, Middlesex; Brislington, N. Somerset, Miss M. COBBE.

†2809. *B. ARVENSIS* L. Cranford, Northants., CHESTER, vide sp.; Wakefield, York, CRYER, *l.c.*

†2816. *B. SQUARROSUS* L. Thetford, Norfolk, ROBINSON.

†2821. *LOLIUM TEMULENTUM* L. Thetford, Norfolk, with var. *ARVENSE* (With.), ROBINSON.

2827. × *AGROPYRON HACKELII* Druce (*A. JUNCEUM* × *REPENS*). Very luxuriant at St. Cyrus, Kincardine, M. CORSTORPHINE and DRUCE.

2830. *A REPENS* Beauv., var. *GLAUCUM* Doell. Chichester Harbour, Sussex, DRUCE.

2850. *HORDEUM MARINUM* Huds. Wakefield, York, CRYER, in *Nat.* 251.

2866. *EQUISETUM MAXIMUM* Lam, var. *SEROTINUM* Braun. Wormley Wood, Herts., HIGGENS.

2867. *E. ARVENSE* L., var. *NEMOROSUM* Braun. Desford, Leicester, HORWOOD.

2870. *E. LIMOSUM* L., var. *POLYSTACHIUM* Lej. Wareham, Dorset, 1916, Mrs SANDWITH and DRUCE. This necessarily belongs to the var. *fluviatile* of *E. limosum*. It occurred in great quantity and presented a striking appearance.

2874. *E. VARIEGATUM* Schleich., var. *ARENARIUM* Newm.! Morfa, Harlech, Merioneth, 1916, Misses COBBE.

*2877. *ADIANTUM CAPILLUS-VENERIS* L. Near Arnside, Westmorland, PEARSALL.

2883. *ASPLENIUM LANCEOLATUM* Huds. Gowlin, at the foot of Blackstairs, Co. Carlow, PHILIP, in *Ir. Nat.* 1915.

2885. *A. ADIANTUM-NIGRUM* L. Broxbourne, Herts., HIGGENS. A rare plant in Herts.

2896. *DRYOPTERIS FILIX-MAS* Schott, var. *CRISTATA* (Moore)! Polperro, Cornwall, RILSTONE.

2906. *CYSTOPTERIS FRAGILIS* Bernh. On a wall at Bray, Berks., 1916, RIDDELSDELL.

*2908. *PHLEGOPTERIS POLYPODIOIDES* Fée! Near the Barle, S. Somerset, Lady DAVY.

†2909. *P. DROPTERIS* Fée. On a wall with the Black Spleenwort, at Broxbourne, Herts., HIGGENS, in *lit.* Doubtless adventive. *P. calcarea* is recorded for Broxbournebury in *Fl. Herts.*, probably in mistake for this. The record for the Bagshot *List* is an error.

2915. *TRICHOMANES RADICANS* Sw. Co. Carlow, PHILIP, in *Ir. Nat.* 1915.

2933. *NITELLA FLEXILIS* Ag. Kindrum Lough. An abnormal form, perhaps, of this species, Lough Shannagh, E. Donegal, Rev. Canon BULLOCK-WEBSTER.

2934. *N. OPACA* Ag. Dyke, near Bawtry, Yorks. Specimens were fruiting in December 1916 when children were skating in an adjoining field, Mrs SANDWICH. Once I saw *N. mucronata* fruiting under the ice near Oxford.

The following Characeae from ^vE. Donegal were found in 1916 by the Rev. Canon BULLOCK-WEBSTER, and were published in the *Ir. Nat.* 2, 1917:—

2936. *N. translucens* Ag. Lough Shannagh. 2940. *N. Nordstedtiana* Groves (*N. conferracea* Braun) Kindrum Lough. 2942. *N. glomerata* (Chevall.). Lough near Ballylar. 2950. *Chara contraria* Braun and var. *hispidula* Braun. Lough near Melmore Head. 2951. *C. hispida* L., and var. *rudis* (Br.) Tra Lough. 2955. *C. aspera* Willd., var. *subinermis* Kuetz. Tra Lough. 2955. *C. desmacantha* (H. & J. Groves). Rinboy Lough, Tra Lough. 2958. *C. fragilis* Desv., var. *capillacea* C. & G. Lough near Melmore Head.

ALIENS AT ST. PHILIP'S MARSH, BRISTOL.

This piece of waste ground at Bristol, W. Gloster, is frequently mentioned in Mr J. W. White's fascinating *Flora*. Many of the following plants are given there. A few exist from year to year and others are from time to time introduced. Grain, fruit packings, and warehouse sweepings account for many. During the past year the site has been carefully searched by such lynx-eyed observers as Misses A. B. & M. Cobbe, Lady Davy, Mrs Sandwith, and Mr T. H. Green, and I have visited it on three occasions. To save space those records are brought together. A few are additions to the *British Plant List*. Two stars mean that it is new to the vice-county. Unless otherwise stated, the records are due to the Misses Cobbe. Those seen by myself have ! added. Those not included in the *Flora of Bristol* for this place are starred. **31. *Ranunculus muricatus* L. *84. *Papaver hybridum* L. *91. *Roemeria hybrida* DC. 91. *Glaucium corniculatum* Curt. ! **93. *Eschscholzia californica* Cham. 184. *Sisymbrium altissimum* L. ! 185. *S. orientale* L. ! 200. *Conringia orientalis* Dum. ! **201. *C. austriaca* Sweet. 202. *Camelina sativa* Cr. **224. *Brassica incana* Schultz ! 226. *Diplotaxis tenuifolia* DC. 227. *D. muralis* DC., var. *Babingtonii* (Syme). **228. *Eruca sativa* Mill. **235. *Lepidium graminifolium* L. 237. *L. Draba* L. ! 240. *L. ruderale* L. ! **240 (2). *L. neglectum* Thell. 249. *Thlaspi arvense* L. ! 258. *Vogelia paniculata* Horn. ! 260. *Myagrum perfoliatum* L. 268. *Rapistrum rugosum* All. ! 327. *Gypsophila porrigens* Boiss. ! 331. *Saponaria Vaccaria* L. ! **336. *Silene Cucubalus* Wibel, var. *carneiflora* Legr. ! 339. *S. conoidea* L. 341. *S. dichotoma* Ehrh. **342. *S. gallica* L. ! 343. *S. anglica* L. **363. *Lychuis macrocarpa* Boiss. Misses Cobbe and Druce. **375. *Cerastium dichotomum* L. ! *443. *Althaea hirsuta* L. ! 468. *Linum usitatissimum* L. 494. *Erodium moschatum* L'Hér. ! **548. *Trigonella Foenum-graecum* L. 550. *T. polycerata* L. 554. *T. M. caerulea* Druce ! 562. *Medicago Falcata* L. ! 564. *M. sativa* L. **566. *M. orbicularis* All. T. H. Green. 579. *M. hispida* Gaertn., var. *denticulata* Burnat ! Var. *apiculata* Burnat ! 593. *M. officinalis* Lam. ! 595. *Melilotus alba* Desr. 596. *M. arvensis* Wallr. !

97. *M. indica* All. ! **605. *Trifolium lappaceum* L. Miss M. Cobbe and T. H. Green. I saw it there in 1915. 622. *T. resup-*
natum L. **625. *T. spumosum* L. **657. *Astragalus baeti-*
us L. *666. *Coronilla varia* L. ! *667. *C. scorpioides* Koch. *685. *V.*
*676. *Cicer urietinum* L. 683. *Vicia varia* Host. *685. *V.*
nonanthos Desf. *687. *V. bithyrca* L. ! 690. *V. narbonensis*
L. ! 691. *V. lutea* L. ! 695. *V. melanops* Sibth. & Sm.
697. *V. sativa* L. **723 (2). *Lathyrus hierosolymitanus* Boiss.
This is doubtless the pea mentioned by Mr White. 724. *L.*
Ochrus L. ! 726. *L. Aphaca* L. ! **731. *Pisum arvense* L. !
*731 (2). *P. humile* Boiss. & Noe. *906. *Potentilla norvegica*
L. Miss A. B. Cobbe and T. H. Green. 1049. *Epilobium tetra-*
gonum L., var. *stenophyllum* Druce ! *1061. *Oenothera biennis*
L. ! **1101. *Ammi majus* L. ! **1102. *A. Visnaga* Lam.
T. H. Green. **1124. *Scandix australis* L. ! 1130. *Foenicu-*
lum vulgare Mill. ! **1130 (2). *F. piperitum* All. ! 1135. *Oen-*
anthe pimpinelloides L. 1138. *Oe. fistulosa* L. 1157. *Corian-*
drum sativum L. ! 1166. *Caucalis daucoides* L. 1171. *C.*
latifolia L. ! 1201. *Galium tricorne* Stokes. 1203. *G. spurium*
L., var. *Vaillantii* DC. 1210. *Asperula arvensis* L. ! **1228.
Valerianella discoidea Lois. Mrs Sandwith. *1242. *Grindelia*
sqarrosa Dunal ! **1294. *Xanthium Strumarium* L. Miss I. M.
Roper. *1295. *X. spinosum* L. ! **1299. *Helianthus decupi-*
tatus L. ! **1317. *Hemizonia Kelloggii* Greene ! Miss A. B.
Cobbe and T. H. Green. 1338. *Anthemis tinctoria* L. 1343.
A. arvensis L. 1351. *Chrysanthemum segetum* L. 1354. *C.*
coronarum L. 1362. *Matricaria suaveolens* Buch. 1367.
Artemisia Absinthium L. *1443. *Mariana lactea* Hill ! 1462.
Centaurea Solstitialis L. ! 1463. *C. melitensis* L. ! 1465. *C.*
Calcitrapa L. ! **1467. *C. pallescens* Delile ! **1470. *C.*
salmantica L. ! **1477. *Carthamus tinctorius* L. 1485.
Rhagadiolus stellatus Gaertn. 1729. *Androsace maxima* L. 1742.
Anagallis femina Mill. ! 1787. *Lappula echinata* Gilib. ! 1789
(2). *Benthamia (Amsinkia) angustifolia* Druce. 1800. *Achusa*
officinalis L. *1805. *Lycopsis arvensis* L. 1810. *Asperugo*
procumbens L. *1824. *Lithospermum arvense* L. **1827.
Echium plantagineum L. 1844. *Lycopersicum esculentum* Mill.
1846. *Solanum nigrum* L. **1851. *Physalis foetens* Poir. Misses
Cobbe and Druce. 1855. *Datura Stramonium* L. 1856.

- Hyoscyamus niger* L. 1864. *Verbascum Blattaria* L. *1870
V. phoeniceum L. **1879 (3). *Linaria arvensis* Desf. **1946
Bartsia Trixago L. 1973. *Orobanche ramosa* L. T. H. Green
 1915; Lady Davy 1916. 2024. *Salvia sylvestris* L. ! 2031
S. verticillata L. 2059. *Stachys annua* L. ! 2067. *Wiede-*
mannia orientalis F. & M. **2077. *Ballota ruderalis* Sw. Mr
 Sandwith and T. H. Green. *2095. *Plantago Lagopus* L.
 2110. *Amaranthus retroflexus* L. 2117. *Chenopodium rubrum*
 L. ! 2122. *C. murale* L. 2123. *C. opulifolium* Schrad
 **2125. *C. leptophyllum* Nutt. 2128. *C. Vulvaria* L. **213
 (3). *C. hircinum* Schrad. Misses Cobbe, Green, and Druce
 **2131 (4). *C. Berlandierii* Moq. ! 2136. *Beta trigyna* W. & K.
 **2145. *Atriplex tatarica* L. T. H. Green, Misses Cobbe, and Druce
 2192. *Fagopyrum sagittatum* Gilib. 2390. *Asphodelus fistulosus*
 L. Miss Cobbe and T. H. Green. 2632. *Panicum Crus-galli* L.
 2636. *P. miliaceum* L. **2638. *Setaria italica* R. & S. Mrs
 Sandwith. 2639. *S. viridis* Beauv. **2646 (2). *Beckmannia*
eruciformis Host ! **2650 (2). *Phalaris angusta* Nees. 2651.
P. canariensis L. ! 2653. *P. minor* Retz. ! 2654. *P. paradoxa*
 L. ! **2679. *Phleum graecum* B. & H. 2690. *Polypogon*
monspeliensis Desf. 2698. *Gastridium ventricosum* (Gouan) Thell.
 2699. *Apera Spica-venti* Beauv. 2717. *Avena fatua* L. ! 2720.
A. sativa L. ! 2737. *Cynosurus echinatus* L. **2744. *Koe-*
leria phleoides Pers. *2752. *Desmazeria loliacea* Nyman.
 **2755. *Briza maxima* L. ! **2760. *Poa palustris* L. Misses
 Cobbe and Druce. *2788. *Festuca membranacea* Druce. **2794.
Bromus rigens L. (*B. maximus* Desf.) **2795. *B. rigidus* Roth.
 *2797. *B. tectorum* L. 2803. *B. unioloides* H. B. K. ! 2806.
B. secalinus L. ! 2821. *Lolium temulentum* L. and **var. *arvense*
 With. 2823. *L. multiflorum* Lam., and var. *Boucheanum* Kunth.
 2835. *Secale cereale* L. ! 2844. *Triticum aestivum* L. *2850.
Hordeum marinum Huds. ! **2851. *H. jubatum* L. 2854.
H. distichon L. **2857 (2). *Elymus canadensis* L. !

AQUATIC VEGETATION OF DERWENT WATER,
AUGUST 1916.

By W. H. PEARSALL.

75.	<i>Nymphaea lutea</i> L., and var. <i>intermedia</i> (Ledeb.)	77.
	<i>Castalia alba</i> Wood, and var. <i>minor</i> (DC.)	1032. <i>Myriophyllum</i>
	<i>panicatum</i> L.	1033. <i>M. alterniflorum</i> L.
	<i>intermedia</i> Hoffm.	1664. <i>Lobelia Dortmanna</i> L.
	<i>Atricularia major</i> Sch.	2101. <i>Littorella uniflora</i> Asch.
	<i>Fucus bulbosus</i> L.	2465. <i>Sparganium natans</i> L.
	<i>Botamogeton natans</i> L.	2493. <i>P. heterophyllum</i> Schreb., and var.
	<i>longipedunculata</i> (Mérat).	2497. <i>P. angustifolius</i> Presl.
	<i>P. praelongus</i> Wulf.	2502. <i>P. perfoliatus</i> L.
	<i>cusillus</i> L.	2544. <i>Scirpus fluitans</i> L.
	<i>limosum</i> L.	2924. <i>Isoetes lacustris</i> L.
		2870. <i>Equisetum</i>
		2934. <i>Nitella opaca</i>
Ag.		

MISCELLANEOUS NOTES.

Treatment of Plants to Produce a Permanent Green Colour
by Prof. TRAIL'S Copper Acetate Method.

We have used the method described below with very fair success in the Department of Botany of the British Museum in preparing specimens for exhibition. A stock solution is made by saturating commercial strong acetic acid with powdered copper acetate. For treatment dilute the stock solution with water in the proportion of 3 or 4 parts water to 1 of stock solution. The solution is heated in a non-metallic vessel—glass beakers being probably the most suitable—to boiling point. The specimen is placed in the boiling solution, which is kept boiling for a time varying from 1 minute to 40 minutes, according to the action of the copper salt upon the plant. If the action is proceeding satisfactorily a period of 1 to 5 minutes should suffice. The end of the operation is easily judged by the colour, or by treating two different specimens for different periods. A specimen that by such comparison appears to require longer treatment can always be reimmersed to get the desired effect. Many plants, notably

the leaves of evergreen shrubs, are more difficult and generally less satisfactory in the ultimate colour, probably owing to the presence of mucilaginous or decomposition products or tannins. These require long treatment, varying from 20 to 40 minutes. After the first immersion they turn yellowish, and then after action the yellow gradually gives place to green, generally an olive green. Other plants notably *Aucuba*, fail entirely as they pass from the yellow to a muddy brown or black colour. After treatment the plants should be washed (like photographic prints) in running water for about two hours. They are then dried under as light pressure as is compatible with keeping the plants from twisting, or after shaking off as much water as possible may be dried in sand. In many cases the plants are rendered so flaccid by boiling that sand-drying is difficult or impossible. Plants that have required long boiling not infrequently revert to a bad colour when sand-dried. Young parts of plants green better than old, and better results may be expected from "spring" leaves than from "autumn" leaves. Wooden (not metal) forceps should be used. A. B. RENDLE, D.Sc., F.R.S. See also *Nature* November 9, 1916.

The scope of usefulness of the above process, which Dr Rendle has kindly sent, seems limited to leaves and green flowerless or flowering plants. The use of a copper-salt to give a green colour to pickles and fruits has been long known. Many years ago I published the formula of a solution for preserving the colour of flowers, which was Alcohol (methylated with vegetable naphtha) 1 part, sulphurous acid B.P. 2 parts. The entire plant was immersed in this solution (cold) until the colour of the flowers was bleached to white (white flowers from 2 to 5 minutes according to their texture). The plants were then taken out and shaken as far as possible from moisture, which was best effected by putting them in a muslin bag with long strings by which it was swung rapidly round the head. The plants were then placed between sheets of tissue paper, and these between sheets of drying paper. They were then dried in the ordinary manner with very frequent changes into hot drying paper, by which they were quickly desiccated. The colour gradually came back on exposure to the air and was then nearly permanent. The word nearly is used, because if submitted to moist air in a room illuminated with gas the colour becomes more or less destroyed. Difficulties arise in the process from the corollas of some plants becoming flaccid, so that it is well to put

otton wool into the tubular or hollow corollas. By this process the very fugacious blue of *Campanulas* was fixed. The solution must be fairly fresh, since, if long kept, sulphuric acid is formed in the solution which turns some blues red. The reds and whites, as in some of our British Orchids, are quite successfully treated by this method. It has the advantage too of hastening the drying process in these and in Malliceous plants by killing the leaves, and it also prevents, to some extent, the dropping of the leaves in some of the Ericaceae. It utterly failed in the case of *Lathraea*.

Extracts from the Correspondence of RICHARD RICHARDSON of Bierly, Yorkshire, edited by DAWSON TURNER, 1835, contain letters from almost all botanists of note between 1690 and 1776. The original letters included in the above work and a large number of unpublished ones, now bound in twelve handsome folio volumes through the energy of Sir WILLIAM OSLER, Bart., have been recently acquired and presented to the Bodleian Library, Oxford. They passed from Richardson's daughter and heiress, Frances Mary Richardson Curren (whose book-plates they contain) into the possession of Sir Matthew Wilson in 1906. The published letters were excellently selected by the Editor, but much of interest is contained in the others, several hundreds in number, which at present I have not been able to more than glance at. They include one or two of Bobart's and many of Vernon's of Peterhouse. They are arranged chronologically. It is a matter of congratulation that such a mine of interesting botanical information should be a national possession.

On March 30, 1916, a sapling grown from a seed of the Wyre Forest *Pyrus domestica* Ehrh. (*Sorbus domestica*), planted early last century by Lord Mountnorris, which was burned by an incendiary in 1862, was planted in Wyre Forest on the actual site of the historic tree by the members of the Woreestershire Natural History Field Club, who have made arrangements to protect it against rabbits and deer. The sapling was grown by the late Capt. Robert Woodward at Arley Castle. In the Botanic Garden at Oxford there is a descendant of the original tree. The Duke of Richmond showed me a specimen last summer at Goodwood which has regularly fruited for many years. It is supposed to have been brought from the south of France by the second Duke of Richmond before 1750.

Through the generosity of the Government of British Columbia a flag-staff of Douglas Fir has been presented to the Royal Botanic Gardens, Kew. The tree measured 220 feet in length, 6 feet in diameter at the base, and 18 inches at the top. The length of the pole is 215 feet, with a diameter of 33 inches at the base, and 12 inches at the top, and it weighs about 18 tons. It was loaded in August 1915, having been hauled from the lower mainland coast of British Columbia to the H.M.S. Merionethshire, and it reached the Thames at Kew on January 3, 1916.

SIBTHORP'S *Flora Graeca: sive Plantarum rariorum Historia, quas in Provinciis aut Insulis Graeciae legit, investigavit, et depingendo curavit, Characteres omnium, Descriptiones et Synonyma, elaboravit*. J. E. Smith, London, 1806-40, 10 vols., roy. folio, with coloured frontispiece and 966 beautifully coloured plates, half green morocco, gilt top (Mackenzie), £260. Dulau's Catalogue. The above is one of the 25 subscribers' copies of this sumptuous work which, begun in 1806, was completed under Lindley's editorship in 1840, by which time, it was said, no original subscriber survived. Of these 25 copies I have seen 12. Although issued at 250 guineas, the work cost £25,000 to produce. The original drawings by Bauer, which are unequalled for minute accuracy and artistic finish, are in the Library of the Oxford Botanic Garden. Professor Vines and the writer hope to issue a biography of Sibthorp with the identifications of his plants, which are also preserved at Oxford. It is a source of great satisfaction to know that the above copy is purchased by one of our members who is fully able to appreciate its excellence and to preserve it with all the care it deserves. Among the copies I have seen is the one in the superb library at Longleat, a subscription copy of the Marquis of Bath. It is probably unique, as it is in the original red-paper covers.

Dr D. H. SCOTT has been elected a foreign member of the Royal Swedish Academy of Sciences in succession to the late Count Solms-Laubach.

Professor PIER'ANDREA SACCARDO, the eminent algologist, has been elected a foreign member of the Linnean Society.

Our member, Mr F. RANSOM, has placed a sum, which invested

will bring in about £100 yearly, to endow a Research fellowship with the Pharmaceutical Society of Great Britain at Bloomsbury Square Laboratory.

Dr C. E. Moss, of the Botany School, Cambridge, has been appointed to the Chair of Botany at Grahamstown, S. Africa. British Botany will suffer a great loss by his removal, as he possesses knowledge, zeal, and energy, which doubtless will be well used in a wider field.

The issue of *Nature* for March 16, 1916, gives excellent photographs of the memorial tablets which have been put up in Westminster Abbey to Joseph Dalton Hooker, Alfred Russell Wallace, and Lord Lister.

BOOKS IN PREPARATION.

THE FLORA OF KERRY, including the Flowering Plants, Ferns, Characeae, &c., with six plates and a map, by our member, R. W. SCULLY. Dublin: Hodges, Figgis & Co., Ltd. About 500 pages, med. 8vo, cloth, 12/6 net. The knowledge of the county flora possessed by Mr Scully is unrivalled, and the advent of this book on such a lovely and rich botanical district will be warmly welcomed.

We regret to hear that the publication of the FLORA OF SHROPSHIRE and of Mr Arnold Lees' YORKSHIRE FLORA are for the time held up, and the same is true of the FLORA OF OXFORDSHIRE and the FLORA OF BUCKINGHAMSHIRE.

CORRECTIONS, &c.

Report 1915, p. 188. No. 336 c. *Silene latifolia* R. & B. This name, Dr Williams says, is invalid, there being already a Barbary species, *S. latifolia* Poiret.

Report 1915, p. 188. No. 354 b. *Silene transsylvanica* Schur, Dr Williams tells me, is a nomen nudum, so *S. media* Herbieh, although later, is a valid name.

Report 1915, p. 192. No. 597 b. For "JOSHUA LAMB" read "L. H. LAMB."

Report 1915, p. 228. Line 2 from top for "Sherrin" read "Sherring."

Report 1915, p. 235. Line 1. For "JOHANDIEZ, Laun, Car-gulcranne" read "JAHANDIEZ, Faune, Carqueiranne."

Report 1915, p. 258. No. 354. The Surrey *Silene nutans*, Mr C. E. Salmon tells me, is *S. dichotoma*.

Report 1915, p. 366. Line 6 from bottom for "*Plantago lanceolata* L., var. *platyphylla* mihi," read "*Plantago lanceolata* L., var. *elliptica* mihi."

Report 1914, p. 24. Add after Australia in line 18 Bentham *Fl. Austral.* vi., 259. The author says of the Australian *Hydrilla verticillata* "Only female spathes seen. The leaves are serrulate in the Australian as in the typical Indian form." It appears to be native in N. Australia, Queensland, New South Wales, and Victoria.

Report 1914, p. 120. Line 10. For "N. Devon" read "North Denes."

The following Corrections in Plant Names must replace those given in the *British Plant List* or in the *Reports of the Botanical Exchange Club* :—

- 213. BRASSICA PARRA (L.) Dur. & Schinz, vice *B. sabularia* Brot.
- 218. BRASSICA JUNCEA Coss. includes 214. *B. lanceolata* Lange.
- 273. ERUCARIA MYAGROIDES (L.) Hal., vice *E. aleppica* Gaertn.
- 590. MELILOTUS SICULA Jacks., vice *M. messanensis* All.
- 916. ACAENA ANSERINIFOLIA (Forster) Druce, vice *A. Sanguisorbæ* Vahl.
- 1024. LYTHRUM MOENANTHUM Link, vice *L. Graefferi* Ten.
- 1161 (2). DAUCUS GLOCHIDIATUS (Lab.) F. M. & A. L., vice *D. brachiatus* Sieber.
- 1196. GALIUM PUSILLUM Murr. (non Lam.), vice *G. sylvestre* Poll. and *G. asperum* Schreb.
- 1200. GALIUM VALANTIA Web. & Wigg., vice *G. saccharatum* All.

- 1363 (3). *MATRICARIA SUFFRUTICOSA* (L.) Druce, vice *M. multijlora* Feenzl.
- 1365 (3). *CENIA TURBINATA* Pers., var. *discolor* Harvey (not *tuberculata*).
- 1408 (4). *SENECIO CORONOPIFOLIUS* Desf. Fl. Atl. ii., 273 (*S. subdentatus* Ledl.), vice *Senecio subdentatus* Phil. See *Rep. B.E.C.* 349, 1908. Alien, Tweedside, FRASER.
1420. *ARCTIUM NEMOROSUM* Lej. Fl. Spa, vice *A. Neubouldii*.
1430. *CIRSIIUM PRATENSE* Druce, vice *C. britannicum* Scop.
1438. *CIRSIIUM ARGENTATUM* (L.) should be 1425 (2). *Carduus argentatus* L.
1802. *ANCHUSA AZUREA* Mill., vice *A. italica* Retz.
1837. *CUSCUTA EPILINUM* DC., vice *C. vulgaris* Presl.
1898. *MIMULUS GUTTATUS* DC., vice *M. Langsdorffii* Donn.
2010. *SATUREIA MENTHIFOLIA* (Host), vice *S. grandiflora* for the Isle of Wight plant.
2089. *PLANTAGO INDICA* L., vice *P. ramosa* Asch.
2126. *CHENOPODIUM FICIFOLIUM* Sm., vice *C. serotinum* L. for the British plant.
2149. *ATRIPLEX GLABRIUSCULA* Edmonst., vice *A. Babingtonii* var. *virescens*. Var. *Babingtonii* (Woods) Druce, vice *A. Babingtonii*.
2359. *ROMULEA PARVIFLORA* Bubani, vice *R. Columnae* Seb. & Maur.
2499. Delete *Potamogeton upsaliensis* and substitute × *P. VENUSTUS* Baag.
2635. *PANICUM ISCHAEMUM* Schreber, vice *P. glabrum* Gaud. and *P. lineare* Krock.
- 2697 (2). *DEYEUXIA FILIFORMIS* (Forster) Druce, vice *D. retrofracta* Kunth.
2791. *FESTUCA BROMOIDES* L., var. *TENELLA* (Boiss.) Druce, vice var. *Broteri* B. & R.
2829. *AGROPYRUM PROSTRATUM* (Pallas) Eichw. Pl. Casp.-Cauc. i., 1831, vice *A. triticum* J. Gaertn.
2892. *POLYSTICHUM SETIFERUM* Woyнар, vice *P. angulare* Presl, under which come the vars. *hastulatum* (Kunze), *alatum* (Moore), and *gracile* (Wollaston).
2893. *POLYSTICHUM LOBATUM* Huds., vice *P. aculeatum* Roth, and var. *Plukenetii*.

2898. DRYOPTERIS AUSTRIACA (Jacq.) Woyнар, vice *D. spinulosa* Kuntze, and the vars. *elevata* (Braun), *exaltata* (Braun), *decipiens* (Syme), and *glandulosa* (Milde).
2901. D. VILLARSII (Bellardi) Woyнар, vice *D. rigida* Underw.
2946. LAMPROTHAMNIUM PAPULOSUM Groves, vice *Chara papulosa* Wallr.

PERSONAL NOTES.

Mr E. W. HUNNYBUN, who is making a series of drawings of British plants for the *Cambridge British Flora*, would be much obliged if members would assist him in obtaining some of his *Desiderata*, a list of which, with other information, will be gladly supplied by him. He will defray the cost of transmission and supply tins for the plants. His address is "Lucknow," Ventnor, Isle of Wight.

Mrs ADAMS, F.L.S., 14 Vernon Road, Edgbaston, and Miss TROWER, Stansteadbury, Ware, Herts., are painting British plants. Would members who are willing to assist in supplying specimens kindly let them know? The latter specially needs British *Rubi*.

F. J. HANBURY, Esq., Brockhurst, East Grinstead, is anxious to have seeds of rare British species. He will defray all expenses.

W. NORWOOD CHEESMAN, Esq., J.P., The Crescent, Selby, York, will be glad to receive or exchange specimens of *Mycetozoa*.

Rev. T. STEPHENSON, Epworth, Aberystwith, wishes to have living specimens of *Liparis*, *Spiranthes* species, *Corallorrhiza*, *Helleborine atroviridis*, and any hybrids.

Mr G. C. DRUCE, Yardley Lodge, Oxford, would like fresh specimens of the Marsh Orchids, stating their precise habitat, also fresh Orobanches.

SUPPLEMENT TO REPORT OF BOTANICAL
SOCIETY AND EXCHANGE CLUB
FOR 1916,

BY

G. CLARIDGE DRUCE.

JOHN GOODYER, OF MAPLEDURHAM, HAMPSHIRE.
1592-1664.

This great botanist, the son of Raynold Goodyer, a yeoman of Beech Place, was born at Alton, in Hampshire, in 1592. He lived for many years at Mapledurham House. The house was of stately proportions, with a fine garden and orchards. It was once the home of the Shelleys, a Roman Catholic family, and it had secret chambers and quaint hiding places for the priests. It was not dismantled until 1850. A painting of it is now in the possession of Capt. Seward. In the garden Goodyer grew many rare plants and new herbs, including the Jerusalem Artichoke, of which he obtained in 1617 two small roots from William Franqueuill of London. He does not appear to have been educated at Oxford, but details are lacking of his early career. That he had a gentle training and a good education is evident. He was married in 1632 to Patience Crump, of St. Giles-in-the-Field, London. After their marriage they removed to the great house in the Spain, Petersfield. Here in 1651 he was visited by Elias Ashmole and his friend, "the magician," John Backhouse. It now bears a tablet, "John Goodyer, Botanist and Royalist (1592-1664) lived here." He must have in early years taken to sampling since in 1617 he knew *Linum catharticum* and its uses, and in 1619 added *Asperula cynanchica*, *Apium nodiflorum*, and incidentally *Caucalis nodosa* to our flora. He also differentiated the Dewberry from its allies. The following year, 1620, he must have gone through the New Forest in spring, for he found growing there the beautiful *Pulmonaria angustifolia*; later

he added *Sium erectum*, *Carum segetum*, and *Oenanthe Lachevalii* to the British list. In the same year he rode to his friend, the Essex squire, William Coys, so often mentioned in Johnson's *Gerard*, who lived at Stockers, near Romford. There Coys had a garden teeming with strange plants, many brought out of Spain by his correspondent Boellius. Goodyer however kept his eyes open for wild plants, and for the first time clearly separated and described the glabrous leaved Elm (*Ulmus glabra* Mill.), which grew between Romford and Stockers. Probably on his way home he passed Rickmansworth for in Moor Park he added still another Umbellifer to the British Flora—the poisonous *Cicuta virosa*. In 1621 he visited Alton, and in the field called Marborne he gathered the splendid thistle *Cirsium eriophorum* and “an *Limodorum*,” which is most probably the earliest British reference to *Orobanche purpurea*. Another journey in September was southwards through Bere Forest to Burlesdon Ferry. There his eyes were delighted with a great trophy, *Frankenia laevis* then in flower, a splendid finish to his year's work. In 1622 he rode from Abingdon to Oxford, and doubtless coming down Cumnor Hill he saw *Cirsium eriophorum*, which still grows there. At Oxford he gathered on July 5, near Gloster Hall, now Worcester College, *Sium latifolium* and *Scirpus sylvaticus*. Perhaps the magnet which drew him to Oxford was the newly established Physic garden which through the munificence of Earl Danby, was given in the preceding year. The ground would, however, be only in preparation when Goodyer came, bringing doubtless a supply of seeds from his own garden. The beauty of Magdalen College must have appealed to him. That, and the hand it had in fostering the scheme of the Physic garden, and possibly his after friendship with William Brown, “who had the chief hand” in preparing its Catalogue of Plants, led Goodyer, who was childless, in after days to leave his Library to the College. In the same year, 1622, he added two Pondweeds, *Potamogeton densus* and *P. crispus*, to the British Flora from Droxford in his own neighbourhood. Both still grow there. In 1624 while riding between Christchurch and Lymington he noticed a new species of Elm, of which he brought home a plant which grew well. It seems probable that this was the Cornish Elm, although some authors have referred it to a species of Eastern England. Of this his lengthy description, which appears in Johnson's *Gerard*, still exists at Oxford. In 1626 he journeyed into Northamptonshire probably to

test the properties of the chalybeate spring called the Red Well at Wellingborough, of which King Charles and Henrietta had drunk. There in the boggy ground below the well he added to science the pretty *Sagina nodosa*. The date must have been about August, for he also added to Northamptonshire the chastely beautiful Grass of Parnassus. Johnson's *Gerard*, the preface of which is dated October 22, 1633, contains ample evidence of Goodyer's industry, since such species as *Thesium*, *Phyteuma orbiculare*, *Helleborine palustris*, *Festuca Mgurus*, *Damasonium Alisma*, *Dryopteris dilatata*, and *Geranium lucidum*, are mentioned as having been found by him, while his description of the ferns—the actual manuscript is still in Magdalen Library—and the Elms are most precise and accurate. He was a frequent visitor to the garden of John Parkinson, the author of *Paradisus Terrestris*, in Long Acre, and even in Whitechappel in 1651 he found *Geranium columbinum* and a Crucifer, probably *Bunias orientale*, "growing in the streets." In 1656 two of his most interesting discoveries were made—that of *Ludvigia apetala*, near Petersfield, and of *Littorella*. The former has now disappeared from its original locality, but exists in the New Forest. In 1659 he found the alien *Xanthium Strimarium* in his own county, but that had been already mentioned as growing in Buckinghamshire by Gerard in 1597. How never lived to complete a second edition of his *Phytologia*, but some of his notes of Goodyer's plants, as well as those supplied after Goodyer's death by his nephew, the Rev. Edmond Yalden Goodyer, appeared in Merrett's *Pinar* of 1666. It contains a few new British plants from the Hampshire botanist, including *Campamula patula* and *Caucalis arvensis*. Goodyer's discoveries form a magnificent list. In an essay, not less happy in its elegance of style, than in its accuracy of information, from the pen of Canon Vaughan of Winchester, which appeared in *Cornhill* for June 1916, he tells us that Goodyer died in the spring of 1664 and was buried as directed by his will in the churchyard of Buriton, near his late wife. No stone marks the spot, and no memorial exists to commemorate his benefactions to the parish. To the poor of Weston he left his "Messuage dwelling-house, together with all the barns, stables, outhouses and buildings, and all the garden and orchard thereunto belonging, and some seventeen acres of meadowland known as half-penny laud, then in occupation of one Thomas Jacques." The large house was sold for £1,000. This and the rent of the laud bring in an

annual income of some £75. Part of this is spent in apprenticing the young lads of the tithing and part in making allowances to servant girls. His main fortune was left to his nephew, Edmond Yalden, who seems to have taken the name of Goodyer (see Merrett's *Pinax*). His Library—with the exception of his book on Chirurgery, called "Ambrose Barry," which was bequeathed to John Westbrook, Gentleman, one of the witnesses to his will—was left to "Magdalen College in Oxon. to be kept entirely in the Library of the said College for the use of the said College," where as will be seen it is carefully preserved. Through the exertion of Miss Mabel E. Wotton (from whose interesting article much information has been culled) a sum of money, towards which Magdalen College contributed five pounds, has been collected in order to put a window to his memory at Buriton Church. The inscription is "To the Glory of God and in Memory of John Goodyer of Alton, Mapledurham, Petersfield, 1592-1664, Royalist, Botanist, Founder of Goodyer Clarity, Weston. Buried in Buriton Churchyard." The window bears the Goodyer arms—gules, a fesse between two chevrons vair—and a partridge holding a *good ear* of wheat in its beak. An autograph copy of Lord Hopton's order, 1643, that Goodyer should not be molested will hang near the window. The reproach of neglect will therefore no longer exist, and the memory of one who did so much to enrich the knowledge of his country's plants will be kept fresh in the little church which is situated under the slopes of Butser Hill, where the Squinancy Wort and the Rampion still grow. His benevolent charity will still continue to help the young people who live in the charming countryside overlooking Petersfield, where his greatest discovery was made. The present seems a not unfitting time to bring such scattered information as exists to the members of our Society who have kindred tastes.

Goodyer was in frequent correspondence with the best botanists of his period. He largely assisted Johnson when that author was preparing the second edition of Gerard's *Herbal*, in which are described about 2850 plants. In the Preface Johnson thus handsomely acknowledges his services. "In the first place let me remember the onely Assistant I had in this Worke, which was Mr John Goodyer of Maple Durham in Hampshire, from whom I receiued many accurate descriptions, and some other obseruations concerning plants: the which (desirous to giue euey man his due) I haue caused

to be so printed, as they may be distinguished from the rest: and that you shall know them: in the beginning is the name of the plant in Latine in a line by itselfe, and at the end his name is inserted: so that the Reader may easily finde those things that I had from him, and I hope together with me will be thankfull to him, that he would so readily impart them for the further increase of this knowledge."

Among the references to Goodyer are the following:—

p. 29. "*Gramen murorum spica longissima.* Capon-taile Grasse. I cannot omit this elegant Grasse, found by Mr Goodyer vpon the walls of the antient city of Winchester, and not described as yet by any that I know of . . . my friend, the first obseruer thereof gave it the title of Capons-taile Grasse." The first record of *Festuca Myurus* L.

p. 65. Johnson, alluding to the transmigration of species and quoting Virgil,

"In furrowes where great Barley we did sow,
Nothing but Darnel and poore Oates do grow,"

says he had never before heard "that two seuerall graines, perfect in each respect, did grow at any time in one eare: the which I saw this yeare, 1632, in an eare of white Wheat, which was found by my very good friend Master Iohn Goodyer, a man second to none in his industrie, and searching of plants, nor in his judgment or knowledge of them. This eare of Wheate was as large and faire as most are, and about the middle thereof grew three or foure perfect Oats in all respects." Prof. Percival says that some mistake must have been made here, or that some teratological freak led to erroneous observation.

p. 227. "*Palma Christi, radice repente.* Roots of the bignesse of strawes, in substance like those of Sopewort, from the which immediately doth rise foure or five broad smooth leaues like vnto the small Plantaine, from the which shooteth vp a small and tender stalke, at the top whereof groweth a pleasant spikee eare of a whitish colour, spotted on the inside with little speckes of a bloudie colour. . . . Found by a learned Preacher called Master Robert Abbot of Bishops Hatfield, in a boggy groue where a Conduit head doth stand. . . . It growes also plentifully within a mile of a market Towne called Petersfield, in a moist medow named Wood-mead, neere the path leading from Petersfield towards Beryton [this locality was doubtless supplied by Goodyer]." Johnson has by some error attached

the wood-block of *Goodyera repens* to this description which admirably depicts *Helleborine palustris* and is the first British record, but gives no idea of the fir-wood loving Orchis. Doubtless this misplaced figure led Robert Brown (under a mistaken idea) to name the genus, already established as *Epipactis* by Haller, *Goodyera*. The fact is remarkable that Brown could have ever read Johnson's description and have thought it applied to the genus he was renaming. He thus connected Goodyer's name with a plant he had probably never seen, and was in no way connected with.

p. 228. "*Nidus avis flore et caule violaceo purpureo colore*; an *Pseudoleimodorum* Clus. Hist. Rar. Plant., p. 270. This riseth up with a stalke about nine inches high, with a few smal narrow sharpe pointed short skinny leaues, set without order, very little or nothing at al wrapping or enclosing the stalke; having a spike of floures like those of *Orobanche*, without tailes or leaues growing amongst them; which fallen, there succeed small seed vessels. The lower part of the stalke within the ground is not round like *Orobanche*, but slender or long, and of a yellowish white colour; with many small brittle roots growing vnderneath confusedly, wrapt or folded together like those of the common *Nidus avis*. The whole plant as it appeareth above ground, both stalkes, leaues and floures, is of a violet or deepe purple colour. This I found wilde in the border of a field called Marborne, neere Habridge in Haliborne, a mile from a towne called Alton in Hampshire, being the land of one William Balden. In this place also groweth wild the thistle called *Corona fratrum*. John Goodyer." Johnson says "he receiued out of Hampshire from my often remembered friend Master Goodyer this description of a *Nidus avis* found by him the 29 of Iune, 1621." The above record has never been corroborated. It has caused much confusion and many contradictory opinions. Ray (*Cat. Pl. Angl.* 224, 1670), overlooking perhaps Goodyer's qualification 'an' identified it as the European Orchid *Limodorum abortivum* which has not been found in Britain and is too striking in appearance to have been overlooked. However some authors took Ray's view, and among others Bobart (*Morison Hist. Ox.* iii., 503, 1699) and Dillenius (*Ray Syn.* 383, 1724). Sir James E. Smith (see *Trans. Linn. Soc.* iv., 164, and *Eng. Fl.* iii., 149, 1824) with greater perspicacity refers it to *Orobanche caerulea*, while Mr Townsend (*Fl. Hampshire*, 642), makes a very unlikely suggestion that it is *Epipactis violacea*, i.e., *Helleborine purpurata*. This may be at once

negated by the fact that the colour of the flowers is not violet or deep purple, and I suppose it has never yet flowered in England so early in the year as June 29. The inflorescence too is distinctly bracteate, whereas Goodyer says "it is without tails or leaves growing amongst them." A still more improbable suggestion that it was *Lathraea Squamaria* was made in MS. by Mr Yalden, since *Lathraea* is over flower before June 29 in Hampshire, and the underground portion of the plant in no way answers Goodyer's description. Others thought it was a form of *Neottia Nidus-avis*, but this does not lie within the shadow of a chance. The probabilities are distinctly in favour of its being *Orobanche purpurea*, which is parasitical in light soils on *Achillea Millefolium*. I have paid three visits to Haliborn on June 29 and have probably correctly identified the field, now called Narborne. It is bordered on the eastern side for about 250 yards by a deep gully 10-12 feet deep, now overgrown with bushes, along which a chalk stream intermittently (as the name suggests) flows. My search had negative results. The Yarrow is abundant there. The banks of the gully when bare were a not unlikely place and very similar to where the plant grows in the Isle of Wight.

p. 257. "*Sium alterum Olusatricae*." Found by Mr Goodyer in the ponds about Moore Park. This is the earliest reference to *Cicuta virosa* L. Goodyer's own note adds "and ? Denham in Herts."

p. 309. "*Lactuca syl. maior odore Opii*." Found in Hampshire by Mr Goodyer and the seeds sent to Mr Parkinson in whose garden I saw it growing two years ago." First record for the county of *Lactuca virosa* L.

p. 417. "*Plantago aquatica minor stellata*." Mr Goodyer also found it growing on Hounslow Heath. Therefore Johnson and Goodyer were the earliest discoverers of *Damasonium Alisma* Mill. in England.

p. 455. "*Rapunculus Corniculatus montanus*." I received seeds and roots hereof from Mr Goodyer who found it plentifully growing wilde in the inclosed chalkie hilly grounds by Mapledurham." The earliest British record of *Phyteuma orbiculare* L., a plant found first in Italy by Fabius Columna, a member of the princely house of Colonna.

p. 555, n. 14. "*Linaria adulterina*." Bastard Tode-flax. Mr Goodyer found it growing wilde on the side of a chalkie hill in an inclosure on the right hand of the way as you goe from Droxford to

Poppie Hill in Hampshire." The first British record of *Thesium humifusum* DC.

p. 559. "*Linum sylvestre catharticum* Mil-mountaine. [Description]. It groweth plentifully in the vnmanured inclosures of Hampshire on chalkie downs and on Purfleet hils in Essex and in many other places. My friend Mr John Goodyer . . . told me [in 1629] he had long knowne the plant, and referd it to *Lines*, but there were some which called it in English Mil-mountaine, and vsed it to purge, and of late he hath sent me this historie of it, which you shall have as I receiued it from him. [Here follows description]. It groweth plentifully in the vnmanured inclosures of Hampshire, on chalkie downs, and on Purfleet hils in Essex, and in many other places. . . . I came to knowe this herbe by the name of Mil-mountaine, and his vertue by this means on the second of October 1617 going by Mr Colson's shop an Apothecary of Vvinchester in Hampshire I saw this herbe lying on his stall, which I had seen growing long before . . . he told me . . . it was called Mil-mountain, and he also told me that beeing at Doctor Lake his house at Saint Crosse, a mile from Vvinchester, seeing a man having this hearbe in his hand . . . hee told him [the name] and also the use of it which is this. Take a handfull of Mill-mountaine, the whole plant leaues, seeds, floures and all, bruise it and put it in a small tunne or pipkin of a pinte filled with white vvine, and set it on the embers to infuse all night, and drinke that vvine in the morning fasting, and he said it would give eight or tenne stooles. This Doctor Lake was afterwards Bishop of Bath and Vvels, who always vsed this hearbe for his purge, after the said manner, as his man affirmed. July 2, 1619, John Goodyer."

p. 567. "*Polygonum alterum pusillo vermiculato Serpillo foliolo Penae.*" Goodyer gives a good and lengthy description and says he "found it flouring the third day of September 1621, on the ditch bankes at Burlesdon ferrey by the sea side in Hampshire." This also is an addition to the British flora of *Frankenia laevis* L.

p. 568. *Alsine palustris foliis tenuissimis: siue Saxifraga palustris alsinefolia.*" Goodyer also describes this new species and says: "This groweth plentifully on the boggy ground below the red Well of Wellingborough in Northamptonshire. This hath not been described that I finde. I obserued it at the place aforesaid Aug. 11, 1625, John Goodyer." This Red Well was a chalybeate spring, which was visited

y Charles and Henrietta, who stayed at the White Swan Hostelry, and doubtless the Royal visit led Goodyer, who was a Cavalier, also to make his pilgrimage to the Well, thus making known this elegant little species *Sagina nodosa* to science.

p. 604. *Saxifraga*. A conventional figure is given by Johnson, copied from a drawing supplied by Goodyer from a MS. in his possession by Apuleius, and its description in that MS. is also included. Its identity is quite conjectural.

p. 677. "*Acinos odoratissimum*. This plant I first found growing in the garden of Mr William Yalden in Sheete near Petersfield in Hampshire, Anno 1620, amongst sweete Marjerome, and which by chance they bought with the seedes therof. It is to be considered whether the seedes of sweete Marjerome degenerate and send forth this herbe or not, 11th October 1621, Iohn Goodyer."

p. 729. "*Iacea capitulis hirsutis Boelii* [a long description follows]. This plant hath not been hitherto written of that I can find. Seeds of it I received from Mr William Coys, with whom I also observed the plant Oct. 11, 1621, he received it from Boelius a Low countrey man. Iohn Goodyer."

p. 744. "*Chrysanthemum Creticum*. Mr Goodyer hath saved me the labour by sending an exact description therof together with one or two others of this kinde, which I think fit here to give you—*Chrysanthemum Creticum primum Clusii*, Small Mountaine Marigold, *Chrysanthemum Boeticum Boelii, inscriptum*, and *C. tenuifolium Boeticum Boelii*." These are described at length by Goodyer on July 28, 1621. Neither of them is British.

p. 753. Jerusalem Artichoke. Goodyer gives a full description and says the "floures by reason of their late flourishing, which is commonly two or three weeks after Michalmas, neuer bring their seed to perfection and it maketh them of abundance of small heads neere the tops of the stalkes and branches forth of the bosomes of the leaues which neuer open and floure with us, by reason they are destroyed by the frosts, which otherwise it seemes would be a goodly spectacle. . . . The tuberous roots will abide in the earth all the winter though the stalkes and rootes by which they were nourished utterly rot and perish away and will begiinne to spring up againe at the beginning of May, seldome sooner.

THE PLACE.

Where this plant groweth naturally I know not, in Anno 1617. I receiued two small roots thereof from Master Franqueuill of London, no bigger than hens eages, the one I planted and the other I gave to a friend, mine brought mee a peck of roots, wherewith I stored Hampshire.

THE VERTUES.

These rootes are dressed diuers waies; some boile them in water, and after stew them with sacke and butter, adding a little ginger: others bake them in pies, putting Marrow, Dates, Ginger, Raisons of the Sun, Sacke, etc.; others some other way as they are led by their skill in Cookerie. But in my iudgment which way soeuer they be drest and eaten they stirre and cause a filthie loathsome stinking winde within the bodie, thereby causing the belly to bee pained and tormented and are a meat more fit for swine, than men; yet some say they have usually eaten them and have found no such windie qualitie in them, 17 October 1621. Iohn Goodyer."

p. 809. "*Pulmonaria foliis Echii*. Mr Goodyer found [it on] May 25 Anno 1620 flouring in a wood by Holbury House in the New Forrest in Hampshire." An addition to the British flora of the charming *Pulmonaria angustifolia*.

p. 810. "*Bardana minior*. It also groweth plentifully in Southwick street in Hampshire as I have been informed by Mr Goodyer." A new record for the county of *Xanthium Strumarium* L.

p. 823. "*Tribulus aquaticus minor quercus floribus* Clus. p. 252." A good description is given. Goodyer adds "the whole plant is commonly couered with water. It floureth in Iune and the beginning of Iuly. I founde it in the standing pooles or fish pondes adioyning to a dissolued Abbey called Durford which pond diuide Hampshire and Sussex, and in other standing waters elsewhere. This description was made vpon sight of the plant the 2 of Iune, 1622. The first British record of *Potamogeton crispus* L.

p. 823. "*Tribulus aquaticus minor, muscatellae floribus* [also fully described]. This groweth abundantly in the riuier by Droxford in Hampshire. It floureth in Iune and Iuly, when the other doth, and continueth couered with water, greene, both winter and summer. Iohn Goodyer." The first British record of *Potamogeton densus* L. The woodcuts in Gerard of these species are transposed.

p. 839. "*Soldanella marina*. Sea Binde weed. My friend Mr Goodyer hath told me in Hampshire at Chichester and thereabout they make use of this for scurvie-grass and that not without great honour as any that know the qualitie may easily perceiue." First record for the counties of *Convolvulus Soldanella*.

p. 840. "*Grumen Parnassi*. Mr Goodyer found it in the boggy ground below the red well of Wellingborough in Northamptonshire 1626." The first record for that county of *Parnassia palustris* L.

p. 841. "*Saxifraga aurea*. Mr Goodyer hath also obserued it abundantly on the moist shadowie moist rockes by Maple Durham in Hampshire." The first record for that county of *Chrysosplenium oppositifolium* L.

p. 871. "*Bryonia nigra florens non fructum ferens*. This is together like the first described [*Tamus communis* L.] in roots, branches, and leaues, onely the foot-stalks wheron the floures grow are about eight or nine inches long, the floures are something greater, succeeding neither before or after their flouring any berries or shew thereof, but the floures and footstalks do soone wither and fall away: this haue heretofore, and now this Sommer 1621 diligently obserued, because it hath not bene mentioned or obserued by any that I know, John Goodyer." The first record for Hampshire of *Tamus communis* L. Goodyer's observations doubtless refer to a male flowered plant. It is normally dioecious.

p. 931. "*Malua verbenuca*. Veruaine Mallow. Mr Goodyer found [it] with white floures growing plentifully in a close neere Maple-Durham in Hampshire called Aldercrofts." The first Hampshire record of *Malva moschata* L.

p. 938. "*Geranium saxatile* of Thalius. Master Goodyer found it plentifully on the bankes by the highway leading from Gilford towards London neere vnto the Townes end. The first British record of *Geranium lucidum* L.

p. 1018. *Selinum Sijfoliis*. Honewort. I tooke the description of this herbe the yeere 1620 but obserued it long before, not knowing any name for it; first I refered it to *Sium*, calling it *Sium terrestre*, and *Sium segetum et agrorum*, afterwards vpon sight of *Selinum peregrinum primum Clusii*, which in some respects resembles this herbe, I named it *Selinum Sijfoliis*: yet wanting an English name: at length about the yeere 1625 I saw Mrs Ursula Leigh (then seruant to Mistris Bilson of Mapledurham in Hampshire, and now 5 Marcii

1632 wife to Master William Mooring, Schoolemaster of Petersfield, a Towne neere the said Mapledurham) gather it in the wheate ershes about Mapledurham aforesaid (where in such like grounds it stil groweth, especially in clay grounds) who told me it was called Hone wort, and that her mother Mistris Charitie Leigh, late of Brading in the Isle of Wight, deceased, taught her to vse it after the manner heere expressed, for a swelling which shee had in her left cheeke, which for many yeeres would once a yeere at the least arise there, and swell with great heat, rednesse, and itching, vntil by the vse of this herbe it was perfectly cured, and rose no more nor swelled, being now (5 Marcii 1632) about twenty yeeres since, only the scar remaineth to this day. This swelling her mother called a Hone, but asking whether such tumors were in the said Isle usually called Hones she could not tell, by reasin shee was brought from Brading aforesaid young, and not being aboue twelue yeeres old when shec vsed this medicine. Take one handfull of the greene leaues of this Honewirt, and stampe them, put to it about halfe a pinte or more of beere, straine it, and drinke it, and so continue to drinke the like quantity euery morning fasting till the swelling doth abate, which with her was performed in the space of two weekes at the most, August 18, 1620, John Goodyer." Goodyer was the first observer of *Carum segetum* in Britain. It was actually recorded by Johnson somewhat earlier than in the *Herbal*. See Johnson *Itin. Kent* 1629 as *Sium terrestre*.

p. 1119. "*Rubia spicata Cretica Clusii*, Small Candie Madder. A garden species of *Crucianella*, which Goodyer describes on July 1621.

p. 1120. "*Synanchica* [with description]. It floureth all the Sommer long, and groweth in drie Chalkie ground abundantly, August 13, 1619. John Goodyer." The first Hampshire record for *Asperula cynanchica* L., which probably Goodyer was the first to describe in Britain.

p. 1129. "*Filicis (vulgo maris varietates et differentiae)*. I haue obserued foure sorts of Ferne, by most writers esteemed to be the male Ferne of Dioscorides: by Anguillaria, Gesner, Caesalpinus and Clusius, accounted to be the Female, and so indeed doe I thinke them to be, though I call them the male with the multitude. If you looke on these Fernes according to their seuerall growths and ages, you may make many more sorts of them than I haue done; which I am afraid

h been the occasion of describing more sorts than indeed there in nature. These descriptions I made by them when they were their perfect growths."

p. 1129. No. 1. "*Filix mas ramosa pinnulis dentatis* [a long & minute description follows]. Plentifully in the boggy shadowie moores neere Durford Abbey in Sussex, and also on the moist shadowie rocks by Mapledurham in Hampshire . . . and I haue found it often on the dead putrified bodies and stems of old rotten trees, in the said moores, neere the old plants I haue obserued verie many small young plants growing, which came by the falling of the seed from those dusty scales: for I belieue all herbes haue seeds in themselves to produce their kindes, Gen. i. 11 & 12." This is the earliest reference to *Dryopteris dilatata*.

No. 2. "*Filix mas non ramosa pinnulis latis densis minutim dentatis*. This grows plentifully in most places in shadowie woods and copses." The earliest Hampshire reference to *Dryopteris Filix-mas* Schott.

No. 3. "*Filix mas non ramosa pinnulis angustis, raris, profunde dentatis*. This groweth also in many places in the shade." Doubtless *Dryopteris Filix-mas* Schott, var. *affinis*.

No. 4. "*Filix mas non ramosa pinnulis latis auriculatis spinosis*. Abundantly on the shadowie moist rockes by Mapledurham . . . John Goodyer." The first Hampshire record for *Polystichum lobatum*, or possibly *P. setiferum* Woynar (*angulare*), which is the commoner plant in that area.

p. 1135. "*Dryopteris Penae & Lobelii* [with description]. Many years past I found this same in a very wet moore or bog . . . called Whitrow Moore where Peate is now digged. . . . I never found it any other place. John Goodyer, July 6, 1633." Probably the earliest British record of *Dryopteris Thelypteris* Asa Gray.

p. 1139. "*Phyllitis multifida* Finger Harts-tongue. Mr Goodyer found it wild in the banks of a cave near Swaneling (Swaneck) not many miles from Southampton." First record for *Phyllitis Scolopendrium* Newm., var. *multifida*.

p. 1146. "*Trichomanes mas*. Mr Goodyer saith that in January 1624 he saw enough to lade an horse between Rake and Headley in Hampshire neere Woolmer Forest." The first Hampshire record for *Asplenium Trichomanes* L.

p. 1200. "*Medicæ maioris Boeticæ* species prima, spinulis intortis, *Medicæ maioris Boeticæ spinosæ* species altera, *Medicæ marinæ spinosæ* species, the descriptions of these three species of *Medicago* are supplied by John Goodyer Aug. 2, 1621."

p. 1271. "*Rubus repens fructu caesio*. This growes common enough in most places and too common in ploughed fields. Sep. 6, 1619, John Goodyer." The first Hampshire record of *Rubus caesius* L.

p. 1371. "*Taxus taustum florens*. In Hampshire there is good plentie of them growing wilde on the chalkie hills. In flower Dec. 19, 1621, John Goodyer." The male plant of *Taxus baccata* L., thus first recorded for Hampshire.

p. 1479. "Of the Elme Tree. Ovr author (Gerard 1597) onely described two Elmes, and those not so accurately but that I thinke I shall giue the Reader content, in exchanging them for better received from Mr Goodyer: which are these.

Vlmus vulgatissima folio lato scabro. The Common Elme. This Elme is a very great high tree, the barke of the young trees, and boughs of the elder, which are vsually lopped or shred, is smooth and very tough, and will strip or pil from the wood for a great length without breaking; the bark of the body of the old trees as the trees grow in bignesse, teares or rents, which makes it very rough. The innermost wood of the tree is of reddish yellow or brownish colour, and curled, and after it is drie, very tough, hard to cleave or rent, whereof naues of Carts are most commonly made; the wood next to the barke, which is called the sap, is white. Before the leaues come forth the floures appear, about the end of March, which grow on the twigs or branches closely compacted or thrust together, and are like to the chiues growing in the middle of most floures, of a reddish colour; after which come flat seed, more long than broad, not much vnlike the garden Arach seed in forme and bignessee, and doe for the most part fall away before or shortly after the leaues spring forth, and some hang on a great part of the Sommer, the leaues grow on the twigs of a dark green colour: the middle size wherof are two inches broad, and three inches long, some are longer and broader, some narrower and shorter, rough on handling on both sides, nickt or indented about the edges, and many times crumpled, hauing a nerue in the middle, and many smaller nerues growing from him, the leafe on one side of the nerue is alwaies longer than the other. On these

leaves oftentimes grow blisters or small bladders, in which in the spring are little wormes, about the bignesse of Bed-fleas. This Elme is common in all parts of England, where I haue trauelled.

Ulmus minor folio angusto scabro. The Narrow leaved Elme. 2. This tree is like the other [1] but much lesser and lower, the leaues are vsually about two inches and a half long, and an inch or an inch and a quarter broad, nickt or indented about the edges, and hath one side longer than the other, as the first hath, and are also harsh and tough on both sides, the barke or rinde will also strip as the first doth: hitherto I haue not obserued either the floures or seeds or blisters on the leaues, nor haue I had any sight of the timber, or heard of any vse therof. This kinde I haue seene growing but once, and that in the hedges by the highway as I rode betweene Christchurch and Limmington in the New Forest in Hampshire about the middle of September 1624, from whence I brought some small plants of it, not a foot in length, which now, 1633, are risen vp ten or twelve feet high, and grow with me by the first kinde, but are easily to be discerned apart, by any that will looke on both.

3. *Ulmus folio latissimo scabro.* Witch Hasell or the broadest leaved Elme. This groweth to be a very greate tree, and also very high, especially when he groweth in woods amongst other trees, the barke on the outside is blacker than that of the first, and is also very tough, so that when there is plenty of sap it will strip or peepe from the wood of the boughes from the one end to the other a dozen foot in length or more, without breaking, wherof are often made cords or ropes: the timber hereof is in colour neere like the [first]: it is nothing so firme or strong for naues of Carts as the first is, but it will more easily cleaue: this timber is also eouered with a white sappe, next the barke: the branches or young boughes are grosser and bigger and do spread themselves broader, and hang more downwards than those of the first: the floures are nothing but chiues, very like those of the first kinde: the seed is also like, but something bigger: the leaues are much broader and longer than any of the Kindes of Elme, vsually three or foure inches broad and fve or six inehes long, also rough or harsh in handling on both sides, snipt or indented about the edges, neere resembling the leaues of the Hasell; the one side of the leaues are also most commonly longer than the other, also on the leaues of this Elme are sometimes blisters or bladders like those on the first kinde. This prospereth and naturally groweth in any soile, moist or

dry, on high hills, and in low vallies in good plenty in most places in Hampshire, wher it is commonly called Vvitch Hasell, as El. 10. This hath little affinitie with *Carpinus*, which in Essex is called VVitch Hasell." The first Hampshire record of *Ulmus montana* Stokes (*U. campestris* L. = *U. glabra* Huds.)

4. "*Ulmus folio glabro* VVitch Elme, or smooth leaued Elme. This kinde is in bignesse and height like the first, the boughes growe as those of the VVitch Hasell doe, that is hanged more downewards than those of the Common Elme, the barke is blacker than that of the first kinde, it will also peepe from the boughes: the floures are like the first and so are the seeds: the leaues in forme are like those of the first kinde, but are smooth in handling on both sides. My worthy friend and excellent Herbarist of happy memorie Mr William Coys of Stubbers in the parish of Northokington in Essex told me that the wood of this kinde was most desired for naues of Carts than the wood of the first. I obserued it growing very plentifully as I rode betweene Rumford and the said Stubbers in the yeere 1620 intermixed with the first kinde, but easily to be discerned apart, and is in those parts vsually called VVitch Elme."

With regard to the Elms so well described by Goodyer, that of the Common and the Witch Elm contrasts not unfavourably with those given more recently in more pretentious works. No controversy is likely to arise with regard to their identity. There is also no doubt as to the identity of the third, but the most correct name is not so certain. It is certainly the *Ulmus glabra* of Miller. More recently *Ulmus nitens* Moench has been applied to it, since the compound species *U. glabra* Huds. has been restored for another species. Goodyer's second species *Ulmus minor folio angusto scabro* is however more ambiguous. Hudson (*Fl. Ang.* 95, 1762) made it a variety. Goodyer's name was quoted as a synonym by Miller (*Gard. Dict.* 1768) for his *U. sativa*—whatever that may be—since in the *Cambridge Flora* it is used in the sense of my *U. Plotii*? In Elwes and Henry's *British Trees* it is said to be *U. campestris* (auct.) L. From Goodyer's statement "that he had only once seen it growing, and that between Christchurch and Limmington," the probabilities are strongly in favour of its being the Cornish Elm which does grow there. Goodyer visited Essex, and rode from Romford to his friend, Mr Coys at North Ockenden, where he could hardly have failed to recognise this Elm if it were the same as his Hampshire one, since

Plotii occurs in that area, and the Cornish Elm does not. Plot, who was probably acquainted with Goodyer, and would certainly have a clear idea of what Goodyer meant, in describing the tree I have connected with his name says (*Nat. Hist. Oxf.* 1677) this "is a narrow leaved Elm which also being smooth justly deserves the name *Ulmus folio angust glabro*, wherein it differs not only from the *Ulmus minor* of Parkinson and Gerarde [Goodyer], but also from their *Ulmus medio glabro*." Plot's specimen is in the British Museum Herbarium, and shows that it is not as has been suggested *U. viminalis* but *U. Plotii*.

p. 1625. Johnson says, "At the end of this Appendix I have thought good to give divers descriptions of Plants, which I received from my oft mentioned friend Mr Goodyer, which also were omitted in their fitting place, partly through haste, and partly for that I received some of them after the printing of those chapters wherein of right they should have been inserted. They are most of them of rare and not written of plants wherefore more gratefull to the curious. Goodyer gives a description of each. The plants are *Hieracium tellatum Boelii*, *H. medio nigrum flore maiore Boelii*, *H. medio nigrum flore minore Boelii*, *H. lanosum* [these four are from seeds received from Mr Coys 1620], *Blitum spinosum*, *Geranii Boeticae species Boelii* (gathered by Boelius in Spain), *Antirrhinum minus flore Linariae luteum inscriptum*, *L. minor aestiva* [seeds of these two from William Coys], *Scorpioides multiflorus Boelii*, *S. siliqua crassa Boelii*, *Silibum minus flore mutante Boelii* [gathered by Boelius in Spain], *Aracus maior Boeticus Boelii*, *Legumen pallidum Vissiponense*, *Nonii Brandonii*, *Vicia Indica fructu albo*, *Astragalus marinus Lusitanicus Boelii* [from seeds gathered in the garden of my good friend John Parkinson in London 1616], *Faba veterum serratis foliis Boelii* [gathered by Boelius in Boetica], *Pisum maculatum Boelii* [brought by Boelius from Spain], *Lathyrus aestivus flore luteo* July 28, 1621, *L. aestivus Boeticus flore caeruleo Boelii*, *L. edulis Boeticus flore albo Boelii*, *L. aestivus flore miniato*, *L. pulustris Lusitanicus Boelii*, *L. aestivus dumetorum Boeticus Boelii*, and *Juniperus sterilis*.

John Parkinson, the eminent Botanist and King's Herbarist, who had a garden in Long Acre, which was often visited by Goodyer, was the author of two important works, the *Paradisus Terrestris* in 1629, which contains a notice of *Pulmonaria*, one of Goodyer's discoveries,

and the *Theatrum Botanicum* of 1640. In this huge volume of 1754 pages Pulteney says about 3800 plants are enumerated. Parkinson adds his tribute to John Goodyer, whom on page 708 he misspells Gordier—"a great lover and curious searcher of plants who hath found in our countrey many other plants not imagined to grow in our Land. I wish that there were many more of his minde, that not hindering their affaires at spare times would be industrious to search out and know what the ground bringeth forth, where their occasions are to be." Here he quotes Goodyer as being the discoverer of *Geranium saxatile* = *G. lucidum*.

In 1650 William How, a London physician, published anonymously his *Phytologia Britannica*, which is an alphabetical Flora of Britain, and practically the first general Flora. Under *Fagus* (p. 40) "Mr Goodyer says I found one much varying in his leaves, some were whole as those of the ordinary others much jagged or divided." We may presume this grew in Hampshire. How's own copy is more fully described later on. See also *Flora Berks. levii*.

Merrett's *Pinax* of 1666 contains many notes from Goodyer. In the Preface there is this handsome tribute. Ds Goodyer Hantoniensis vir incomparabilis, a siquis alius, acerrimi judicii, maximacq. : industriae, imo paucis auctoribus posponendus sive exactas descriptiones sive accuratas distinctiones animadverteris, uti cuivis *Gerardum* emaculatum consulenti facile patebit. Is enim erat qui maximam partem dicto libro et Mercuriis supra memoratis communicavit, uti ex litteris hinc indemissis constat quarum me participem fecit Ds Yauldon Goodyeri nepos uti etiam Manuscriptorum ejus ex quibus quaedam in hoc tractatulo me mutuo accepisse in progressu operis liquebit.

The species in the *Pinax* contributed by Goodyer include :—

p. 5. "*Alsine flosculis conniventibus* found by Mr Goodyer in Hampshire and by him properly named Blinks." The second British record, Ray having previously recorded (*Catal. Cant. App.* of 1663) the plant now known as *Montia verna* (*M. fontana*).

p. 7. "*Anagallis aquat. flore parvo viridi caule rubro* in a great ditch near the Moor at Petersfield." The first record of *Ludvigia apetala* (*Isnardia*).

p. 10. "*Aria Theophrasti fol. obtusis* Pin. 45. At Sandrish in Kent." A form of *Pyrus Aria*.

p. 24. "*Caucalis minor semipedalis* Ger. 1023. Hujus tantum reminit sub finem descriptionis quintae. Amongst wheat plentifully near Petersfield Mr Goodyer who call'd it *Caucalis pumila segetum*." The first British record of *Caucalis arvensis* Huds.

p. 45. "*Geranium Columbinum fol. magis dissectis, pediculis angustissimis flore magno*. In several places in Hampshire." The first British record of *Geranium columbinum* L.

p. 56. *Gramen Panicum procumbens, seu chamae panicum vulstre*. In a Lane and watery places, and Ditches near Petersfield." The identify of this is doubtful. Merrett may have confused it with another species. In *Fl. Hampshire* it is referred to *Digitaria sanguinale* Scop., but the habitat is most unusual unless brought by grain to a flour mill.

p. 56. "*Gramen Panicum Bearded Panick grass* Ger. 16. By a rivulet side near Petersfield, Hampshire, Mr Goodyer." Suggested in *Fl. Hampshire* to be the alien grass *Panicum Crus-galli* L.

p. 70. "*Lathyrus maior angustifol. flore pallide rubro*. Hampshire." The first record for that county of *Lathyrus sylvestris* L.

p. 84. "*Oenanthe angustifolia* Lob. At East How in the Parish of Subberton seven miles from Petersfield, Hampshire." In the *Flora of Hampshire* this is referred to *Oe. siluifolia*. From Goodyer's MS. we find that he found it in a hedgerow in flower on June 18, 1620. From its habitat I am inclined to refer it to *Oe. Lachenulii* Gmel. which still grows in that area, and for which it is the earliest British evidence. It may be the same as *Oe. angustifolia* Lob. found between Margate and Sandwich, recorded in Johnson's *Kent* 1632, which is the earliest published record.

p. 99. "*Pulmonaria folii Echii* Bugloss Cowslip" is the *Pulmonaria angustifolia* already recorded by him in *Gerard*.

p. 100. "*Quercus serotina, procerior foliis fructuq. minoribus* Dor-Oak, plentiful on Linwood Hill in Bramshaw Parish, Wilts." *Quercus Robur* L. agg.

p. 103. "*Rapistrum aliud non bulbosum* p. 862 in the broad street by Whitechappel." Parkinson's plant is queried in *Flora of Middlesex* as the Turnip! Most likely Goodyer's plant was the alien *Bunias orientale*.

p. 103. *Rapunculus sylv. flore rubro albescente*. In the pastures and hedge sides on the north west of the Moor not far from the great

bog near Petersfield." The earliest British record of *Campanula patula* L.

p. 103. "*Rapunculus corniculatus montanus* Ger.," and 117, "*Taxus tantum florens* Ger. 1370," are already recorded by Goodyer in *Gerard*.

p. 125. "*Vicia Bathoniensia, vel maxima sylvatica*. In Smoak-hall Wood by the Bath, and at the Devizes in Wiltshire Mr Goodyer." First Wiltshire record of *Vicia sylvatica* L. The Bath locality is mentioned in Johnson's *Mercurius* of 1634.

Guillaume Boel or Boellius so frequently mentioned by Goodyer, Johnson and Parkinson, was a native of Lisbourne. He travelled in search of new plants to Tunis, Barbary, Portugal and Spain, and in 1633 appeared to be a resident in Lisbon. In one place Parkinson refers to him as Dr Boel (*Theat.* 173), and (*l.c.* 1064) says that certain species of *Lathyrus* were brought from Spaine by Boel and imparted to Mr Coys of Stubbers, near Romford in Essex, whose rich garden Goodyer his great friend visited, but Parkinson adds, "they were given to Mr Coys in love, as a lover of rare plants, but to me of debt, for going into Spaine almost wholly on my charge hee brought mee little else for my mony, but while I beate the bush another catcheth and eateth the bird: so that while I with care and cost sowed them yearely hoping first to publish them, another that never saw them unless in my garden, nor knew of them but by a collaterall friend, prevents me, whom they knew hae their descriptions ready for the Presse." This doubtless refers to Johnson's publishing so many of Boel's discoveries in Gerard's *Herbal*. The "collaterall" friend may be Goodyer. In the *Theatrum* p. 1108 there is this interesting note:—Writing of Trefoils, probably *T. lappaceum* and *T. stellatum*, he says "both these sorts Boel brought with him out of Spaine, in the year 1608 and entituled them *Trifolium Vesicarium*, which he gathered there with about two hundred other sorts of seeds, besides divers other rare plants, dried and laide betweene papers, wherof the seeds were not ripe, of all which seeds I had my part, and by sowing them saw the faces of a great many excellent plants but many of them came not to maturitie with me, and most of the other wherof I gathered ripe seed one yeare by unkindly yeares that fell afterwards have perished likewise." This early reference to a Hortus Siccus is worth bringing to light.

GOODYER'S LIBRARY.

By his will, made shortly before his death in the spring of 1664, he bequeathed to "Magdalen College in Oxon to be kept entirely in the College library of the said College for the use of the said college," the greater part of his library, except his book of Chirurgery called 'Ambrose Barry,' which he left to one of the witnesses to his will, 'John Westbrook, gentleman.' The books now bear the inscription, 'Ex dono Joh. Goodyer generosi.' This generous donation was probably due to his friendship with William Browne, the joint author with Bobart and others of the Catalogue of the Oxford Physic Garden. This William Browne may have been connected with the William Brown who lived at East Hoo whom Goodyer mentions in his note on *Oenanthe angustifolia*, dated 1620, that is before the Magdalen man was born. The reference to the books in Magdalen College is:—"A.D. 1664. Johannes Goodyer generosus idemque Botanicus celeberrimus libros sequentes (qui fere universos &c. &c. herbariæ tractentes complectuntur) ad valorem plus minus 120 lib. amoris ergo moriens Collegio Magdalensi legavit." This collection includes, *inter alia*, the following Botanical works. In some instances several books are bound together. Many contain notes or references in Goodyer's hand, others have the date of acquisition, the price he paid for them, and the cost of binding. A few are worm eaten, some have been rebound, but on the whole they are in excellent condition. They afford evidence of Goodyer's wide range of study, and it is a somewhat remarkable collection to have been made in the troublesome times he lived in. Their possession and the reputation he had as a Botanist protected him from molestation, as although a Royalist, he probably took no prominent part in politics:—Prosper Alpinus 'De Plantis Exoticis' et 'De Plantis Aegypti'; Apuleius 'De Medicaminibus Herbarum,' whence he obtained a figure of *Saxifraga* for Johnson's *Herball*; Jacob Bauhin 'De Aquis Medicatis' and 'Hist. Pl.' 3 vol. 1619; Kaspar Bauhin 'Catalogus Pl. circa Basil'; 'Phyto pinax'; 'Animadversiones'; 'Theatri Botanici' 1620 (bought for 3/6); an interleaved copy of the 'Pinax': Basil Besler 'Hortus Eystettensis'; and 'Fasciculus'; H. Bock (Tragus) 'De Stirpium'; Otto Brunfels 'Herbarum & Onamosticon'; Caesalpinus 'De Plantis' (bought 17 Nov. 1627 for 4/-); Camerarius 'Opuscula de Rustica'; Adrian Collaert 'Florilegium'; Fabio Colonna 'De Stirpium et minus cognitis de Plantis,' with its

beautiful examples of printing and plates bearing the imprimatur 'Fr. Gregorius' whose plants are now in the adjacent Fielding Herbarium at Oxford. It cost Goodyer 16/-. William Coles 'Art of Simpling.' The title page is dated 1656, but Goodyer notes that he paid 1/4 for it in 1655. Coles, an Oxfordshire man, was the author of 'Adam in Eden.' Clusius (De l'Ecluse) 'De Stirpibus'; 'Exoticorum' of the Plantin press cost 16/-; Jacques Cornut 'Cana-densium Plantarum'; Costaeus 'De Universali Stirpium natura'; Valerius Cordus 'Annotationes in Dioscoridis,' 1551; Eurichius Cordus 'Botanologicon'; Dioscorides 'Materia Medica' and an inter-linear MS. translation; also an Aldine edition 1499. The edition of 1558 he purchased in 1654 for 5/. Dodoens '*Herbal*'—several editions in French, Belgian, Latin, as well as Lyte's English edition. Goodyer gave 20/- for the 1616 copy and 3/- at Basingstoke for the 'Cruyterbuch.' Theo. Dorstenius 'Botanicon' 1540; L. Durante 'Herb. Nuovo'; Dr Everard (Everaerts Gilles) 'Panacea on the wonderful Vertues of Tobacco when taken in a Pipe,' date 1659, but bought by Goodyer in 1658. The possession of this and Neander's book on tobacco suggests that Goodyer preferred rather to fume than fret. Ferrari 'Flora,' 1641; Fuchs 'Historia,' 1642, with its beautiful plates; Konrad Gesner 'Cat. Pl.', 'Historia', 'De Stirpibus' and others; 'The Greate Herball,' represented by two copies; Jacob Horst 'Herbarium' 1630; [How] 'Phytologia'—this, the author's interleaved copy, is of exceptional interest; Thos. Johnson 'Mercurius Botanicus'; Gerard's 'Herbal' 1633; H. P. Knight 'Florae Paradise,' 1608, bought in 1632 for 6d, a work not mentioned in Pritzel or Jackson; Langham 'Garden of Health,' 1633, bought in 1657 for 4/-; Lobel 'Stirpium,' 1576, 1605, and the Belgian edition; the 'Adversaria' cost him 9/6, and the 'Cruyterbuch' of 1581, bought in 1622, 6/-; Adam Lonitzer 'Naturalis Historiae'; Lovell 'Hist. of Animals and Minerals,' 1661, cost 6/-; Johann Neander 'Bacmanum Tobacologia,' 1626, given to Goodyer by Dr Richard Downes; Nicolo Marogna 'Commentary on Dioscorides,' 1617; Battol. Maranta 'Methodi,' 1559; P. Matthioli 'Commentary on Dioscorides Compend. de Plantis.' The 1583 edition of Matthioli cost 20/-. Camerarius' edit. is coloured throughout. The 'Adversus of Melchioris,' Guilandini, 1568, cost 4/6 and the binding 1/2 in 1655. John Parkinson 'Paradisus Terrestris,' with notes for the 'Theatrum' of 1640

e paid on Aug. 24, 1640, 36/-, the binding being 3/- extra; Crispin du Pas 'Garden of Flowers'—a rare work, 1614, cost 10/-; Giovanni Pona 'Plantae . . . Baldo Monte,' 1617. There is also a volume 'Contarini Monte Baldo,' with many notes, bought for 1/- in April 1629; [Ray] 'Catal. Pl. Cantab.' 1660, bought in May of that year for 2/6. This contains an interesting MS. note to the effect that its authors were Mr John Nid and Mr John Wray. The information was supplied by John Maplecroft of Cambridge, then tutor to the son of the Earl of Northumberland. This Maplecroft is mentioned in my note on Samuel Corbyn's 'Cat. of Cambridge Plants' of 1657 (*Journ. Bot.* 76, 1912). Paul Reneaulme 'Spec. Hist. Pl.' 1611. For this Dr How paid the bookseller, Mr Allestree of Paul's Churchyard, 4/6, on Aug. 11, 1653; Ruellius 'De Natura Stirpium'; Julius Scaliger 'De Plantis'; Kaspar Schwenckfelt 'Stirp. et Fossil. Silesiae,' 1600; Adrian Spiegel 'Isagoges'; Karl Stengel 'Hortensis'; Tabernaemontanus 'Kreuterbuch,' 1625, bought of W. How by Octavius Pulleyn for 54/-, Sep. 6, 1655. Emanuel Sweert 'Florilegium.' Of Theophrastus there are several editions. The 'Animadversiones,' 1625, cost 1/6, the binding 1/2, Jun. 8, 1665; William Turner 'English Herball,' to which Goodyer has supplied an index; and Johannes Vesting 'De Plantis Aegyptiis,' 1638.

GOODYER'S MSS.

The MSS. include the actual descriptions of the Ferns which are printed verbatim in Johnson's *Gerard*. These are dated July 4 and 6, 1633, and refer to *Dryopteris dilatata*, *D. Filix-mas* var. *affinis*, *Polystichum lobatum* (or with greater probability to *P. setiferum* Woynar, *P. angulare* Kit.), and *Dryopteris Thelypteris*. There are also full descriptions of *Sium repens*, dated 27 Aug. 1619, which allude to the sessile inflorescence "growing at ye jointes . . . of the stalks umbell fashion, after ye manner of *Caucalis nodosa echinata semine Bauhini* (*C. nodosa*) . . . this groweth plentifully by ye lake and riverside at Droxford. . . . The leaves grow in or above the water all ye yere." This doubtless refers to *Apium nodiflorum* Reichb. f., for which, unless it is Turner's Water Parsley, it is the earliest British evidence. He clearly distinguishes it from "*Pastinaca aquatica minor*, *Sium Odoratum* Tragis, the *Apium palustre* of Fuehs." Of this he says the leaflets "are opposite against another fast to ye

middle ribbe without any foot stalk . . . the flowers grow on ye toppes of ye branches in umbells of colour white . . . It groweth plentifully in ye river by Droxford 2 July 1620." This is *Sium erectum* Huds., and the first evidence of it as a British plant. Here is also a description of the *Pastinaca aquatica maxima* (*Sium latifolium*) which he gathered at Oxford in 1622, as well as of "*Sium alterum Ohsatri facie* found at Moor Park in the ponds," afterwards recorded in Johnson's *Gerard*, where the plate evidently represents the poisonous *Cicuta virosa* L., the earliest British reference. The locality is not the Irish Moor Park, but the one near Rickmansworth in Herts., although Goodyer's record has received no mention in the Flora of that county. The plant existed in that station in 1813. Goodyer must have specialised in the Umbelliferae for he added *Sium erectum*, *Apium nodiflorum*, *Cicuta virosa*, *Oenanthe Lachenalii*, *Carum segetum*, *Caucalis arvensis*, and *C. nodosa* to the British flora. There are other notes by Goodyer referring to *Scorpioides Matthioli* *Matth.* 895. Gerard hath it not. 16 July 1621. *Rubia spicata Cretica Clusii*, 10 July 1621; *Phalaris minor Boetica Boelii semine nigra et semine albo*, 20 July 1621; *Phalaris bulbosa Boelii*, 20 July 1621; *Valeriana mexicana* with descr. 21 July 1621; *Phyteuma monspeliensium* Ger. p. 918, 21 July 1621; *Malva flore amolo Boetica aestiva*, 21 July 1621; *Polygonum alterum pusillo vermiculato*, 3 Sep. 1621. (This refers to *Frankenia laevis* L.); and *Cachrys Quercinis*; *C. Juglandis*; *C. Castaneae*, 28 April and 9 May 1622. Another MS. is an 'Alphabetical List of Plants,' with references to Gerard and Parkinson. This may be of such as he had seen or had growing in his garden. It contains a few scattered records of localities, as "*Alliaria* Lob. 530, Ger. 650. At Droxford [called] Herbe John"—our Jack-by-the-Hedge = *Sisymbrium Alliaria* Scop., the first county record, and an interesting explanation of its common vernacular name. "*Apium crispum* Ger. 361 Idsworth 17 Feb. 1622." This refers to the Crisped or Curled Parsley which doubtless he saw growing in Idsworth Park garden, near Havant in Hampshire. "*Caput Gallinacem Belgarii* in flower 24 July 1624 Langford to Stapleford in Wilts by ye way on south side of ye river [Wiley]," the plant being *Onobrychis viciifolia* Scop. "*Corona fratrum*. I found it wild in Hampshire in a field called Marborne near by Habridge being ye land of Wm. Maldon and in ye next field to it 29 June 1629." [This is the locality whence he recorded the

[*Simodorum*] = *Cirsium eriophorum*. *Dentaria bulbifera* in a wood at Mayfield 6 Aug. 1634. This precedes Parkinson's record from the same place in 1640 = *Cardamine bulbifera* Cr. "*Fumaria claviculata* South Sea in flower 30 Aug. 1621." The earliest record for Hampshire of *Capnoides claviculata* (*Corydalis*). "*Lunaria minor* Ger. 28 21 May 1618. I found it at Droxford in a wood by . . .", the first Hampshire record of *Botrychium Lunaria* Sw. "*Menthrasrum montanum* Droxford in ye stonewall." This is dubious. "*Sium Musatrum folio* by Moor Park and at [l] Denham in Hertford." Denham on the Colne is in Bucks., but the name is not quite clearly written. The plant is *Cicuta virosa* L. His other MSS. include 'Cat. Plant. Horti Dalfidiae,' 'Index Plant. Alphabet,' 'Fasc. descr. Plant.'

The interesting and valuable interleaved copy in Goodyer's library of How's *Phytologia* is enriched with a large number of MS. notes, mostly in How's own hand. These include many from William Brown of Magdalen College and from John Goodyer. On the first page in Goodyer's hand is "Rec. 30 Apr. 1659" (How died 30 Aug. 1656). Under this in another hand is "Rec. of Mr Goodier (so he also signs a letter) for Mr Bold's use." Whether this has any reference to the purchase of other material belonging to How is only conjecture. After it came into the possession of Goodyer with other MSS. he wrote in it the following notes:—

- p. 2. "*Acetosa marima*" is added.
- p. 4. "*Alsine aquatica verna* Springe chick weed" is added.
- p. 10. "*Arctium montanum et Lappa minor Galevi* Lob. Button-burre Mangerfield in Master Langlies yard." This is not referred to in *Fl. Hampshire*. "June 4, 1659, Mr Geo. Burton of Petersfield, Schoolmaster, gathered his imagined *Pulmonaria Gallica Lobelii* on Ladle Hill in flower and brought it to J. G. ye 4 of June 1659. It is *Jacobaea Pannonica* 2 Clus. C. Bauh. p. 131 (68) and it is *Jacobaea angustifolia* in his book p. 280.
- p. 20. "*Cannabis spuria altera flo. purp.* In agris. Nettle Hempe. *Cannabis spuria altera sylvestris*. *Lanium quoruudam* Lob. Icon. p. 527." First record for Hauts. of *Galeopsis Tetrahit* L., var. *bifida* (Boem.)
- p. 54. "*Gramen palustre Cyperoides* Lob. Ger. Great Cyperus grasse."
- p. 130. "*Viola sive Jacca tricolor sylvestris parva*. In agris. Wild pansie" = *Viola tricolor* L.—presumably from Hampshire.

The following notes are inserted by How on the authority of Goodyer to whom he thus alludes on the front page "Gaine I was for Goodyer's Plants and that ye like for Brownes, Lobell [a line here is struck through]."

"*Filago minor* Lob. neere Petersfield" = *Filago minima* Pers. and first record for Hants. Doubtless from Goodyer.

"*Hieracium montanum* at Mangerfield in Mr Langtons yard." [See above Mr Langlies yard].

"*Gramen spartium capillaceo folio minimis* Ger. em. [30] Ericet. Hampshire." See Merrett *Pinax* p. 58, where it is given for Hampstead Heath. "*Quercus natalitiis Di virens* ye Christmas Green oake (p. 1646), neere ye Castle of Malwood, Hampshire, wh. I went to view it and caused it to be paled about." A form of *Quercus Robur* which bears a few green leaves shortly before Christmas. This is given in Parkinson's *Theatrum Botanicum* p. 1646, 1640, under the title "Christide Greene Oake," but is omitted in the *Flora of Hampshire*, for which county it is the earliest evidence.

"*Serpillo foetidum Goodyeri* on ye chalkie downs 2 or 3 miles from Petersfield." See Merrett's *Pinax* p. 112, 1666 = *Thymus Serpyllum* L. forma. Earliest Hampshire reference.

"*Pimpinella Saxifraga maxima* and *P. Saxifraga major foliis dissectis* in Hampshire." *P. major* Huds. is not definitely included in the *Flora of Hampshire*, nor is there any reference to this record under *P. Saxifraga*.

"*Erynnus Matth.* in Hampshire."?

"*Sambucus lacinatis foliis* Dr Jolyff neere Winchester." = *S. nigra* L., var. *laciniata* L. (Given in Merrett's *Pinax* 109, as near Bristol). p. 21. Under *Cardamine flosculis minoribus, sive impatiens* Wm. How adds this note "Dr Johnson was mistaken in saying yt it was *Sium minimum* Alp. I have both ye plants. I admonished him of this error but he lived not to amend it, J. Goodyer."

p. 35. "*Dryopteris Trag.* Tree-fern. It growes on a bottome called Rogers Deane in ye parish of Faringdon, Hampshire, about a mile and halfe from ye church, a furlong from one John Trybes dwelling house on ye north east part of ye house about 2 miles from Alton about a mile north east from Dogford Wood. Great antient beeches kept ye sunne from shining on ye Plants. Ann. 1654 many of those trees were cut downe. The Plants . . . were short ye leaves growing on short stemms neere ye grait as Tabernaemont.

pictureth it, 501 tom. 2 under ye title of *Filicula petraea fem.* 3 Those yt. grew vnder ye trees were much higher agreeable to Tragus figure p. 538, John Goodyer."

p. 45. "Park. des. of *Genista spinosa minor* p. 1003 accords not with ye least furze . . . beares no leaves at all, they are but the first sproutings of ye thorns or prickles as of ye great furze (bee what see will yt writes ye contrary). . . . I cannot find from whence Park. rec. his fig. I suppose it was made by imagination. J. Goodyer."

p. 45. *Genista spinosa flore albo* Park. 1003 *G. spinosa major brevibus aculeis* Bauh. Pin. p. 394. This I suppose groweth not in England. Pena Lobel in *Adr.* p. 354 had seene it nowhere but in Prouence wch is a hot countrie, and Lob. lived time enough in England before ye *Adr.* was written to haue observed it if it had growne but half so common as ye lesser Furze. Cam. [erarius] in hort. med. pag. 106 saith 'in sichlibus aggeranda' wch argues yt it will not endure abroad in a cold countrie in ye winter. The leons yt were made for *Nepa* in *Adr.* p. 354 in Tabern. Ic. p. 408 in *Hist. Lugd.* p. 164 agree not wth ye lesser Furze. Parkinson sayes yt his *Genista spinosa minor* p. 1003 is ye *Nepa* of Lob. This duly considered I am confident to affirme yt . . . lesser Furze it not . . . resembles. John Goodyer."

p. 53. "*Gr. holosteum Alpinum minimum* Bauh. Prod. male a Johnson's *Holosteum pumilum* non descript. provenit in ericetis. Joh. Goodyer."

p. 54. "*Gramen murorum spica longissima.* On ye walls of Winchester, John Goodyer." *Festuca Myurus.* See Gerard *Em.* p. 30, 1633. New to Science.

p. 81. *Oenanthe angustifolia* Lob. Obs. pag. 420. *Filipendula* Durant p. 188. This 19 of May 1620 I found this wild in East Hoo in ye parish of Subberton [Soberton] about 7 miles from Petersfield in Hampshire in a hedgerow about a Flightshott from ye then dwelling house of Mr William Browne on ye south part of ye said house and ye 28 of June 1620 I saw it there in flower." See Merrett, p. 84. Identified by Townsend (*Flora Hampshire* p. 179) with *Oe. silajfolia*, but surely a very unlikely situation for that pratal species. I strongly suspect it to be *Oe. Lachenalii*, which sometimes grows in ditches, and probably the first British record.

p. 100. "*Pulmonaria maculosa* Ad. Lob. Neer King's Wood in Hampshire." How crosses out the name of "Mr Loggins" and sub-

stitutes "Goodyer Park. Parad. Ter." The plant is *Pulmonaria angustifolia* L., first added to the British Flora by Goodyer. See *Paradisus Terrestris*, p. 248.

p. 129. *Vicia maxima*—the name is changed by How to *V. Maxima sylvatica spicata Bathonensis*—sent by Goodyer. Bauhin's synonym is erased. Doubtless *Vicia sylvatica* L. See Johnson's *Mercurius*.

On the blank pages at the end "*Geranium columbinum foliis magis dissectis pediculis longissimis flore magno*. I found it wild in ye beginning of August 1654, it is not described or pictured yt I can find. The place of growth and day for this and [Erysimum ii.] following. In ye streets neere White Chappell East of Aldgate, London." The plant is *Geranium columbinum* L., which Goodyer first records for Hampshire. See Merrett's *Pinax* 45, 1666.

"*Taxus tantum florens*. In the chalky hills in Hampshire."

"*Erysimum* ii. Tab. grows in ye streets near White Chappell east from Aldgate, London. J. Goodyer." See Merrett *Pinax* 103.

"*Anonymos aquatica rubida, foliis Anagallidis flore luteo*. This groweth in a little lake in a heath neere Petersfield in Hampshire, in a hot summer some parts of ye lake are drie in August, sometimes before, there and then ye flowers are to be seene."

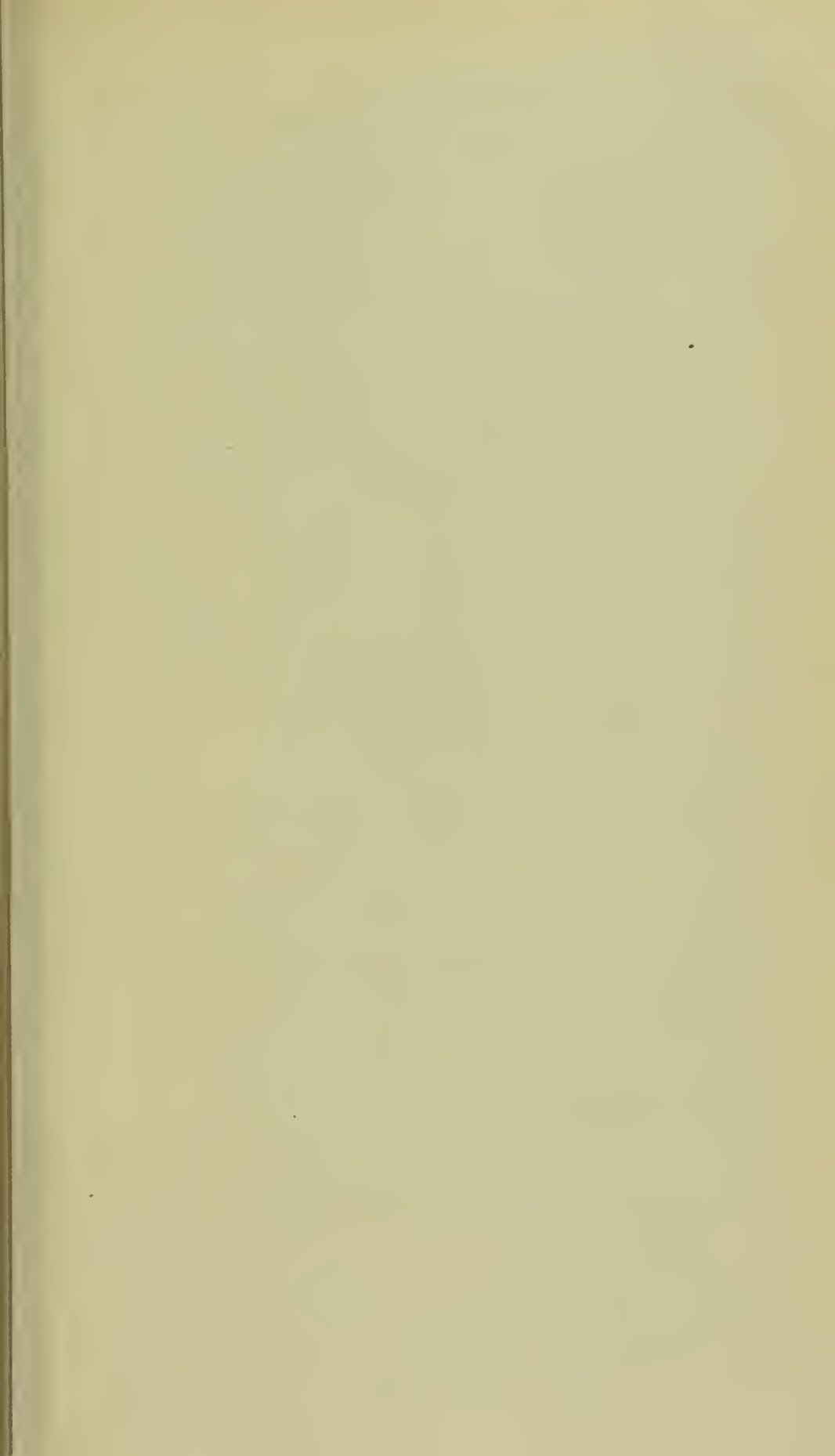
"*Holosteum perpusillum* growes in ye same lake* in ye east part of ye same heath, greene all ye winter under water and flowers when ye water is vanished in August, and sometimes much sooner. I first observed this plant in a pond neere Holburn in ye New Forest in Hampshire. J. Goodyer." = *Ludvigia apetala*. New to Science.

"*The water of this lake this 2 of June 1656 about 4 of ye clock in ye afternoone was well neere as warme as Bath water at Bath in Summersetshire althoug ye day was cloudy."

"*Holosteum Junciifolium repens Goodyeri copiose* . . . in Comit. Surriae juxta Purbright. Goodyer." See Merrett *Pinax* 63, where it reads, "At the bottom of the Moor on the east side of Petersfield and in standing waters in and about Stretham Ferry." = *Littorella uniflora*, and the earliest record. His *Holosteum perpusillum* (see above) may be the same plant.

"*Pedicularis flore albo*. Several places in Warwickshire. John Goodyer." = *Pedicularis sylvatica* L. First record for that county.

"*Rosa sylvestris odora Eglanteria oritur a Bathonia*. J. Goodyer MS." Probably *Rosa Eglanteria* L.





THE BOTANICAL SOCIETY
AND EXCHANGE CLUB
OF THE BRITISH ISLES.

REPORT FOR 1916

OF THE

BOTANICAL EXCHANGE CLUB
(CONVENIENTLY ABBREVIATED REP. B.E.C.)

BY THE

EDITORS AND DISTRIBUTORS,

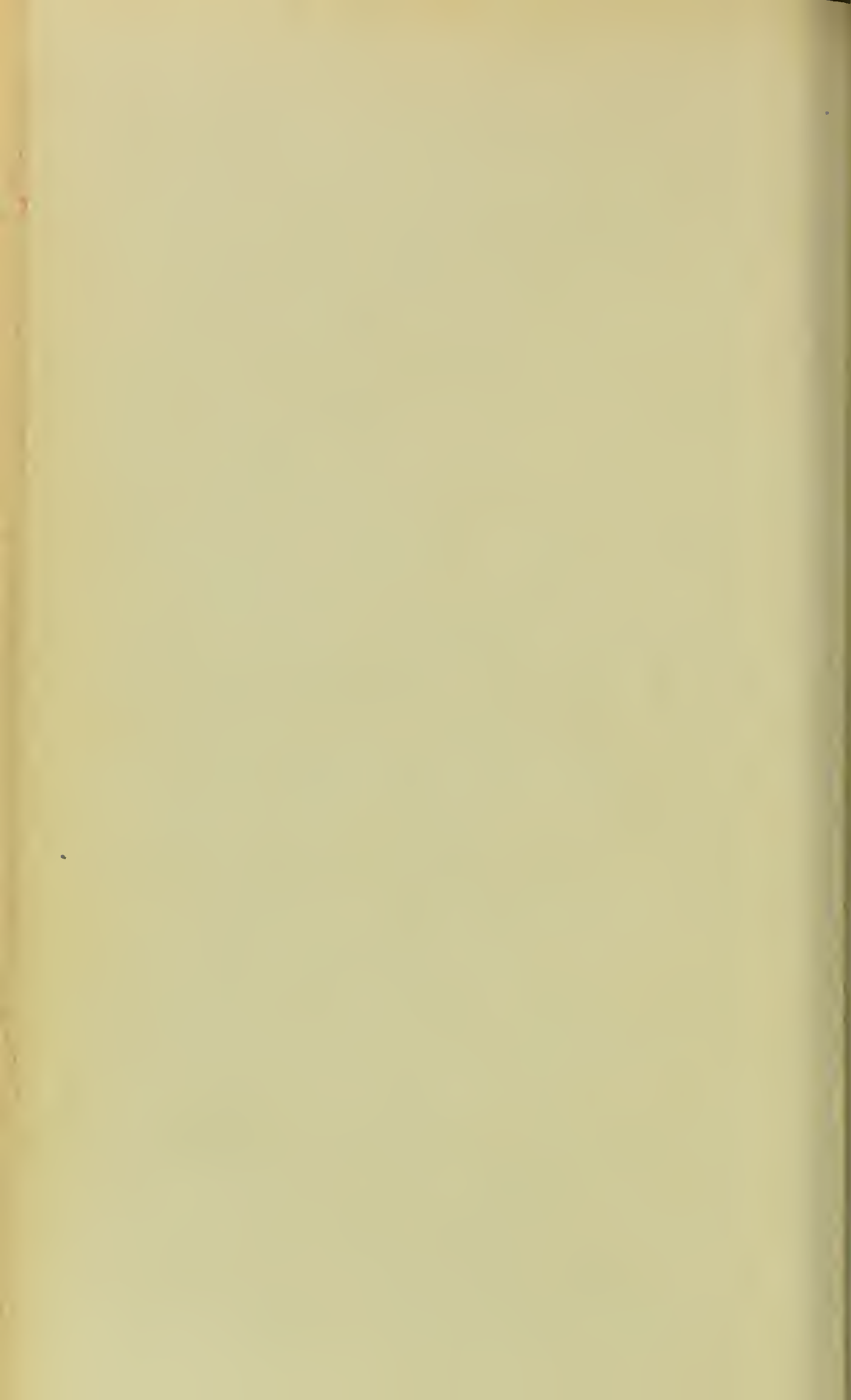
W. H. PEARSALL AND D. LUMB.

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The Subscription, 7s 6d per annum, and Non-Contributing Members' Subscription of 5s per annum, become due on January 1, 1917, and should be sent to

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PRINTED BY T. BUNCLE & CO., ARBROATH.

June 1917.



REPORT OF THE DISTRIBUTORS FOR 1916.

OUR first duty is to thank all those who have helped us so readily by looking again and again at specimens, by revising their opinions, and by loans of helpful authenticated plants. That there should still be lack of unanimity in some cases, distresses us not a little. Having seen all the plants more than once, we should have liked to add our opinion in several places, but seeing that we are so far from large collections of "ad rem" plants, such opinion must necessarily be humble and may possibly be worthless. We have, however, no hesitation in naming our own sheets of *Batrachium* as follows:—Mr Wilson's Ribble and Beetha plants, *fluitans* Lam.; Mr Druce's P. 141, *Drouetii* Sch.; Mr Wade's Nos. 5 and 6, *floribundus* Hiern; Miss Roper's *submersus* is *trichophyllus* Chaix; and Mr Brown's 1091 is *pseudofluitans* Hiern (not of Bab., or Syme, or Newbould). We consider the *Erythraea* plants distributed are only forms of one species. Maritime *Stellaria boreana* is a good species and cultivation enhances its claim; we do not know the inland form.

It would be helpful if members would count in the fresh state and record the number of stamens in cases of *Batrachium* where the stamens may be considered "few." It is perilous to alter labels without careful examination of the plants *on the sheet*. The complete absorption of small contributions by referees is inexpressibly distressing to distributors. If there be any apparent signs of bias in this report, we can only assure members of our indescribable anxiety to avoid it. May we ask members to search for, and if possible distribute, *Saginas*—*apetala*, *reuteri*, or *ciliata*—in which the longest pedicels do not exceed twice the length of the capsules.

The thanks of the Club are hereby tendered to Mrs Gregory, Messrs Adamson, Barclay, Barton, Bennett, and Bucknall; Dr Drabble; Messrs Druce, Groves, Hiern, and Jackson; the Revs. E. F. Linton, E. S. Marshall, H. J. Riddelsdell, and W. M. Rogers; Messrs Pugsley, Salmon, and Wheldon, and to the other Club members who have contributed to the Report. Mr Cedric Bucknall is heartily thanked for his most interesting Euphrasias and for the notes accompanying them.

W. H. PEARSALL and D. LUMB,

Editors and Distributors for 1916.

DALTON-IN-FURNESS,

June 1917.

LIST OF PARCELS RECEIVED.

	No. of Specimens.
Bailey, Charles, <i>M.Sc.</i> , <i>F.L.S.</i>	29
Barelay, W.	16
Barton, W. C., <i>M.A.</i>	463
Bickham, S. H., <i>F.L.S.</i> , <i>J.P.</i>	98
Britton, C. E.	210
Brown, G. C.	415
Bucknall, Cedric, <i>Mus. Bac.</i>	33
Burdon, Rev. R. J.	120
Chester, G.	160
Comber, John	343
Corstorphine, Mr and Mrs R. H.	83
Creed, R. S.	70
Cryer, John	194
Cumming, L., <i>M.A.</i>	105
Druce, G. Claridge, <i>M.A.</i> , <i>J.P.</i>	594
Jackson, A. Bruce	50
Marshall, Rev. E. S., <i>M.A.</i> , <i>F.L.S.</i>	150
Melville, J. Cosmo	46
Pearsall, W. H.	103
Riddelsdell, Rev. H. J., <i>M.A.</i>	546
Rilstone, F.	40
Robinson, F.	583
Roper, Miss Ida, <i>F.L.S.</i>	179
Travis, W. G.	54
Wade, A. E.	156
Waterfall, Charles, <i>F.L.S.</i>	267
Webster, Alfred	54
Wheldon, J. A., <i>F.L.S.</i>	137
White, J. W., <i>F.L.S.</i>	80
Wilson, A., <i>F.L.S.</i> , <i>F.R.Met.S.</i>	75
Total,	5453

Thalictrum majus Crantz, var. *Kochii* (Fr.)? Shore of Elter Water, at 200 ft., Westmorland, 69a, June 24, 1916.—A. WILSON and J. A. WHELDON. Stem hollow, with numerous short glands. The latter occur in var. *capillare* N. E. Br., to which it may belong.—J. A. WHELDON. "My spm. is only in bud; fruit is essential. Much like Perthshire *T. Kochii* in general appearance."—MARSHALL.

Anemone nemorosa L., var.? [173]. Damp hedge-bank, Redhill Watton, Norfolk, 28, Mar. 30 and Apr. 28, 1916. Earlier fls. nearly white, plants larger and paler green. Later fls. larger, petals purple.—F. ROBINSON. "The not uncommon colour-form, var. *rubra* Pritzel."—MARSHALL. "Var. *purpurea* DC. is the older name."—DRUCE.

A. ranunculoides L. [179]. Ovington, Apr. 8, 1916.—F. ROBINSON.

Ranunculus repens L., var. Fallow field near Wroxton, 23, June 20, 1916. One patch, among many of the ordinary form. The present form shows scantier hairiness, more slender habit, smaller fls. and more finely divided ls.—H. J. RIDDELSDELL. "Approaches Mr Shoolbred's cultivated (enlarged) spms. of a plant we found near Dalwhinnie, E. Inverness, in 1911; may be var. *prostratus* Gaud."—MARSHALL. "Comes under var. *glabratus* DC., in my opinion. I have not seen anything like such a glabrate form in Lanes."—TRAVIS. "Approaching var. *glabratus* DC., in having few hairs, appressed; not spreading as in var. *villosus*."—WHELDON. "This is what I have been accustomed to call the type—the var. *prostratus* Gaudin—and is scarcely separable from Mr Shoolbred's plant. The tall coarse upright plant of damp ditches is var. *erectus* DC. These, of course, approach var. *tenuisectus* Morc."—DRUCE.

R. acris L., var. *Boreanus* (Jord.). Ch. Ch. Meadow, Oxford, June 1893. Herr Freyn, whose death deprived us of a monograph on the group, named this.—G. C. DRUCE. "*R. Boreanus* Jord."—WHELDON.

R. Lingua L., var. Ditch in meadow by R. Thames, near Abingdon, 22, Aug. 3, 1916. These plants (carefully selected from a large mass of ordinary *Lingua*) show small fls., broad ls., and unusual hairiness. In the only specimen which shows fruit, the remarkable fact comes out that the carpels and beaks have no hair. The cumulative differences, if not a mere sport of the season, constitute a good variety.—H. J. RIDDELSDELL. "A form with appressed hairs on stem, pedicels and sepals. Babington, and Rouy and Foucaud describe the sp. as being either glab. or pubes., but give no special name."—MARSHALL. "In *Fl. Berks.*, 19, I pointed out that the plant from the

above place was the var. *hirsutus* Wallr. Sched. Pl. Brit. 288. The young carpels of the sp. sent to me have hairs. It may be well to watch if smallness of flowers is correlated with increased hairiness."—DRUCE.

R. Drouetii F. Schultz. [8]. Aylestone meadows, nr. Leicester, 55, May 27, 1916.—A. E. WADE. "Correct."—HIERN, GROVES, WHELDON, MARSHALL, RIDDELSDELL.

R. Drouetii F. Schultz. P. 141. Nr. Ardley, Oxon., May 1916.—G. C. DRUCE. "A rather strong form of *Drouetii*, I think."—MARSHALL. "If kept distinct as by Rouy and Fouc., this is nearer *R. paucistamineus* Tausch. (*R. Drouetii* Reut. non Schultz)."—WHELDON. "*R. submersus*. Flowers rather large, with numerous stamens."—HIERN. "I should like to know the habitat of this. If *Drouetii*, it is a robust form."—GROVES. "We understand that *paucistamineus* is a large plant and that Tausch insisted on small flowers."—PEARSALL and LUMB.

R. heterophyllus Weber. [6]. Pond between Narborough and Leicester, 55, June 12, 1916.—A. E. WADE. "Yes."—WHELDON. "I agree. A form with rounded leaf-lobes. Hardly the robust plant understood as *R. floribundus*."—GROVES. "*R. floribundus* Bab. Carpels hispid."—HIERN.

R. heterophyllus Weber, var. *submersus* (Hiern). Pond, Lawrence Weston, W. Gloster, 34, June 12, 1916.—IDA M. ROPER. "*R. trichophyllus* Chaix."—HIERN and WHELDON. "I think correctly labelled. To me the fls. are too big, the ls. too distant, and the whole plant on much too large a scale for any form of *R. trichophyllus* that I have seen."—GROVES.

Ranunculus ——. In the R. Ribble, near Preston, S. and W. Lancs., 59 and 60, July 1916. See *Rep.* 113, 1914. Further spms. from same locality. No floating ls. are produced.—A. WILSON. "Cf. *R. Bachii* Wirtg. Peduncles scarcely glabrous, somewhat puberulous. Recep. not quite glab. Carpels glab."—HIERN. "This is frequently referred to *R. fluitans* because of its long and parallel lf.-segmts., but in other respects it has nothing to do with that species. The stamens often exceed the pistils, the petals are 7 to 9 veined, and the receptacle is hispid. I am satisfied, and I think Mr Wilson is too, that this is the rapid-water form of *R. heterophyllus* or *penicillatus*. My plant from the R. Beetha has only one very young fl., but is, I believe, identical with the Ribble plant."—WHELDON. "I think a *fluitans* form, and if so, would come under *Bachii* on account of the small fls. and short lf.-segments."—GROVES.

Ranunculus —. In the R. Beetha, near Milnthorpe, Westmorland, 69a, July 1916. Plant robust, stems 4 to 7 ft. long; flrs. large, $\frac{3}{4}$ to 1 in. diam. when fresh. No floating lvs. produced.—A. WILSON. "*R. pseudo-fluitans* Bab."—HIERN. "This seems the same as the R. Ribble plant. In both cases the receptacle is hispid and the plant is certainly not a form of *R. fluitans* Lam. I believe it is *R. peltatus* var. *pseudo-fluitans* Syme."—TRAVIS. "*R. fluitans*."—GROVES. "Dumort. *Mon. Batrach.* describes the receptacle of *fluitans* as glabrous, but this is not a constant character in our experience."—EDS.

Ranunculus —? [5]. Groby Pool, Leics., 55, June 10, 1916.—A. E. WADE. "*R. floribundus* Bab. Carpels hispid."—HIERN. "Apparently *R. truncatus* Koch."—WHELDON. "I should say a weak state of *R. peltatus* var. *truncatus*."—GROVES.

R. sphaerospermus Boiss.? [1091]. R. Stour, Wiston, W. Suffolk, 26, June 11, 1916. Floating lvs. entirely absent. Fits description *Rep. B.E.C.* 7, 1914, except for stamens "carpella superantibus." No spms. in mature fruit were to be found.—G. C. BROWN. "These examples agree with the description of f. *sphaerospermus* Hiern."—WHELDON. "The comparative lengths of peduncles and leaves point to *pseudo-fluitans* rather than to *sphaerospermus*."—HIERN. "The plant I understand as f. *sphaerospermus* of Hiern. It is a very characteristic plant of some of our S.E. county rivers."—GROVES. "Is it not remarkable how few of these large forms have mature carpels when distributed?"—PEARSALL and LUMB.

Delphinium Ajacis L. [223]. Over-yearred hayfield, Stow Bedon, 28, Aug. 20, 1916.—F. ROBINSON. "Yes."—DRUCE.

Papaver Rhoeas L. [74]. Wootton, Berks., June 1916. A common form with base of petal black.—G. C. DRUCE.

Capnoides solida Moench. Besilsleigh, Berks., May 1916. A relic of Speaker Lenthall's garden.—G. C. DRUCE.

Fumaria officinalis L., var. *elegans* Pugsley. Potato field, Chilworth, Surrey, 17. Aug. 1916.—J. COMBER. "Correctly named."—PUGSLEY.

Radicula amphibia × *palustris*. [1482]. Origin, by R. Thames above Kew. Hort. West Barnes, Merton, Surrey, 1916. Spms. sent include early and late-summer flowering shoots, exhibiting marked differences. Sterile, as usual.—C. E. BRITTON. "If so, the *amphibia* is dominant."—BENNETT.

R. palustris Moench, var. *pinnatifida* (Tausch). [177]. Salt-house, 27, July 9, 1914.—F. ROBINSON. "In this area we find the

few stiff spreading bristles on the auricles a most helpful character."—PEARSALL and LUMB.

Barbarea vulgaris Br., var. *sylvestris* Fr. Cult. field between Isleworth and Twickenham, Middlesex, May 30, 1916.—A. B. JACKSON and A. J. WILMOTT.

B. arcuata Reichb. Introduced with grass seed, Walton, S. Lancs., 59, June 23, 1916. Cut down annually with the grass, but roots persist and send up new stems.—J. A. WHELDON. "*B. vulgaris*, var. *arcuata* Fries."—BARTON and JACKSON.

Arabis hirsuta Scop., var. *glabrata* Syme. Origin Sussex, 1913, C. E. Salmon. Cult. Ledbury, 36, May 1916.—S. H. BICKHAM. "Does not agree exactly with descriptions, for the stem has a considerable number of hairs, esp. below."—RIDDELSDELL. "Some were exceedingly hairy."—PEARSALL and LUMB.

A. ciliata Br. Seed Aug. 14, 1913, from sandy coast of Dog's Bay, Galway, West. Cult. Epsom, June 1916. Original plants were 3-7 in. high, with rosette ls. $\frac{3}{4}$ in. Cult. plants grew to 14 in. high, with rosette ls. $2\frac{1}{2}$ in.—W. C. BARTON. "On the basis of these cult. spms. it is difficult to see how *A. ciliata* Br. and *A. hirsuta* var. *glabrata* Syme, are separated by tangible characters. I should be glad to see a discussion by members possessing materials from native habitats."—TRAVIS. "The 'tangible characters' are ripe pods and seeds."—PEARSALL and LUMB.

A. petraea Lam., var. *grandifolia* Druce. Ben Laoigh, Perth, Aug. 1916. This name is used because the description of the var. *ambigua* Fries Mant. iii., 77, does not describe this plant. See *Rep. B.E.C.* 1914, 116. In this plant the ls. and flrs. are larger than those of the type.—G. C. DRUCE.

Cardamine pratensis L., var. *dentata* (Schultes). [1083]. Ditch, Fordham, N. Essex, 19, May 4, 1916. Agrees well with descr. *J. B.* 1880, p. 202, "long rad. ls. not sprdg. as in *pratensis*, but erect or ascending." None of the plants, however, has "terminal leaflet generally cuneate."—G. C. BROWN. "Not *dentata*. See Lindman, *Bot. Not.* 1914, 276; *pratensis* flrs. 10 mm. wide, lilac; *dentata* flrs. 15 mm. white."—DRUCE.

Erophila ——. [91]. Nearest *E. pyrenaica* Jord. Gravelly soil, "The Moors," Alphamstone, N. Essex, 19, May 2, 1916.—G. C. BROWN. "Agrees fairly well with descr. of *E. pyrenaica*, but the ls. are not 'entire' as described in the key—*Rep. B.E.C.* Does Jordan describe them as entire? He says it is near *E. subintegra*, which has sometimes toothed ls."—WHELDON.

Erophila ——. [178]. Sandy soil, Hockham, 28, Apr. 26, 1914.—
F. ROBINSON.

Erophila —? [41212]. Hethe, Oxon., Apr. 1916.—G. C.
DRUCE.

Erophila —? [41214]. Islip, Oxon., Apr. 1916.—G. C.
DRUCE. "Under *E. praecox* Stev.; perhaps type, but not *E. brachycarpa* Jord., which has shorter fruits and pedicels."—WHELDON.

E. leptophylla Fouc. et Rouy. (*D. leptophylla* Jord.). Origin, St. Ippoletts (J. E. Little). Cult. Walton, S. Lanes, June 1915. The long petals, slender stems, narrow ls., and mixture of simple and bifid hairs—with rarity of trifid ones—which are distinctive of *E. leptophylla*, seem to be well shown in these examples.—J. A. WHELDON.

Erophila ——. Bare roadside, Kineton Thorns, 33, May 24, 1916. Hairs mostly bifid, others simple or trifid.—H. J. RIDDELSDELL. "*E. majuscula* Jord."—WHELDON.

E. praecox? Kirby Hall, 32, April 24, 1916.—G. CHESTER. "I should leave this under *E. verna* (*vulgaris* DC.)."—MARSHALL. "*E. stenocarpa* Jord."—WHELDON.

Cochlearia danica L. Small vernal form. Walton, S. Lanes., 59. Leaves 1/1/16, flowers 1/4/16, fruit 20/5/16. Mr Marshall states that in W. Somerset (*Rep.* 1912, 230) this species flowered as late as Sep. 30. This is a small form (the specimens sent being the largest procurable) which I can vouch has never flowered after April for the past 24 years, although it has grown in all kinds of situations and facing all points of the compass. Have we more than one race of the plant?—J. A. WHELDON. "*C. danica* L., *b. praecox* Le Jolis. Plant very short, with slightly pink-tinged flrs. Abundant at Cherburg."—BENNETT.

Sisymbrium pannonicum (Jacq.). [205]. Heathland in gorse, Scarning, 28, July 20, 1916.—F. ROBINSON. "Yes."—RIDDELSDELL. "*S. altissimum* L."—DRUCE.

S. orientale L. (*S. Columnae* Jacq.). Waste ground, Brislington, N. Somerset, 6, June 16, 1916.—IDA M. ROPER. "Yes."—RIDDELSDELL.

S. orientale L. Refuse tip, Meols, The Wirral, 58, May 20, 1916.—C. WATERFALL.

S. officinale L., var. *leiocarpon* DC. [232]. Waste ground and roadsides, Freshwater, Wight, 10, Aug. 29, 1916. Not recorded for

Wight in *Fl. Hants.*, 1904. Differs from type by more bushy growth, in addition to the characters mentioned in *Rep. B.E.C.* 1913, 451.—W. C. BARTON.

Bursa pastoris Weber. Middleham and Leyburn Shawl, Yoredale, W. Yorks., June 9 and 11, 1916.—C. WATERFALL. "*Capsella Bursa-pastoris* var. *stenocarpa-coronopifolia* Mott. To this same form must be referred the dwarf starved plants from cindery paths at Leyburn, sent by the same collector."—BRITTON.

Capsella Bursa-pastoris Medic., var. *brachycarpa* Mott? [1084]. Lane, Boxted, N. Essex, 19, May 21, 1916.—G. C. BROWN. "Tall drawn-up-looking plants, probably growing among others at the foot of a wall. Correctly named."—BRITTON.

Capsella sp. Rectory garden, Wigginton, Oxon. 2 Sepr. 1916. (*Rep.* 1915, 319). More of this is sent this year—now taken from the cultivated ground. It is worth re-emphasising that, although a pest seems frequently to infect the plant, its peculiarities are not due to infection. This is abundantly clear when clean spms. are examined. It is a late-flowering form.—H. J. RIDDELSDELL. "After examining the 1916 plants I am still of opinion that such striking features are entirely due to the fact that the plants are *Cystopus*-infested. Not one of the five plants sent me is free from the fungus. As to the name this variety should bear, with the more developed plants before me, it is clearly seen that Horwood's view that this is var. *rubellæformis* is quite untenable. The silicules are large, deeply notched, and the average shape is obcordate-obovate, with, of course, the lateral margins convex; whereas in *rubellæformis* the notch is less deep and the lateral margins concave. Before expressing a final opinion as to the status of this form I would like to see examples quite free from any parasitic growth. Meanwhile I refer this plant to *Capsella bifida* Hobkirk, var. *macrocarpa* Hobkirk. I have seen the spm. on which this var. is founded. Hobkirk's name must replace Mott's varietal name of *macrophylla*, as these two forms are identical. Very closely related to Hobkirk's variety, and perhaps identical with it, is *C. Bursa-pastoris* var. *macrocarpa* of Haussknecht and of Albert, but not var. *macrocarpa* of Heldreich, which is allied to Mott's vars. *densifolia* and *brachycarpa*."—BRITTON.

C. gracilis Grén. Garden ground, Walton, S. Lancs., 59, Sept. 6, 1916. I think this is not a hybrid, but rather that the fruits do not set properly on account of wet and dull weather at the time of flowering. Sometimes half the fruits on a raceme are abortive and the later half normal and fertile. Occasionally a silicule here and there expands and produces seed when all the rest are abortive—J. A. WHELDON. "This is either a state exhibiting barrenness from

unknown causes, or a hybrid lacking characters which might throw light on its origin. I do not think it can be referred to *C. gracilis* Grén., usually a much more robust plant, very doubtfully occurring in Britain. I have not seen any sterile or semi-sterile native forms at all like Continental *C. gracilis*—in which the aborted silicule is usually shortly obovate, or roundish-triangular and often purplish-red—a character derived from *C. rubella* Reut., if we accept the view (not shared by some Continental botanists, notably Jordan) that *gracilis* represents *C. Bursa-pastoris* × *rubella*. Another sterile form making vigorous growth occurs in Surrey and is identical with *C. Bursa-pastoris*, var. *hebetata* Auerswald.—BRITTON. “Many silicules in this gathering suggested *bifida*.”—PEARSALL and LUMB.

Lepidium —? [216]. Station yard, Watton, 28, Aug. 3, 1916. F. ROBINSON. “I should call this *L. densiflorum* Schrad., rather than *L. virginicum*.”—SALMON.

L. latifolium L. Near Lavant mouth, Appledram, Chichester, Aug. 18, 1916.—R. J. BURDON.

Thlaspi perfoliatum L. Old wall, Kineton, 33, May 29, 1916. The same day it was rediscovered at Kineton Thorns. Has been found in 3 or 4 new localities in E. Glos. this yr.—H. J. RIDDELSDELL.

Reseda alba L. Near Poundon, Bucks, Aug. 1916.—G. C. DRUCE.

R. lutea L., var. *pulchella* J. Muell. Waste ground, Fazackerly, S. Lanes., 59, Sept. 3, 1916. The very papillose fruit appears to indicate this var. rather than var. *Lecoqii* J. Muell.—J. A. WHELDON.

Helianthemum cauum Baumg. On limestone in railway cutting S. of Kents Bank, N. Lanes, 69 b. New station a mile from Humphrey Hd., where long recorded. June 15, 1916. W. H. PEARSALL. “Yes, nice examples—not var. *vineale* Pers.”—SALMON.

Viola Riviniana Reichb. × *sylvestris*. Lyncomb Hill, Sandford, N. Somerset, 6, May 17 and Aug. 22, 1916. Petals broad, veining indistinct, scarcely branched, spur purple.—IDA M. ROPER. “Possibly, but I am doubtful. Of the two flrs. sent me, one would pass as ordinary *V. Riviniana*; the other has narrower petals and less developed calycine apps., which may be due only to late gathering. The ls. have no trace of *V. sylvestris*.”—E. S. GREGORY.

V. Riviniana Reichb., var. *diversa* Greg. [1082]. Fordham Heath, N. Essex, 19, May 4, 1916, and July 13, 1916. Upper petals very strongly reflexed, lilac-blue; spur greenish, furrowed. Ls. dark

purp.-grn. ; veins, petioles, and stem purple.—G. C. BROWN. "Capital examples of var. *diversa*."—E. S. GREGORY.

V. odorata L., var. *imberbis* Leight. Hilly pasture, Compton Dando, N. Somerset, 6, Apr. 5 and June 17, 1916. A small form with dark purple flrs. having rounded petals, the lateral ones not bearded, perfume faint or lacking.—IDA M. ROPER. "In *British Violets* I have reduced Leighton's var. to a form. Mr P. M. Hall writes (Apr. 29, 1914):—'I paid particular attention to f. *imberbis*. I observed that each var. of *V. odorata* (i.e. type, *praecox*, *dumetorum*, and *subcarnea*) had a corresponding *imberbis* form.' I have also an *imberbis* form of *V. hirta*."—E. S. GREGORY.

V. hirta × *odorata*. [1081]. Banks and roadsides, Tilbury, N. Essex, 19, Apr. 21, 1916. Flr. bluish-violet (not deep in colr., but too dark for *hirta*). Spur same colr. or a little lighter. Early ls. shining above.—G. C. BROWN. "*Viola hirta* × *odorata*. Hairs on petioles more spreading than deflexed ; bracts, in both spms. received, very near the base of peduncle."—E. S. GREGORY.

Dr Drabble will only be responsible for the names of pansies he has himself seen.

V. alpestris Jord. With *V. variata* Jord., var. *sulphurea* (Drab.), in potato-field of deep peat—no stones—20 ft. above sea-level, near Striber's Moss, N. Lancs., 69b, May 20, 1916. Dr E. Drabble named fresh spms. of each.—W. H. PEARSALL.

V. variata Jord., var. *sulphurea* Drab. Growing with *V. alpestris* Jord., in peat, near Striber's Moss, N. Lancs., 69b, May 20, 1916.—W. H. PEARSALL. "Yes."—DRABBLE.

V. Lloydii Jord. Peaty fields, Simmonswood, S. Lancs., 59, July 16, 1916.—W. G. TRAVIS. "Yes, *Lloydii* Jord., which varies rather considerably."—DRABBLE.

V. arvensis Murray, var. *agrestis* (Jord.). Cleared wood, Failand, nr. Bristol, N. Somerset, 6, July 7, 1916. Upper and lat. petals mauve.—IDA M. ROPER. "Yes, *agrestis* Jord."—DRABBLE.

V. ruralis Jord. On shallow uncult. soil over limestone, Kent's Bank, 69b, June 17, 1916.—W. H. PEARSALL. "Yes."—DRABBLE.

Cerastium vulgatum L., var. *fontanum* (Baumg.). In plenty, some miles above Bointon-on-the-Water, by R. Windrush, 33, June 22, 1916. Whole plant large, flrs. v. large, petals up to 2ce sepals. A very distinct-looking form, but clearly not var. *holosteoides*.—H. J.

RIDDELSDELL "I think not; var. *fontanum* is alpine, or boreal."—MARSHALL. "Not this variety, which is a plant of mountainous regions."—SALMON. "I should hesitate to name it so; is it not *C. vulgatum* forma *macropetalum*? See *Rep.* 330, 1915."—DRUCE.

C. tomentosum L. Garden escape, by G.W.Ry., Maidenhead, May 9, 1916.—H. J. RIDDELSDELL.

Stellaria Boracana Jord. Sandy banks, Formby, S. Lancs., 59, April 30, 1916.—W. G. TRAVIS.

Arenaria balearica L. Buttresses of bridge, near Bromborough, The Wirral, Cheshire, May 6, 1916.—C. WATERFALL. "Books have 'sepals 0-nvd.'; these are 3-nvd."—PEARSALL and LUMB. "Nerveless sepals and entire petals are distinguishing features which *balearica* should possess."—DRUCE.

A. verna L. Site of old lead works, Leyburn Shawl, Yoredale, W. Yorks, June 11, 1916.—C. WATERFALL.

Sagina apetala Ard. [245]. Worlington, W. Suffolk, 26, on and below a wall, June 12, 1916. Peds. and seps glandular, stem pubes. eglandular.—W. C. BARRON. "Yes, the typical form with ciliate ls., and glandular stems and pedicels, var. *barbata* Fenzl. Have we in Britain a form of *S. apetala* with ls. glabrous and pedicels and sepals non glandular, wh. according to Rouy = var. *imberbis* Fenzl?"—TRAVIS. "Yes, var. *barbata* Fenzl."—WHELDON. "Apparently var. *barbata* Fenzl, which seems as widely distributed in England as the more glabrous var. *imberbis* Fenzl."—SALMON. "We have the glabrous form in Britain, but it is the less frequent."—DRUCE.

Spergularia rupestris Lebel, var. *glabrescens* (Lebel). Rocks and banks by the sea, near South Shore, Holyhead, Anglesea. 49, Sept. 1916.—W. G. TRAVIS. "Apparently right."—RIDDELSDELL. "Less glandular on ls. than in normal *rupestris*, but I should hesitate to name it *glabrescens*. I have a plant from Ballantrae which is wholly glab., except for the inflorescence. It is labelled *rupestris*, but I think it deserves Lebel's var. name."—SALMON. "I agree with Salmon."—DRUCE.

Hypericum Desetangii Lamotte. Cult. Ledbury, 36. (*J. B.* 1913, 317).—S. H. BICKHAM.

Malva moschata L., var. *heterophylla* Lej. Bladon, Oxford, July 1914.—G. C. DRUCE.

Malva ——. Waste ground, Ledbury, Hereford, 36, July 23, 1916.—S. H. BICKHAM.

M. verticillata L. (?). On rubbish tipped near the Frome at Eastville, Bristol, July 1916.—J. W. WHITE. "Glabrous-fruited *parviflora*."—EDS., RIDDELSDELL, SALMON. "Not *verticillata*; pedicels too long. I should like to see flowers before naming."—BAKER.

Tilia tomentosa Moench. Roadside, Doynton, W. Gloster, 34, Aug. 15, 1916. Flowers nearly a month later than the common Lime.—IDA M. ROPER. "Yes; but why distributed?"—JACKSON.

T. cordata Mill. [1086]. Possibly native in hedges near Lindsey, W. Suffolk, 26, May 28, 1916.—G. C. BROWN. "Is *T. platyphyllos* Scop."—TRAVIS. "Is this *cordata*? The ls. are very considerably hairy beneath, and thin and membranous in texture. No fruit is sent, but I should suspect *T. europæa* L."—RIDDELSDELL. "Foliage immature and therefore not satisfactory for determination, but it is probably *T. platyphyllos*. The young branches are hairy and the ls. are pubescent with long hairs on the lower surface. In *T. cordata* the ls. are bluish or glaucous green on the lower surface and glabrous, with the exception of dense orange brown axial tufts at the base of the midrib and at the junction of the primary and secondary nerves. *T. cordata* is probably not native in Suffolk."—JACKSON. "Bab. connects stellate hairs with *cordata*; Hayward connected them with *europæa*. Prof. Henry and Mr Jackson attach no importance to them."—PEARSALL and LUMB.

Geranium nodosum L. In the shrubbery of Begbrook House, nr. Frenchay, Gloucester, June 28, 1916.—J. W. WHITE.

G. Robertianum L., var. See *Report*, 406, 1916. Berry Head, S. Devon, June 1916.—G. C. DRUCE.

G. modestum Jord. Lanesides near Padstow, May 25, 1916. (See Davey's *Fl. of Cornwall*).—J. W. WHITE. "A remarkably even gathering."—EDS. "*G. modestum*. Similar spec. agreed to by Dr Clement Reid."—DRUCE.

Acer campestre L., forma *incisifolia* Melv. See *Rep.* 406, 1916. Wood Perry, Oxon., Sep. 1916.—G. C. DRUCE. "The fruits bear a few hairs and many bases from which hairs have been separated. Mr Barton's 1914 spms. do not show these bases."—PEARSALL and LUMB.

Genista tinctoria L. [209]. Rough meadow, Bressingham, 27, July 29, 1916.—A. R. HORWOOD and F. ROBINSON.

Ulex minor Roth, var. *longispinosus* (R. & F.) Druce. Bedwyn Brailes, N. Wilts, Sep. 1915. See *Rep.* 1915, 192.—G. C. DRUCE.

Melilotus arvensis Wallr. [246]. Side of recently constructed road, Totland Bay, Wight, 10, Aug. 25, 1916. With one normal plant. Doubtless a monstrosity; to what is the abnormal growth of the pods due?—W. C. BARTON. "Not *arvensis*; fruits are hairy. It is *M. officinalis*, var. *unguiculata* Seringe."—DRUCE.

Trifolium ochroleucon Huds. Rough pasture, Bayfordbury, Hertford, July 22 and 23, 1916.—A. B. JACKSON.

T. maritimum Huds. Bank near Lavant Sluice, Appledram, Chichester, June 16, 1916.—R. J. BURDON.

T. striatum L. Burton, The Wirral, Cheshire, June 24, 1916.—C. WATERFALL.

T. striatum L., var. *erectum* Leight. [194]. Felmingham, 27, June 19, 1916.—F. ROBINSON.

T. repens, var. *Townsendii* Bab. Cult. Ledbury, 36, July 1916.—S. H. BICKHAM.

T. dubium Sibth. [1601]. Fallow fields, Kingston Vale, Surrey, June 21, 1916.—C. E. BRITTON.

Lotus uliginosus Schkuhr, var. *glabriusculus* (Bab.). [235]. Freshwater Gate Marsh, Wight, 10, Sept. 16, 1916. Cf. *Rep. B.E.C.* 1914, 136. Further study of this plant inclines me to think it more than a form due to situation. It was in great abundance on the marsh and constant in character. A mile away on wet ground in Freshwater Marsh the hairy form (var. *villosus*) was growing, and there I could not find the less hairy plant. Not mentioned in *Fl. Hauts.*, 1904.—W. C. BARTON. "Yes."—SALMON.

Vicia angustifolia L., var. *segetalis* Koch. Sandhills, Crosby, S. Lancs., 59, July 1916.—W. G. TRAVIS.

V. lathyroides L. [184]. Dry pasture, Thetford, 27.—F. ROBINSON.

Lathyrus ——. [214]. Cultivated, origin w. pl. Ashill, 28, Aug. 1, 1916.—F. ROBINSON.

L. palustris L. Wicken Fen, Aug. 4, 1916.—ALFRED WEBSTER.

L. Aphaca L. Waste ground, Bradford, 64. Casual, very rare in W. Riding. Altitude 300 ft, July 1916.—J. CRYER.

L. montanus Bernh. Tiptree Heath, N. Essex, 19, May 14, 1916.—G. C. BROWN.

Prunus avium L. [180]. Tall tree, Rocklands, 28, Apr. 27, 1916.—F. ROBINSON.

P. Cerasus L. [183]. Carbrooke, 28, May 4, 1916.—F. ROBINSON.

Spiraea salicifolia L. [213]. Ditch with *S. Ulmaria* L., Holt, 27, July 30, 1916.—A. R. HORWOOD and F. ROBINSON.

Rubus idaeus L., var. *obtusifolius* (Willd.). Cothill, Berks., July 1916. This is not a variety in the strict sense, but a barren teratological condition with open carpels. It readily spreads by means of suckers.—G. C. DRUCE.

R. dumetorum (?) × *dasyphyllus* (?). [1092]. Hedge, Ardleigh, N. Essex, 19, July 18, 1916. Pets. pale pink, narrow seps. reflexed in flr., then rising and ultimately clasping. I sent spms. to Rev. W. M. Rogers and Rev. H. J. Riddelsdell with the note, "I think a *leucostachys* hybrid, with peculiar tothing recalling that of *R. dasyphyllus*." Rev. W. M. R. says, "With these before me and Mr Brown's note I cannot get beyond the suggestion? *R. dumetorum* × *dasyphyllus*?" Rev. H. J. R. says, "Barrenness, rising sepals, fasciculation of branches, all make for hybridity; but I don't see *leucostachys* in it."—G. C. BROWN.

R. foliosus Wh. and N. [1094]. Hedge, Stanway, N. Essex, 19, Aug. 2, 1916. *Testibus* Rogers and Riddelsdell.—G. C. BROWN.

R. echinatus Lindley. [1093]. Fayer Breton Heath, N. Essex, 19, July 23, 1916. *Testibus* Rogers and Riddelsdell.—G. C. BROWN.

R. rhamnifolius (Wh. and N.), sub-sp. *Bakeri* (Lees). Heath betw. Corfe and Wareham, 9, Aug. 17, 1916.—L. CUMMING. "Not quite typical, but a record for Dorset."—ROGERS.

R. hirtifolius Muell. and Wirtg., var. *mollissimus* Rogers. Lane to Rempston Heath betw. Corfe and Studland, 9, Aug. 17, 1916.—L. CUMMING. "Good type *mollissimus*."—ROGERS.

R. Borueanus Genev., var. *flor. alb.* Corfe Common and East Common, 9, Aug. 9, 1916. Record for Dorset.—L. CUMMING. "Differs from type conspicuously only in colour of flrs., terminal leaflet short stalked and rather short stalked central flr. of panicle cymes. In most details agrees with descr. in *Handbook of British Rubi*."—ROGERS.

R. Borreri Bell Salt. Corfe Common and Rempston Heath, 9, Aug. 14 and 17, 1916.—L. CUMMING.

R. radula Weihe, between type and var. *echinatoides* Rogers. Wood, Lemington, 33, Aug. 11, 1916. I suggested "*?echinatoides* with few glands and weakly armed," and Mr Rogers says, "I don't see any of your sheets quite sufficiently strongly marked to justify positive acceptance as my var. *echinatoides*." He called special attention to the "very hairy to almost subglabrous" stem. Focke accepts the var. (1914) and in doing so describes the stem as glabrous, as Mr Rogers points out. Type *radula* is already recorded for 33.—H. J. RIDDELSDELL.

R. radula Weihe, sub-sp. *anglicanus* (Rogers). Heath by road, Corfe to Wareham, 9, Aug. 8, 1916.—L. CUMMING.

R. melanodermis Focke. Heath by road, Corfe to Wareham, 9, Aug. 8, 1916.—L. CUMMING.

Rubus fuscus Wh. and N. Wood on Wigginton Heath, 23, Aug. 19, 1916. Mr Rogers agrees. Ls. more often 3-nate than 4—5-nate.—H. J. RIDDELSDELL.

R. fuscus Wh. and N., var. *utans* Rogers. By Arne Churchyard, 9, Aug. 21, 1916.—L. CUMMING.

R. Durotrigum R. P. Murr. *Fide* Rogers. By Alfred's Tower, Stourton, S. Wilts, 8, Aug. 13, 1915. N.C.R.—IDA M. ROPER.

R. flaccidifolius (P. J. Muell.). Weekley Hall Woods, 32, Aug. 18, 1916.—G. CHESTER.

R. dumetorum, var. *raduliformis* Ley. Alkerton, 23, July 14, 1916. Mr Rogers agrees and says it makes a N.C.R. Two rather different forms were found growing close together, one with larger, broader and slightly deeper pink petals.—H. J. RIDDELSDELL.

Rubus —. Hedge of a copse near midway house between Corfe and Swanage, 9, Aug. 19, 1916.—L. CUMMING. "I can give no name. Ls. remarkably like those of *Leyanus*, but neither stem nor panicle right for that. I suppose it *may* have arisen from a crossing of my *R. mollissimus* with my MSS. var. *c.* of *R. corylifolius* (which is frequent here as in the Cotswolds of E. Glos.), but then I should expect a very different panicle. On the whole probably another form or variety of *R. corylifolius*—but what name?"—ROGERS.

R. corylifolius Sm., var. *sublustris* (Lees). Stoborough Common, nr. Wareham, 9, Aug. 11, 1916.—L. CUMMING.

Dryas octopetala L. Arncliffe Clouder, Arncliffe. Great Scar Limestone, altitude 1250 ft., 64, June 26, 1916.—J. CRYER.

Potentilla —? Wapping Wharf, Bristol Harbour, N. Somerset, 6, July 20, 1916.—IDA M. ROPER. "*P. intermedia*."—PEARSALL and LUMB.

Potentilla intermedia L. Dundee, Forfar, Aug. 1916.—G. C. DRUCE. "Mr Druce's spm. has small petals, but the leaflets are much less deeply cut than in my Mildenhall spms."—BARTON.

P. erecta Hampe \times *reptans*. Rough pasture, Nailsea, N. Somerset, 6, Aug. 31, 1916.—IDA M. ROPER. "Is not this *P. procumbens* \times *reptans*?"—MARSHALL.

P. norvegica L. Sandy moist ground, bordering Hawley Lake, N. Hants, 12, Sept. 1916.—J. COMBER.

P. norvegica L. Old mud bank, near Ball's Knolls, Chester, 58, July 19, 1916.—C. WATERFALL.

Alchemilla conjuncta Bab. [4356]. Originally from Glen Sannox, Arran, 100, in 1871. Cult. West Monkton, June 22, 1916. *Rep.* 1913, 323.—E. S. MARSHALL.

Agrimonia odorata Mill. [332]. Damp shady heath-land, Thompson, 28, Sep. 17, 1916.—F. ROBINSON. "No doubt this species, though the furrows on the fruit are well marked; in that respect the spms. are intermediate between *odorata* and *Eupatoria*."—RIDDELSDELL. "Correctly named. Note especially the fruiting calyx with ribs obsolete below middle, subfoliar glands well developed, hairs on ls. and stem silkier and longer than in *Eupatoria*. See *J. B.* 1915, 337."—JACKSON and BARTON.

Rosa insignis Déség. et Rip. [1491]. Leatherhead Downs, Surrey, Aug. 8, 1915.—C. E. BRITTON. "I know *R. insignis* Déség. et Rip. mainly from Major Wolley-Dod's description. From that the present spms. differ in several points, important in the eyes of the makers of micro-species. The ls. are not large, but only medium. The lfts., which should be ellip., vary from broadly ellip. to broadly or narrowly obov. The pets. should be more glandr. than in *R. lutetiana* Lem. but are not so. The fruit, which should be ellipsoid, large and long, narrowed at both ends, is distinctly obovoid in the primary, though, where there is more than one fruit, the secondary appear to be oblong. Whether they would develop into a size larger than in *R. lutetiana*, and whether their seps. would become spreading, I cannot tell from the spms. In the *Flore de la Chaîne Jurassique*

Grenier has a variety of his *R. canina* L., which he calls v. *insignis*, and identifies with *R. insignis* Déség. He separates it from his *R. canina* L. by its petals glab. or pubes., scarcely glandr., its lfts. oval-rounded and its fruit large, ovoid elongate. His description differs from that of Major Wolley-Dod, and does not accord with Mr Britton's spms. I am quite content to name these *R. canina* L. of the group *dumalis* Bechst., but I should not object to *R. canina* L. of group *transitoria* Crép."—BARCLAY. "I think *R. insignis* Déség. et Rip., and certainly one of the *Transitoriae* group. It is an excellent example of what a specimen should be."—WOLLEY-DOD.

R. suberistata Baker. [1756]. Headley, Surrey, Sept. 17, 1916. —C. E. BRITTON. "Yes. I think this really a variation of *R. glauca* Vill. of the group *suberistata* Baker."—BARCLAY. "Correct, a rare species in Surrey."—WOLLEY-DOD.

Crataegus Oxyacantha L. Between Wigginton and S. Newington, Oxford, Oct. 3, 1916. Ls. remarkably little cut and rather large fr. —H. J. RIDDELSDELL. "This has two styles on the oval-globose fr., and is what I understand by Thuillier's *oxyacanthoides*."—LEES. "*C. oxyacanthoides* Thuill., *forma*. Although some authors make this the Linnean *Oxyacantha*, not one of several sheets in his Herbarium labelled *Oxyacantha* is Thuillier's plant."—DRUCE.

C. monogyne Jacq., var. *leptophylla* Druce. Yardley Gobion, North Hants, May 1916. To supplement frtg. spms. sent to the Club (*Rep. B.E.C.* 1915, 346) named *heterophylla*. Unfortunately these have no expanded flrs.; these, if possible, will be sent next year. A difficulty arises about the name, as Flugge has already described a plant *C. heterophylla*, which is the plant I alluded to as an allied form growing in the Oxford Parks—a distinct species (see *Rep.* 1915, 196), but with leaf-outline much like these.—G. C. DRUCE.

C. monogyne × *oxyacanthoides*. [1561]. Hedge near N. Cheam, Surrey, May 19 and Aug. 24, 1916. Flwg. and frtg. spms. from one bush. The following characters were exhibited by the flwg. examples: —Strong unpleasant odour; flrs. 15 mm. diam.; calyx-tube glab., rugose; seps. triangular, recurved; petals roundish, irreg.-dentate, concave; styles variable in no., usually one in each flr., but some corymbs with 50 p.c. of the flrs. 2-styled; styles slightly hairy at base. Ls. dark green above, lighter below, very variable in form; from oval-obl. entire, except at the toothed apex, to 3-lobed towards apex, entire margins and tapering to base, and others 5-lobed, irreg.-serrate, except toward base. Veins in last diverge outwards, in the others converge.—C. E. BRITTON. "Yes."—DRUCE.

C. Oxyacantha L. [226]. Hedgerow, Mildenhall, W. Suffolk, 26, June 9, 1916. Calyx and ped. glabrous. Styles one or two.—W. C. BARTON. "Although nearest to *C. oxyacanthoides* Thuill., yet the ls. and their texture suggest the presence of *monogyna*, as is evidenced also in the no. of styles."—DRUCE.

Saxifraga Sternbergii Willd. [3649]. Root (1911) from Brandon Mt., S. Kerry. Cult. West Monkton, June 10, 1916. Agrees well with Sternberg's figure. Ls. bright green, glabrescent. Flrs. much later than *S. rosacea*.—E. S. MARSHALL.

S. rosacea Moench (*decipiens* Ehrh.). [4031]. Root from Clare Id., W. Mayo (R. L. Praeger). Cult. West Monkton, May 16, 1916. Though not precisely identical with *S. palmata* Sm. from Carnarvon, it is evidently conspecific with that and with *S. decipiens* Ehrh.—E. S. MARSHALL.

S. hypnoides L. [4033]. Originally from W. Ireland limestone (Praeger). Cult. West Monkton. Much stouter and larger than spms. from Cheddar growing in same border. Axillary buds few, small, or absent, May 16, 1916.—E. S. MARSHALL.

Villaea muscosa L. Near Sandringham, Norfolk, 26, Aug. 8, 1916. Also at Roydon Common, Rising Castle, Heacham and Snettisham.—G. CHESTER.

T. muscosa L. [212]. Sandy track, East Wretham, 28, July 31, 1916.—A. R. HORWOOD and F. ROBINSON.

Sedum rupestre L. [197]. Felmingham, 27, June 19, 1916.—F. ROBINSON.

S. reflexum L. [218]. Hedgebank, Rockland St. Peter, 28, Aug. 4, 1916.—F. ROBINSON.

S. dasyphyllum L. Old walls, Tanfield, 65, July 15, 1916.—J. CRYER.

S. dasyphyllum L. Walls near Wensley, Yoredale, W. Yorks., June 11, 1916.—C. WATERFALL.

Drosera anglica × *rotundifolia* (*D. obovata* Mert. and Koch). [4244]. With parents, at 1200 ft., bogs N.-W. of Loch Laggan, W. Inverness, 97, July 31, 1916.—E. S. MARSHALL.

Callitriche obtusangula Le Gall. [223]. Mildenhall, W. Suffolk, 26, June 13, 1916.—W. C. BARTON. "Yes."—BENNETT.

Peplis Portula L. [219]. Wet mud in pond on golf links, Llandrindod Wells, Aug. 15, 1916. This is a mile from the localities mentioned below. In ponds and ditches on this side of the hill I could find nothing but plants similar to these.—W. C. BARTON.

P. Portula L., var. *longidentata* Boiss. and Reut. [220a]. Drying mud of pond and ditch in a wood, alt. 800 ft. [220b]. Dry mud in ditch on open hillside, alt. 1000 ft., Llandrindod Wells, Radnor, 13, Aug. 15, 1916. It should be noted that 220b was growing in a situation quite as exposed as that of 219, and on drier mud, so the development of the calyx can be scarcely due to situation, and that in no place was there any admixture of forms.—W. C. BARTON. "This I put under var. *dentata* (see *Rep. B. E. C.* 1911, 20), which has the calyx teeth about 1 mm. long. It forms an interesting passage, I think, to the extreme western and southern form var. *longidentata* J. Gay, *Notes sur Endress.*, 38, issued as a species by Boiss. and Reut. in *Pl. Hisp. Essicc.* These agree with Cornish examples which I name var. *dentata*, and have slightly longer calyx teeth than those of Mr Pearsall's spm. from Poaka Beck. (See *Rep.* 1913, 469). In *longidentata*—which I have seen from the continent—the calyx-teeth are nearly 3 mm. long. Rouy and Camus, *Fl. de Fr.*, vii. 166, speak of orange petals, sessile flrs., and herbaceous bracteoles."—DRUCE.

Epilobium ——. [215]. Garden weed, Watton, 28, Aug. 3, 1916.—F. ROBINSON. "A very hairy state of *E. parviflorum* Sch.: the forma *aprica* of Haussknecht."—MARSHALL. "*E. parviflorum*."—WHELDON.

E. obscurum Schreb. Damp wood, Lemington, 33, Aug. 11, 1916. The intermediate *E. montanum* × *obscurum* was also found there, with *E. roseum*, *E. angustifolium*, and *E. montanum*.—H. J. RIDDELSDELL. "Yes."—MARSHALL.

E. obscurum Schreb. × *parviflorum* Schreb. Swamp nr. Hambleton, Surrey, 17, Aug. 1916.—J. COMBER. "Right."—MARSHALL.

E. roseum Schreb. [330]. Ashill, 28, Sept. 7, 1916.—F. ROBINSON. "Yes."—MARSHALL.

E. lanceolatum Seb. and Maur. [203]. Rough pasture, Watton, 28, July 9, 1916.—F. ROBINSON. "*E. montanum* L."—MARSHALL, WHELDON, DRUCE, and RIDDELSDELL.

Bupleurum rotundifolium L. Corn-field, Almondsbury, W. Gloster, 34, July 11, 1916.—IDA M. ROPER.

B. tenuissimum L. Bank betw. saltpans, Newtown, I. of Wight, 10, Aug. 7, 1916.—W. C. BARTON.

Helosciadium nodiflorum Koch. Binsey Common, Oxford, Aug. 4, 1916. A small form growing with presumptive *H. repens* Koch, and apparently hybridising with it. It prefers wetter ground, *H. repens* drier. I am growing in my garden Binsey C. plants and *repens* from Port Meadow. The former are untouched by slugs and flourish greatly; the latter have to be carefully protected, otherwise every lf. is bitten off.—H. J. RIDDELSDELL.

H. nodiflorum Koch, f. *ochreatum* (DC.). Hillside stream, at 630 ft., amid thick vegetation, Wigginton, Oxon., Aug. 8, 1916. This gathering more adequately fulfils the requirements of DC.'s *ochreatum* than any other with which I am acquainted—though even this is not perfect. The umbels are consistently short-stalked, and there is often an invol. to the umbel. The surrounding vegetation accounts for the very lax drawn-out habit, which is not that of DC.'s plant; also for the fact that the rooting character is not strongly marked.—H. J. RIDDELSDELL.

H. repens × *nodiflorum*? Binsey Common, Oxford, July 29 and Aug. 4, 1916. The presence of the putative parents suggested tentatively this *new* hybrid. A coarser reddish stem frequently points to the influence of *nodiflorum* even where the umbel is that of *repens*; the leaflets are usually fairly intermediate; the peduncles, though often intermediate, vary greatly in length; the involucre of the umbel is very variable, much more so than in the *repens* of Port Meadow, near by. *H. nodiflorum* occurs in standing water, but *H. repens* prefers ground occasionally flooded.—H. J. RIDDELSDELL.

Helosciadium repens Koch. Port Meadow, Oxford, Aug. 4, 1916, and Binsey Common, Oxford, July 29 and Aug. 4, 1916. I am almost certain that these are the true *repens* of Koch—the little doubt that exists being occasioned by the absence of fruits. Few of the plants, which are very plentiful indeed at Port Meadow, were producing flowers, but a large number of living plants proved far more nearly convincing to me than did a suggestive dried one, kindly sent by Mr Druce. The general involucre bracts are frequently few, as in the Yorks. plant (see *J. B.* 185, 1906, and *Irish Naturalist*, pp. 1 and 100, 1914, on the two species). In both localities the *repens* avoided the permanently water-covered ground. Possibly a creeping form of *nodiflorum* was also present.—H. J. RIDDELSDELL.

Curum verticillatum Koch. Near Row, Dumbartonshire, Aug. 10, 1916.—ALFRED WEBSTER.

Anthriscus vulgaris Bernh. Barford St. Michael, Oxon., May 16, 1916.—H. J. RIDDELSDELL. "*A. Scandix* Beck retains an older trivial."—DRUCE.

A. Scandix Beck. Hoylake, The Wirral, Cheshire, May 20, 1916.—C. WATERFALL.

Peucedanum palustre Moench. Wicken Fen, August 4, 1916.—ALFRED WEBSTER.

Heracleum villosum Fisch. [224]. By the river, Mildenhall, W. Suffolk, 26, June 10, 1916.—W. C. BARTON.

Caucalis arvensis L. [226]. Carbrooke, 28, Aug. 29, 1916.—F. ROBINSON.

Hedera Helix L., *forma*. Open wood, Chewton Keynsham, N. Somerset, 6, Jan. 26, 1916. All ls. taken from the upper branches.—IDA M. ROPER. "This may be put to my var. *sarniensis*, and is the first example I have seen from Britain. It is, however, not so extreme as the Guernsey plant."—DRUCE.

Viburnum Lantana L. Hedgerows, chalk, Ventnor, I. of Wight, Apr. 26, 1916.—R. S. CREED.

Symphoricarpos racemosus Michx. Nobold, Salop, Sept. 20, 1916. Becoming quickly naturalised in many parts of England.—J. C. MELVILL.

Lonicera Periclymenum L., var. *quercifolia* Rouy. Coppiced oak-ash wood, Graythwaite, N. Lanes., 69b. See *Rep.* 1913, 325.—W. H. PEARSALL. "This is *L. Periclymenum* L., var. *quercifolia* Aiton *Hort. Kew.* i. p. 232 (1789). '*L. Periclymenum* foliis quercinis. Oak-leaved Honeysuckle.' Ls. somewhat more hairy than usual, but the type varies in this respect, and Rouy makes a sub-var. *hirsuta*, 'Feuilles velues en dessous.'"—JACKSON.

Rubia peregrina L. Ventnor, I. of Wight, Apr. 30, 1916.—R. S. CREED.

Galium boreale L., var. See *Rep.* 415, 1916. Sand-dunes, St. Cyrus, Kincardine, 91, August 1916.—G. C. DRUCE.

G. Mollugo L., var. [225]. Banks, Watton, 28, Aug. 26, 1916.—F. ROBINSON. "Not *Mollugo*, but the hybrid *Mollugo* × *verum*."—BRITTON and DRUCE.

G. Mollugo L., var. *Bakeri* Syme? On waste ground, Fazackerly, S. Lincs., 59, Sep. 3, 1916.—W. G. TRAVIS and J. A. WHELDON. This is a very rare plant in this district—in fact not recorded at all in Green's *Flora of Liverpool*. A number of luxuriant clumps occurred

on made ground, but I think it must be regarded as an alien only. I do not know var. *Bakeri*, but this has much narrower ls. than our ordinary W. Lancs. *Mollugo*.—J. A. WHELDON. "I should have called it var. *angustifolium* Leers."—DRUCE.

G. Mollugo × *verum*. Tadmarton, Oxon., July 14, 1916. Flowers yellowish, ls. as broad as those of *Mollugo* but very short.—H. J. RIDDELSDELL.

G. asperum Schreb. Grasswood, Grassington, 64. Great Scar Limestone at 750 ft., July 5, 1916.—J. CRYER. "This is *G. pusillum* Murray. See *Rep.* 231, 1915."—DRUCE. "I should say *G. sylvestre* Poll., var. *glabrum* Koch, forma *hispidum* Schrank."—SALMON.

G. palustre L., var. *elongatum* (Presl). [9]. Aylestone Meadows, Leicester, 55, Aug. 11, 1916.—A. E. WADE. "Why not *G. Witheringii* Sm.?"—WHELDON. "This is what I understand as *elongatum*—a var. (or sp.) of freq. occurrence, but I do not remember ever seeing it in the dominant form of *palustre* in any area."—RIDDELSDELL. "*G. elongatum* Presl is an endemic Sicilian form; this is var. *lanceolatum* Uechtr. See Williams' *Prod.* i. 217, 1909, and *Rep.* 231, 1915."—DRUCE.

Asperula taurina L. Waste ground, Bradford, Yorks., 64. Altitude 300 ft. A casual, May 27, 1916.—J. CRYER.

Valerianella olitoria Poll. Bank of R. Dee, near Chester, 58, May 7, 1912.—C. WATERFALL. "Some fruits quite glab., others with a very few hairs. Perhaps best under var. *leiocarpa* Williams."—WHELDON. "Yes, type."—RIDDELSDELL.

Dipsacus fulloum L. Waste ground, Yiewsley, Middlesex, Aug. 26, 1916.—ALFRED WEBSTER. "*D. fulloum*, var. *sativum* L."—DRUCE.

Dipsacus pilosus L. [210]. Edge of ditch, in shade, Saxlingham, 27, July 30, 1916.—A. R. HORWOOD and F. ROBINSON.

Aster —? Marston, Oxon., 23, Sept. 1915.—G. C. DRUCE.

Filago —. [224]. Sainfoin field, Great Cressingham, 28, Aug. 23, 1916.—F. ROBINSON. "*F. germanica*."—WHELDON, RIDDELSDELL, and SALMON.

Gnaphalium sylvaticum L., var. *alpestre* Druce. Glenisla, Forfar, 90, August 1916.—G. C. DRUCE. "Yes, *i.e.* var. *nigrescens* Grenier."—SALMON.

Inula crithmoides L. Disused saltpans, Newtown, I. of Wight. 10, Aug. 7, 1916.—W. C. BARTON.

I. crithmoides L. Between Hermitage and Thorney, Sussex, Sep. 2, 1916.—R. J. BURDON.

Bidens cernua L., var. *radiata* DC. Canal at Market Harborough, 55, Sep. 3, 1916.—G. CHESTER.

B. tripartita L. Naseby Reservoir, 32, Sep. 10, 1916.—G. CHESTER.

Matricaria maritima L. Cliffs, Ventnor, I. of Wight, Apr. 29, 1916.—R. S. CREED. "*M. inodora* L., var. *salina* Bab."—MARSHALL. "In my spms. the achenes are trigonous, so is *M. inodora*, var. *salina*."—BARTON.

Senecio crucifolius L., var. *tennifolius* Jacq. Birkenhead, Cheshire, Aug. 19, 1912.—J. A. WHELDON.

Carduus crispus L. × *nutans* L. Chalk pit, Merrow Downs, Surrey, 17, Aug. 1916.—J. COMBER. "Yes."—RIDDELSDELL and DRUCE.

Cirsium pratense (Huds.). Wareham, Dorset, 9, June, 1916. The first year's ls. are almost cut.; those of subsequent yrs. more or less lobed and cut. It forms an approach to the luxuriant Irish *polycephala*. In a few instances the plants had two heads, and ls. somewhat sinuately cut—variations in no way due to hybridity.—G. C. DRUCE.

Cnicus arvensis Hoffm. × *lanceolatus* Willd. Roadside waste, nr. Bramley, Surrey, 17, Aug. 1916. *Fide* E. S. M.—J. COMBER. "My spm. shows little sign of *arvensis*, beyond the less-divided ls. and peculiar growth. Can it be *C. lanceolatus*, var. *nemorale* Koch, which has ls. 'plerumque minus profunde pinnatifidis v. tantum lobatis' and 'capitulis potius subrotundis?'"—SALMON. "I really fail to see evidence of the presence of *arvensis*."—DRUCE. "There were many well-formed seeds on the sheets."—PEARSALL and LUMB.

Crepis biennis L. [191]. Slow Bedon, 28, June 8, 1916.—F. ROBINSON. "No; my spm. is clearly *C. taraxacifolia* Thuill."—RIDDELSDELL. "Yes, *C. taraxacifolia*."—PEARSALL and LUMB.

C. nicaensis Balb. [182]. Cultivated land, Watton, 28, July 2, 1916.—F. ROBINSON. "No fruit sent is ripe and filled out, but the phyllaries are downy within and the heads large. Most likely *C. biennis*, which it resembles also in general habit."—RIDDELSDELL.

C. capillaris Wallr., var. *agrestis* (Waldst. and Kit.). Damp meadow, Wanborough, Surrey, 17, Aug. 1916.—J. COMBER. "Styles dark, heads and ped. glandular. In *Rep. W.B.E.C.* 1914, Rev. E. F. Linton says Willdenow observed of this form, 'Involucrum plantae spontaneae glanduloso—hispidum fuit, in culta glabrum factum est.' (Koch, *Syn. Fl. Germ. et Helv.* ed. 2, 1844, 505). I have plants from Guernsey with small heads, slender growth and thin leaves, but with black glandular hairs on calyx and pedicels, and a plant of mine closely similar to Mr Comber's was put to *capillaris* type by Dr Thellung. See *Rep. B.E.C.* 1915, 353."—BARTON. "Yes."—RIDDELSDELL. "The original description of Waldstein and Kitaibel says nothing of glandular black hairs on pedicels and phyllaries and the size of the flowers as figured is 1.25 cm. (not 3). I append the description so far as it applies to the inflorescence—'Flores parvi in panicula sub corymbosa: ramis pedunculis que valde inequalibus, primario brevissimo, tenuibus, debilibus, angulatis, subnudis aut villo albo setisque rarissimis adpersis, saepe bractea subulata stipatis. Calyces ovati, post florescentiam supra semina coarctata: squamis carinatis, carina intermixto tomento setigeris, interioribus linearibus, exterioribus subulatis, triplo brevioribus, adpressis.' Waldstein and Kitaibel give a reference to Willdenow (*Sp. Pl.* iii. 1602), who described the species *C. agrestis* as 'foliis lanceolato-runcinatis caulinis lanceolatis, basi dentatis sagittatis, floribus corymboso-paniculatis calyceibus hirtis. Planta spontanea a culta valde diversa. In spontanea hirtus in culta fere glaber, exclusa exteriores. Flore minore quam in *C. tectorum*.' Strangely enough Willdenow quotes Waldstein and Kit. as the authority, although the *Pl. Rar.* was not then published. The real point is, are we justified in so greatly altering the written characters of *agrestis*? Var. *agrestis* (W. & K.) is practically synonymous with *runcinatus* Bisch. Koch (*Syn.* 440. 1837) has altered the characters of W. & K. to 'capitula duplo majora habet,' and changes Willdenow's words to 'Involucrum plantae spontaneae glanduloso-hispidum fuit, in culta glabrum factum est.' Williams (*Prod.* p. 74), while describing the flower-heads as 3 cm. across, says nothing of black hairs, and Curtis' figure (*Fl. Lond.* t. 327), which he cites for it, has the heads 2.3 cm. across, and the inflorescence as figured is practically glabrous, the text saying only 'pariter hispidulae.' Rouy, Foucaud, and Camus (*Fl. Fr.* ix. 229) describe as a sub-species *C. agrestis* W. & K., a plant having 'calathides nettement plus grandes: folioles du péricline, pédoncules (et parfois même rameaux) hérissés de longs poils noirs, étalés, entremêlés de quelques poils glanduleux: stigmates bruns,' which, as will be seen, refers to a different plant from that figured in Waldstein and Kit."—DRUCE.

Hieracium Pilosella L., var. *nigrescens* Fr. [7]. Narborough granite quarries, 55, June 16, 1916.—A. E. WADE.

Hieracium —? [199]. Felmingham, 27, June 19, 1916.—F. ROBINSON. "Is this a somewhat eglandular form of *H. grandidens* Dahlst.?"—DRUCE.

H. iricum Fr. Origin, Winch Bridge, Teesdale. Cult., Shipley, July 24, 1916. In May 1915, I brought a root which I thought might be *H. iricum* from Winch Bridge and placed it in my garden. This year it developed a stem 3 ft. 4 in. high, which bore 25 lateral branches and carried 147 flowering heads. The 25 spms. sent are the lateral branches, along with a radical leaf. Rev. E. F. Linton agrees with the naming.—J. CRYER.

H. Schmidtii Tausch, var. *eustomon* Lint. Originally from Culbone, S. Somerset, 5, in 1907. Cult. garden wall, West Monkton, June 6, 1916. [3196]. A substylose form, practically identical with a hawkweed from Watersmeet, N. Devon, sent by Rev. A. Ley to the Club as "*H. Schmidtii*, forma," but named by him and Rev. W. R. Linton, in *B.E.C. Rep.* 1906, "typical var. *eustomon* Linton." E. F. L. says that the phyllaries of his *eustomon* are very slightly more attenuate, but I can find no marked difference in spms. from Glamorgan. Styles yellow; ligules (when present) glab.-tipped. Ls. firm, m. or less glaucons.—E. S. MARSHALL.

H. silvaticum Gouan, var. *tricolor* W. R. Linton. Margin of wood, Shipley, 64, millstone grit, altitude 300 ft, June 27, 1916. Rev. E. F. Linton agrees with the naming. A new station.—J. CRYER.

H. grandidens Dahlst. [4363]. Abundant on sunny railway-cutting, just E. of East Austey Station, both in 4, N. Devon, and 5, S. Somerset; spms. from latter—N.C.R. Styles livid, ligules glab.-tipped. Heads very black with glands, epilose.—E. S. MARSHALL.

H. ciliatum Almq. [4305]. Rocks about 2 m. east of L. Laggan, W. Inverness, 97, July 19, 1916. Styles dull yellow. Ligule tips very pilose. Confirmed E. F. L.—E. S. MARSHALL.

H. vulgatum Fr., var. *subravusculum* W. R. Linton. [4293]. Fir-plantation, E. of Loch Laggan, W. Inverness, 97, July 27, 1916. Styles yellow or livescent. Confirmed E. F. L.—E. S. MARSHALL.

Hieracium —. Origin, a wall at Court Colman, Bridgend, 41; cult. July 1, 1915, and June 9, 1916. Ligules glabrous, styles dingy yellow.—H. J. RIDDELSDELL. "This looks like the Surrey plant issued as No. 37 of the Lintons' set, enlarged by cultivation. It was supposed to be *H. pellucidum* Laestad., and may come under that, but Ley's var. *lucidulum* is now identified with the type."—MARSHALL.

H. gothicum Fr. (form). [4300, 4301]. Spey valley, about Crathic and Laggan Bridge, E. Inverness, 96, Aug. 2 and 4, 1916. Styles pure yellow. Heads with many white hairs. Placed under *H. gothicum* by E. F. L.—E. S. MARSHALL.

H. sciaphilum Uechtr., var. *amplifolium* Ley. Chester, July 1916.—C. WATERFALL. "The foliage of this does not agree with authentic spms. of the variety; I think it should be referred to the type."—MARSHALL.

H. sabaudum L., var. *virgultorum* (Jord.). Eldwick Glen, Bingley, 64. Millstone grit at 620 ft., Sept. 3, 1916. Rev. E. F. Linton says, "*H. boreale* var. with rather glabrous foliage and sub-equal leaves. I have put it with my spms. of var. *virgultorum* Jord., which it matches very fairly well." I think the spms. are rightly placed here.—J. CRYER.

Taraxacum officinale Weber, var. *obliquum* Jord. Grassy bank, Tockington, W. Glos., 34, Apr. 22, 1916. Outer phylls. erect patent, ovate; fruit pale.—IDA M. ROPER. "Our old *T. laevigatum*, not of Poirct. Jordan described it as a species."—DRUCE.

Sonchus oleraceus L., var. *albescens* Neum. [1621]. Cobham, W. Kent, June 25, 1916, on railway banks. Identification based on description given in Secretary's Report, 1912, pp. 166-167. Growing with the normal-flowered plant, this var. attracted attention by its pale yellow flrs., but closer inspection showed that the ligules were actually white (with the outer series purple-tinted on the lower surface), and the pale colour was due to the yellow tint of stamens, pollen and styles.—C. E. BRITTON. "In true *albescens*, corollas are white, with a grey-lilac stripe on under side; pollen is orange-yellow—characters difficult to see in dried spms."—DRUCE.

Tragopogon porrifolium L. [1581]. Hort. West Barnes, Merton, Surrey, May 30, 1916.—C. E. BRITTON.

Tragopogon —? Dundee, Forfar, 90, August 1916.—G. C. DRUCE. "*T. crocifolius* L."—F. A. LEES.

T. porrifolium × *pratensis*. [1712]. Hort. W. Barnes, Merton, Surrey, 1916. Hybrids raised by my application of pollen of *T. porrifolium* to stigmas of *T. pratensis*. They possess the characters of the wild hybrid described by W. A. Todd and myself (*J. B.* 1910, 203). The spms. show, tho. not so well as I hoped, the curious arrangement of the colours derived from the flrs. of the parents, as in each capitulum the central florets are yellow, and the outer series of a brownish-purple, really due to the union of the yellow and purple of

the parents. The spms. also show the great degree of sterility of this hybrid, but this is not absolute, and most capitula produce one or two fertile seeds. I send *T. porrifolium* for comparison.—C. E. BRITTON. "A welcome plant."—DRUCE. "*Porrifolium* dominant."—BENNETT.

Scorzonera humilis L. Near Wareham, 9, Dorset, July 1916, with *Hydrocotyle*, *Ran. Flammula*, *Carex Goodenowii*, *C. echinata*, *C. panicea*, *C. flava* var. *oedocarpa*, *Deschampsia cesp.*, *Cirsium pratense*, etc., but no adventitious species. See *Rep.* 1915, 202. It has since been located in another grassy enclosure by Mrs Sandwith and her son, a very keen young botanist who in 1914 made this interesting addition to our flora.—G. C. DRUCE.

Erica Tetraxis L. Silverwell Moor, near Perranporth, 1, Aug. 1916. This and the two following were growing together. *E. ciliaris* formed fairly level sheets of rich deep colour on the drier ground; the hybrid was in rounded cushions of pink, and *E. Tetraxis*—though plentiful in moister ground—inconspicuous from its loose trailing habit.—F. RILSTONE.

E. ciliaris L. Silverwell Moor, near Perranporth, 1, Aug. 1916.—F. RILSTONE.

× *Erica Watsoni* Benth. Silverwell Moor, near Perranporth, 1, Aug. 1916.—F. RILSTONE.

Pyrola rotundifolia L. Glen Phee, Forfar and Caenlochan, 90, Aug. 20 and Aug. 5, 1916.—R. & M. CORSTORPINE. "Yes, Balfour gathered it there in 1854; in great beauty and plenty on steep rock- ledges."—DRUCE.

Limonium binervosum Salm. Minute form growing abundantly in shallow tidal mud over limestone, estuary of R. Leven, Frith Hall, N. Lincs., 69b. In large colonies it is difficult to find a plant over 2 inches.—W. H. PEARSALL.

Statice planifolia (Syme) Druce. Ben Laiogh, M. Perth, 88, August 1916. The late Mr Clement Reid agreed that this is a species distinct from our two maritime plants. It belongs to the pleurotrichous section in which the spaces between the calyx ribs are glabrous: the phyllaries are larger and more membranous; the ls. are normally broader, more obtuse and thickened, than in the shore plants. If the genus *Armeria* is retained, this will be *A. planifolia* (Syme).—G. C. DRUCE.

S. maritima Mill. Slapton sands, S. Devon, July 1916. This is the holotrichous Thrift, with hairs on the interspaces of the calyx-

tube, and appears to be a southern species. I was unable to find a pleurotrichous form. (See *Rep.* 1915, p. 203).—G. C. DRUCE.

Centaurium pulchellum Druce. [241]. Facing sea on Freshwater Down, Wight, 10, Aug. 29, 1912, and [242] sandy hollow near sea, Albecq, Guernsey, Aug. 16, 1912. These are the plants alluded to in Syme *E.B.* and Townsend *Fl. Hants.* The suggestion made in the latter that the condition is occasioned by the plants being constantly browsed certainly cannot apply to the Albecq plants. Mr Marquand in *Fl. Guernsey* says that the Albecq plant is probably var. *Schwartziana* Wittr. It does correspond to the description given in Rouy *Fl. de Fr.* of *Erythraea ramosissima* Pers., var. γ *pulchella* Griseb., for which he gives Wittrock's name as a synonym.—W. C. BARTON. "Yes, similar to my spms. from Grand Havre; they differ in the shorter, broader, and more obtuse ls. from the inland forma *subelongata*. At the Grand Roques still more extreme plants occur. They seem worth a distinctive name."—DRUCE. "Both *Erythrea pulchella* Fr., var. *typica* Wittr., f. *humilis* Wittr."—WHELDON. "*Erythrea pulchella* Fr., sub-var. *pusilla* Coss. & Germ."—BENNETT. "Yes, exactly the form which is so frequent on the sands of Swansea Bay."—RIDDELSDELL.

C. pulchellum Druce. In the slacks and on road-margins of the sand-dunes at Kidwelly, Carmarthen, and on Whiteford Point, Glamorgan, July 1916. This is not the var. *subelongata* (Wittr.), nor the same as Mr Barton's plant, since it is condensed in growth and the ls. narrow to the rather acute apex.—G. C. DRUCE. "*Erythrea pulchella* Fr., var. *typica* Wittr., f. *communis*."—WHELDON.

Amsinckia lycopsioides Lindl. [4]. Rubbish heap, railway siding, Narborough quarries, Leics., 55a, June 16, 1916.—A. E. WADE. "Probably *A. intermedia*, as all the stamens are inserted at the throat, but as Dr Thellung remarks (*Rep.* 1914, 153), 'the allied species are with difficulty distinguished.'"—BARTON.

Amsinckia ——. [193]. Hay-field, Wells-next-the-Sea, 28, June 18, 1916.—F. ROBINSON. "This is *A. lycopsioides*; it differs from the preceding in having the stamens at or below the middle of the tube, sometimes even at the bottom. The throat, too, is microscopically bearded."—PEARSALL and LUMB. "*A. lycopsioides*, apparently." RIDDELSDELL. "*A. lycopsioides*, stamens at bottom of tube and throat bearded."—BARTON.

Nonnea rosea Link, var. *versicolor*. Corn-field, Church Stretton, Salop, Aug. 1916. Coll. Miss Cobbe. The flowers, at first red, change to a beautiful pure blue. See *Rep.* 422, 1916. — G. C. DRUCE.

Pulmonaria officinalis L. Spinney, near Birstall, Leics., Apr. 30, 1916.—R. S. CREED.

Myosotis collina Hoffm. Prostrate form, sandy field (derelict) near Puttenham, Surrey, June 10, 1916.—A. B. JACKSON and E. WEDGEWOOD.

M. collina Hoffm. Wall, Wigginton, Oxon., May 19, 1916. The fruiting calyx was by no means ventricose when gathered. *M. collina* is far from invariable in the shape of the fruiting calyx, and I have spms. of *M. versicolor* with distinctly ventricose calyces. The two species tend to approach in this matter—H. J. RIDDELSDELL. "I agree."—DRUCE.

Verbascum Lychnitis L. Nr. Rossett, Denbighshire, July 12, 1916.—C. WATERFALL.

Scrophularia vernalis L. [192]. Stiffkey, 28, June 17, 1916.—F. ROBINSON.

Limosella aquatica L. [174]. Shores of Scoulton Mere, 28, Aug. 28, 1914.—F. ROBINSON. "Yes; more slender than our Midland form."—DRUCE. "Rare in Norfolk."—BENNETT.

Veronica Chamaedrys L. Seedlings. Ashmansworth, N. Hants., 12, Apr. 25, 1916.—W. C. BARTON.

V. triphyllus L. [185]. Thetford, 27, May 11, 1916.—F. ROBINSON.

Euphrasia borealis Haync. Meadows in Upper Langdale, Westmorland, 69a, June 27, 1916. Corolla about 8 mm. long, lobes of ls. obtuse. It seems to replace *E. nemorosa* in the upland districts to some extent, and may be derived from it; but it has more obtuse lf.-segments and slightly larger flowers.—J. A. WHELDON. "Probably *E. borealis*, but very lax and weak for that species."—BUCKNALL. "Yes, *borealis*, but rather small and slender. In Derbyshire it grows much larger and stouter. *Borealis* is certainly in general an upland plant, and of course it may have been derived from *nemorosa*, but it is very distinct. Wettstein did not regard it as so derived; his views on Euphrasias, however, are very far from being binding, and one may often differ from him. I hesitate, however, to accept Mr Wheldon's suggestion of a very close relationship to *nemorosa*. It may be worth noting that I have *borealis* from Yorkshire, Derbyshire, Penbroke, Dorset, and Cornwall—all south of the area for *borealis* indicated in Wettstein's map."—DRABBLE. "I believe this to be *E. borealis* Townsend."—PUGSLEY.

E. curta Wettst. Whitmoor Common, Surrey, Aug. 1916.—J. COMBER. "One sheet, *E. gracilis* Fr. Another sheet not *E. curta*; some of the spms. are *E. gracilis*, but others are like *E. nemorosa* in habit and may be the hybrid *E. gracilis* × *nemorosa*, if the two species grow together. The small ls. and flrs. are those of *E. gracilis*."—BUCKNALL. "In reply to our query Mr Comber says, 'I did not see any other Euphrasia within some distance, but I believe *nemorosa* grows elsewhere on the common. These spms. were all remarkable to me for the deep reddish-violet colour of the flrs.' We suggest, therefore, that these are all one species, and further, that few, if any, are healthy. Entire and bursting spore-cases of a mildew are present, and if examined without a microscope may easily be mistaken for glands. Some of them can be seen attached by many filaments. No blame attaches to Mr Comber for this condition."—PEARSALL and LUMB.

E. gracilis Fr. [227]. Marshy heath, Foulden, 28, Sept. 2, 1916.—F. ROBINSON. "*E. Kernerii* Wettst."—PEARSALL and LUMB. "Not *gracilis*, flowers too large; can it be drawn out *Kernerii*?"—DRUCE. "Not *E. gracilis*, the flowers being much too large for that species. I regard it as a form of *E. Kernerii* Wettst., but the habit is much more lax than in Wettstein's figure, *Mon.* t. ix. f. 10, or in any other British specimens that I have seen. Wettstein, however, states that *E. Kernerii* attains a height of 40 cm., and in other respects the plants accord with his description."—BUCKNALL. "My spms. have lengthening corolla-tube and seem to be up-drawn *Kernerii* with rather small flrs. This form is not uncommon in Derbyshire and seems to pass gradually into the more typical plant."—DRABBLE.

E. Rostkoviana Hayne. Meadows in Upper Langdale, Westmorland, 69a, June 27, 1916.—A. WILSON and J. A. WHELDON. "Correct."—BUCKNALL.

× *Euphrasia Rechingeri* Wetts. (= *E. Kernerii* × *Rostkoviana*, Wetts. *Mon.* p. 289). In boggy ground in a valley, and in thick spongy turf on Mendip, near Rowberrow, N. Somerset, Sep. 8, 1916, accompanied by rather dwarf forms of the parents and of *E. nemorosa*. Normal plants of the latter and of *E. borealis* occur in drier situations in the neighbourhood. Mr Townsend considered this to be × *Levieri* Wetts. (= *E. curta* × *Rostkoviana*), but, as *E. curta* has not yet been seen in this locality, and as all the characters of the hybrid may be traced to *E. Kernerii* and *E. Rostkoviana*, I am bound to conclude that these are the parents. Wettstein's description is as follows:—"It differs from *E. Kernerii* in the leaves, bracts and calyces being sparingly clothed with rather short glandular hairs; from *E. Rostkoviana* by the glandular hairs covering the leaves and calyces being shorter and much less numerous." The Mendip plant, however, does not

entirely correspond with this description, as the glandular hairs, numerous in some specimens and few or none in others, are almost always fairly long. The form of *E. Kernerii* which grows in this valley is, for the most part, weak and slender, and often excessively branched, doubtless on account of the humid situation, and this character is reproduced in the hybrid. The leaves and bracts are small, resembling in form those of *E. Rostkoviana* rather than *E. Kernerii*, and are always clothed with short bristly hairs as in that species. The flowers are very conspicuous, easily falling when gathered, and the corolla-tube lengthens after the flowering. I have selected the specimens to show glandular and eglandular plants on each sheet.—C. BUCKNALL. "These may possibly be hybrids between *Kernerii* and *Rostkoviana*, but I am inclined to think that they are merely forms of *Rostkoviana*, and so I should have named them had I had no information as to their associates. They agree very closely with spms. of *Rostkoviana* from Cwm Idwal collected by Mr Goode. They also agree with plants collected by me from Helvellyn and Grisedale, and from Cathole, Derbyshire, where they were not associated with *Kernerii*. My plants also vary in the denseness of the glandular hairs."—DRABBLE. "Dr Williams (*Prod.* 6, 301) points out that *Rostk.* may be 'almost completely destitute of glandr. hairs.'"—PEARSALL and LUMB.

E. campestris Jord. In company with *E. nemorosa* on grassy sides of roads and lanes, and in rough pasture lands on the limestone ridge extending fr. Failand nr. Bristol, to Cadbury Camp nr. Clevedon, N. Somerset, a distance of 4 mls. Very similar to *E. nemorosa*, fr. which it can scarcely be distinguished except by the presence of short, straight glandr. hairs on the bracts and calyces, like those of *E. brevipila*. From that species, however, it differs considerably in habit and also in the stem being more often branched above and below the middle, the branches being more spreading—"subarcuato-patulis" Jord.—generally more numerous, and often compound, altho' simple forms occur. The bracts are smaller and more narrowly ovate, with more slender, and more acute teeth; the spike is more slender and less compact. The Somerset plant agreeing with Jordan's description in these particulars, I feel justified in referring it to *E. campestris*, altho' its striking resemblance to *E. nemorosa* suggests that it might be only a hitherto undescribed glandular form of that sp. Dr Drabble has kindly sent me Derbyshire spms. wh. differ in some respects fr. the Somerset plant, and are not so much like *E. nemorosa*. These are probably nearer to Jordan's plant, of which I have not had the opportunity of seeing authentic spms. Plants distributed by continental collectors as *E. campestris* range from eglandular forms allied to *E. nemorosa* to others with long flexuous glandr. hairs and large corollas indistinguishable from *E. Rostkoviana*. Wettstein, having at the time little acquaintance with *E. campestris*,

placed it next to the latter in the *Grandiflorae*; in my opinion it has little in common with that species, and, with regard to the lengthening of the corolla-tube, it should be noted that Jordan's description is "corollae tubo calycem fere superante," which may well apply to many species in the *Parviflorae*. Fine, characteristic plants of the present form have been gathered at Oystermouth, nr. Mumble's Hd., Glamorgan.—C. BUCKNALL. "The spms. sent to me do not show any lengthening of the corolla, and I should name them without hesitation *E. brevipila*. I have collected *E. campestris* in many places in Derbyshire, and am very familiar with the plant. I agree with Mr Bucknall in thinking that *campestris* has but little in common with *Rostkoviana*. It is more nearly allied to *Kernerii*, but possesses short glandular hairs."—DRABBLE. "We have examined many spms. of Mr Bucknall's plant and also numerous authenticated spms. of *E. brevipila*. We find that all bear glands on the stem and branches—in some instances only near the base of the stem."—PEARSALL and LUMB.

E. Kernerii Wetts. Chinnor, Oxon., Aug. 1908.—G. C. DRUCE. "Correct."—BUCKNALL, DRABBLE, PUGSLEY.

Bartsia Odontites Huds., var. *serotina* (Bert.), forma *divergens* (Jord.). [236]. Roadside, Calbourne, Wight, 10, Sept. 15, 1916. This plant with wide-spreading branches occurs on the chalk down between Carisbrooke and Calbourne, and was far more abundant than any other form near Calbourne station. In many of the specimens the lower branches spread at right angles to the stem. I doubt whether *divergens* Jordan can be put outside *serotina*; but the species is treated unsatisfactorily in the books and needs further study, especially as to distribution of forms.—W. C. BARTON. "Yes, under *O. divergens* Jord."—DRUCE.

Rhinanthus major Ehrh. Near Easthaven, Forfar, in Syme's locality where it is still abundant, Aug. 1916. Babington records *apterus* from Forfarshire, but Boswell Syme was able to find only this plant which, as he says, has seeds conspicuously winged. As the mature seed is twice as broad as its wing, it must go to *stenopterus*. The flowers of this should be compared with those of the Somerset spms. With it grew a very narrow-leaved form.—G. C. DRUCE. "Yes, seeds with a narrow wing—var. *stenopterus* Fr."—MARSHALL. "This is the *Alectorolophus apterus* of Ostenfeld, who gives *R. major*, vars. *apterus* and *stenopterus* of Fries as synonyms. If the seeds are examined it will be found that the younger ones are margined, whilst the mature ones are entirely wingless, which explains the position Ostenfeld holds as regards this species."—SALMON.

Utricularia major Sch. = *U. neglecta* Lehm. Derwent Water, Cumberland, Aug. 9, 1916. In great profusion among the reeds at the

N. end of the lake. Diligent search during a week failed to discover a flower.—W. H. PEARSALL. "I hesitate to make a N.C.R. on flowerless examples, though the probability that it is *major* is great."—DRUCE.

Mentha rotundifolia Huds. Roadside, in lane near Melbourne, Derby, Aug. 20, 1916.—A. B. JACKSON and F. E. ROUTH. "Is not this var. *rugosa* Wirtg. (*Fl. Rhein Pr.* 353, 1857)?"—DRUCE. "So I should name it."—SALMON.

M. alopecuroides Hull. Churchyard, Wigginton, Oxon., Sept 1916. I do not know if it is already recorded for the county, though Mr Druce tells me it has been found at Oxford. Of course, it is not native here.—H. J. RIDDELSDELL. "Yes, an alien; also found near Oxford this year by Mr Gambier-Parry."—DRUCE. "Yes, mine is a beautiful example."—SALMON.

M. sativa L., var. *paludosa* (Sole). Very local round small creek or inlet of the Rea Brook, a tributary of the Severn, Meole Brace, Salop, Aug. 17, 1916. It does not exactly agree with any authenticated spms. I possess of the var. *paludosa* (Sole), and I should be grateful for further opinions. When alive, the purple tinge of stem and leaves is very apparent and remarkable. It is extremely local in this habitat.—J. C. MELVILL. "This interesting and remarkable mint deserves further study in a fresh condition; scent is valuable in determining these forms. I do not think it can come under either *gentilis* or *rubra*, as, amongst other points, the pedicel-clothing is against this. Although much more glabrous than any state of *sativa* (*aquatica* × *arvensis*) I have hitherto seen, I really think it must be placed under this—not var. *paludosa*, which has the upper whorls collected into a spike, but rather, I should say, *subglabra* Baker, of which, unfortunately, I possess no authentic example."—SALMON. "Does not agree with Sole's figure or description of *paludosa*; nor does it match his authenticated type spm.: it is nearest the *subglabra* of Baker."—DRUCE.

M. sativa L., var. *rivalis* Wats. [10]. Thornton reservoir, Leics., 55, Aug. 12, 1916.—A. E. WADE. "One plant is under *M. verticillata* L., a *rivalis* (Wats.) The second near *arvensis*."—DRUCE. "This seems to me under *arvensis* rather than *sativa*."—SALMON.

M. arvensis × *spicata* A. Thellung. Garden, Haymesgarth, Cleeve Hill, near Cheltenham, Aug. 19, 1916. See last year's *Rep.* p. 363.—C. BAILEY.

M. arvensis L., var. [11]. Corn-field, Braunstone, Leics., 55, Aug. 19, 1916.—A. E. WADE. "Under *M. Hostii* Bor., on faith of spm. so named for me by the Abbé Strail."—DRUCE.

Satureia grandiflora Sch. Apesdown copse, I. of Wight, Aug. 15, 1916.—W. C. BARTON. "This plant, the *Calamintha sylvatica* Bromf. and the *Clinop. grandiflorum* Kuntze pro parte—which is *S. grandiflora* Sch. in my List, is according to M. Briquet, Host's *Calamintha menthifolia* = *Satureia menthifolia* (Host). Mr Lacaita points out that the plant which in Eng. was formerly called *C. menthifolia* is really *Satureia adscendens* (Jord.) = *S. Calamintha* Scheele."—DRUCE.

Calamintha montana Lam. [229]. South Pickenham, 28, Sep. 7, 1916.—F. ROBINSON. "Yes, *Satureia Calamintha* Scheele = *S. adscendens* (Jord.)."—DRUCE.

C. nepeta L. = *C. parviflora* Lam. [331]. Caston, 28, Sep. 14, 1916.—F. ROBINSON. "Is not this *Satureia Calamintha* Scheele?"—DRUCE. "Must go under *C. officinalis*."—RIDDELSDELL. "This is *C. officinalis* Moench."—SALMON.

Salvia Marquandii Druce. Origin, Vazon Bay, Guernsey, Aug. 1912.—Cultivated at Epsom, 1915-16.—W. C. BARTON. "Syme named this *clandestina*; he was by no means a splitter; he used sub-species, yet gave this the higher grade. Obviously it was not *clandestina*, it could not be matched in the Natl. Hbm., and no published description fitted it. It is gratifying to see that cult. has not altered its characteristic features—longer, paler corollas, leaf texture, and paucity of glandular hairs. The shape of the leaves is an untrustworthy character, but these spms. show that they have become broader and therefore further removed from the description of Bentham's *S. Verbenaca*, var. *oblongifolia*. Mr Hunnybun grew *Marquandii* for some years and had hundreds of seedlings. He says "Both the original and the offsprings keep their characters absolutely. It is one of the not very many critical plants about which I feel quite happy, as there is no necessity to call \pm to the rescue. When one grows critical plants and is asked the result, often one has to say 'It is all right, but——'."—DRUCE.

Lamium hybridum Vill. Garden weed, Polperro, 2, Apr. 3, 1916.—F. RILSTONE.

L. Galeobdolon Crantz. Hedge, Failand, nr. Bristol, N. Somerset, 6, June 5, 1916. To show trailing barren shoots.—IDA M. ROPER.

Ballota nigra L. [207]. Hedgebank, Watton, 28, July 21, 1916.—F. ROBINSON. "Yes, forma *albiflora*."—DRUCE.

Plantago lanceolata L., var. —. Sand dunes, Birkdale, 59, June 11, 1916.—J. A. WHELDON. "A hairy form of *P. lanceolata*, allied to var. *dubia* (L.) Lilj."—CARDEW and BAKER.

P. media L., var. *lanceolatiformis* Druce. Littlemore, Oxon., July 1916. These robust plants suggest a cross between *P. media* and *P. major* L., with which they grew, but I failed to see evidence in the inflorescence to support the view. See *Rep.* 1912, 173; 1915, 207. Miss Cardew and Mr E. G. Baker say var. *longifolia* Meyer.—G. C. DRUCE.

P. major L., *f.* or var. Gravel drive, Wigginton, Oxon., Aug. 20, 1916. Not merely a 'reduced' form, the fruiting spike is broader than usual, owing to the additional spread of the fruits. Whether that, like the reduction in size, is a character due to situation, I do not know.—H. J. RIDDELSDELL. "*P. nana* Tratt. Arch. t. 23."—E. G. BAKER and R. M. CARDEW.

P. major L., var. *intermedia* (Gilib.). [12]. Cornfield between Kirby Muxloe and Hineckley Rd., nr. Leicester, 55, Sept. 28, 1916.—A. E. WADE. "*P. major* L., var. *agrestis* Fries Nov. Fl. Succ. 25, 1828."—CARDEW and BAKER.

Chenopodium opulifolium Schrad. [172]. Watton, 28, Sep. 29, 1916.—F. ROBINSON. "Yes."—DRUCE.

C. polyspermum L., var. *cymosum* Moq. Waste ground, Yiewsley, Middlesex, 26, Aug. 1916.—ALFRED WEBSTER.

Atriplex hastata L. ? × *Babingtoni* Woods. [201]. On sand in Brading Harbour, Wight, Sept. 8, 1916. All these specimens were taken from one plant five feet in diameter. (In *Fl. Hants* is mentioned a plant of *Babingtoni* Woods, 21 feet in circumference.) The *Babingtoni* influence is not so apparent as the *hastata*, but I have seen no *hastata* like this. The above parentage was suggested by Mr Wilmott. Both parents were present.—W. C. BARTON. "The very small fruit perianths are rather against *A. Babingtoni*, and there seems nothing to suggest hybridity beyond the luxuriance of the plant, which may be due to 'good feeding,' to which these plants respond so readily. Is it not ordinary *A. deltoidea* Bab.?"—WHELDON.

A. hastata L., var. *genuina* Godron, forma *salina* Moss and Wilmott. [213]. On mud in disused salt pans, Newtown, Wight, Sept. 7, 1916. Closely prostrate; leaves thick and fleshy; plant often turning red, = *A. deltoidea*, var. *salina* Bab. I understand that seedlings from prostrate plants like these carefully self-fertilised came up in Mr Wilmott's garden undistinguishable from upright *hastata*.—W. C. BARTON.

A. Babingtoni Woods. [202]. On shingle at Brading Harbour, Wight, Sept. 8, 1916. All from one plant. The inflorescence,

hardened yellowish fruit and rhomboid bracteoles put this to *Babingtoni*, as against the green fruit, bracteoles ovate triangular with base campanulate and inflorescence leafy to the end, of *virescens*. I have specimens from Brading which match closely Mr Beeby's plant in *Herb. Brit. Museum* certified as *virescens* by Lange himself. But though extreme plants of what Mr Wilmott in *Camb. Brit. Flora* groups under *A. glabriuscula* Edm. can be put with certainty to var. *Babingtoni* or var. *virescens*, I have found no specimen of either variety which does not bear some fruits tending in the direction of the other. I should be glad if any member would send me a series of specimens showing the complete range of *Atriplex* in any locality. To be of use for critical study it is essential that specimens should bear ripe fruit.—W. C. BARTON. "The older name for *A. Babingtoni* is *A. glabriuscula* Edmst., var. *Babingtoni*, in *Rep. B.E.C.* 117, 1911."
—DRUCE.

A. Babingtoni Woods × *hastata* L., var. *oppositifolia* Moquin. [212]. On shingle, Bembridge, Wight, Sept. 13, 1916. With both parents. Small plants upright, larger prostrate. Mr Wilmott puts these plants to the series of hybrids *A. glabriuscula* × *hastata* var. *oppositifolia*. See *Camb. Brit. Flora*, vol. ii., p. 178. The presence of large and small fruits is probable evidence of hybridity.—W. C. BARTON.

Polygonum aviculare L. On sand, Brading Harbour, I. of Wight, Aug. 8, 1916. One plant over 3 ft. diam.; root 1 cm. diam. just below ground level.—W. C. BARTON.

P. aviculare L., var. *rurivagum* (Jord.). Corn-field, N. of Bradgate Park, Leics., 55a, Sept. 16, 1916.—A. E. WADE. "I should put this to *P. heterophyllum* Lindm."—DRUCE. "No, but very like a spm. which Lindman determined for me '*heterophyllum* typ.'"—SALMON.

Rumex domesticus Hartm. × *obtusifolius* L. (= *R. conspersus* Hartm.). Waste ground near Brechin, 90, Aug. 12, 1916.—R. & M. CORSTORPHINE.

Aristolochia Clematidis L. Godstow, Oxford, by the Upper River, July 27, 1916.—H. J. RIDDELSDELL.

Euphorbia stricta L. A casual, Ledbury, Hereford, 36, July 20, 1916.—S. H. BICKHAM.

E. Esula L. Marcham, Berks., July 1916.—G. C. DRUCE.

E. Cyparissias L. Coverham Abbey, Coverdale, W. Yorks., June 10, 1916.—C. WATERFALL.

E. Cyparissias L. [221]. Shady ditch by pasture, Merton, 28, Aug. 15, 1916.—F. ROBINSON.

Mercurialis perennis L. [192]. Arthog woods, Merioneth, 48, June 12, 1915. I think only luxuriant type; on some specimens the leaves were very broad, 60 × 40mm. The suggestion that the plant with ovate leaves is a sex form cannot hold, in view of the fact that here both male and female had leaves of the same shape.—W. C. BARTON. "Seems a step toward Mitten's plant (from Hurstpierpoint) which he considered var. *ovata* (Hoppe and Steud.), but it is not so short-petioled. Dr Stapf tells me that he considers Mitten's plant not the true *ovata*."—SALMON.

Salix caprea × *Andersoniana*. Sand dune "slack," Sandseale, N. Lanes., 69b. Flowers May 11, 1916; leaves Aug. 22, 1916. *Teste* Linton.—W. H. PEARSALL.

S. cinerea × *caprea*? Origin, Silverdale, W. Lanes., 60. Cult. Walton, S. Lanes.; flowers April 1916, leaves Aug. 1916.—J. A. WHELDON. "Probably correct."—MARSHALL.

S. aurita L. [1102]. Tiptree Heath, N. Essex, 19; flrs. May 14, ls. Aug. 13, 1916.—G. C. BROWN. "Is there not *cinerea* here?"—DRUCE. "Foliage just intermediate between *S. aurita* and *S. cinerea*; catkins much nearer *S. aurita*, but there is often a short style visible. *S. aurita* × *cinerea*, I believe."—MARSHALL. "Leaves show little trace of *S. aurita*, but are much nearer *S. cinerea* (*oleifolia*). The catkins, on the other hand, might pass for those of *S. aurita* but for the presence in many of a few very short styles. It matches authenticated spms. we have of *S. cinerea* × *aurita*, and to this we refer it."—PEARSALL and LUMB.

S. repens L. [1103]. Tiptree Heath, N. Essex, 19; flrs. May 14, ls. Aug. 13, 1916.—G. C. BROWN. "What was formerly called var. *parvifolia* Sm."—WHELDON.

Populus serotina Hartig. ♂. [984]. Planted, Boxford, W. Suffolk, 26; flrs. Apr. 27, ls. Aug. 3, 1916.—G. C. BROWN. "Yes, the commonest poplar in cultivation."—JACKSON.

Corallorrhiza trifida Châtel. Near Rescobie Loch, Forfar, 90, July 26, 1916.—R. & M. CORSTORPHINE.

Goodyera repens Br. Nr. Montrose, Forfar, 90, Aug. 1916.—G. C. DRUCE.

G. repens Br. Parkhill Woods, Arbroath, 90, July 4 and Sep. 4, 1916.—R. & M. CORSTORPHINE.

Helleborine palustris Schrank, var. *ericetorum* (A. & G.) Druce in *Rep. B.E.C.* 32, 1911. Near Llanmadoc, Glamorgan, 41, July 1916. If the trivial *longifolia* precedes *palustris*, this is *H. longifolia* var. *ericetorum* (A. & G.), *l.c.* As a variety it has no very distinctive marks except such as situation might account for; the analogous conditions of *Liparis* and *Habenaria viridis* may warrant its right to that grade.—G. C. DRUCE.

H. violacea Druce. Wood near Merrow, Surrey, Aug. 1916.—J. COMBER. "Yes, correctly *H. purpurata* (Sm.) Druce."—DRUCE.

Orchis purpurea Huds. Nr. Wye, Kent, May 1916.—G. C. DRUCE.

O. ustulata L. Nr. Leyburn, Yoredale, W. Yorks., June 11, 1916.—C. WATERFALL.

O. latifolia L., *forma*. Watermeads, Easton, N. of Winchester, N. Hants., June 1916. Rev. E. S. Marshall considers these have unusually long and narrow ls. for the spotted-leaf form.—J. COMBER. "This is what has passed for the Linnean plant in England. I have seen *O. praetermissa* in this locality and am not sure whether offsprings of it with agg. *O. maculata* might not give similar plants. Diligent search might throw more light on the matter."—DRUCE.

O. praetermissa Druce. Naunton 7 Springs, R. Windrush, 33, June 22, 1916. Found hybridising with *O. maculata*. I have the same species from Sevenhampton Bog. My herbarium records it also from Glamorgan and Brecon.—H. J. RIDDELSDELL.

O. praetermissa Druce. Kidwelly, Carmarthen, July 1916. Growing in marshes near the sea. In Devon it grew in marshes and also in meadow land near Hartland in the Park of our member Lady Stuckley; about the seat of Earl Fortescue at Castle Hill it occurred in several places and was remarkably constant. As *O. maculata* was not near, no hybrids were noticed. When *O. maculata* or *O. Fuchsii* grows with it, hybrids are found which in past times I should have called *O. latifolia*. Also from Castle Hill, Devon, May 1916.—G. C. DRUCE.

O. praetermissa Druce. Watermeads, Easton, N. of Winchester, N. Hants, June 1916.—J. COMBER. "Yes, I have seen it there."—DRUCE.

O. incarnata L., *vera*. Yarnton, Oxon., June 1916. This is the plant with pale dull rose-coloured narrow flrs., the sides of the labellum strongly reflexed, the lip oblong and feebly cut into three

segments, the ls. unspotted, clear green, narrowed from a broad base to a more or less hooded tip, and stem hollow. It is a comparatively rare plant. Its northern analogue—which may prove distinct—has a broader lip, darker tints, sometimes bright red or reddish-crimson or even crimson-purple, but always with brighter tints than in *praetermissa*, and with a narrower labellum.—G. C. DRUCE.

O. Fuchsii Druce. [1090]. Ditch, Wakes Colne, N. Essex, June 8, 1916. The prevailing form in N. Essex in meadows and open places.—G. C. BROWN. “Suggests to me *O. latifolia* × *maculata*.”—TRAVIS. “The fact we want to ascertain is whether these intermediates are hybrids or are due to soil characters. *Fuchsii* is the plant of basic soils. These are quite typical.”—DRUCE.

O. Fuchsii Druce. Tackley, Oxon., June 1916. This shows the ordinary woodland form, having lilac flowers with strong dark purple markings, the labellum deeply cut into three segments, the middle one longer than the lateral and the lateral not greatly broader or larger than the middle one. It has a great range of variation in the markings of the flower. The bracts, too, vary; they may be as long as the flowers or much overtop them. The stem is solid; the ls. more or less strongly blotched or marked with purplish-brown rings.—G. C. DRUCE.

Ophrys sphegodes Mill. Corfe Castle, Dorset, May 14, 1916. Coll. J. P. Hocking.—C. WATERFALL.

Crocus vernus All. Inkpen, Berks., April 1916. It is *Crocus sativus*, var. *vernus* L.—G. C. DRUCE.

Narcissus major Curtis, “flore pleno.” [102]. Teste G. C. D. Meadow, Edwardstone, W. Suffolk, April 27, 1916.—G. C. BROWN.

Polygonatum multiflorum All. Young shoots and leaves. Ashmansworth copse, N. Hants., Apr. 25, 1916.—W. C. BARTON.

P. officinale All. Grasswood, Grassington, 64, June 2, 1916. Great Scar Limestone at 700 ft. Occurs in several neighbouring places.—J. CRYER.

Allium Scorodoprasum L. Loch Fithie, Forfar, Aug. 1916.—G. C. DRUCE.

Maianthemum bifolium Schmidt. Origin, Kirkliston, Linlithgow. Cult. Shipley, June 14, 1916.—J. CRYER. “I have never heard of the occurrence of the May lily as a wild plant in Scotland, and it would be interesting to have details of its habitat at Kirkliston. A

detailed account of the English localities will be found in *J. B.* 1913, pp. 203, 257, 307."—JACKSON.

Fritillaria Meleagris L. Damp meadow, bend of R. Soar near Thurmaston, Leicester, Apr. 29, 1916.—R. S. CREED. "It is bracketted in *Top. Bot.* for 55, but needlessly; 32 may also be added, from Nene meadows and Welton."—DRUCE.

F. Meleagris L. Near river, Oaksey, N. Wilts. Coll. the Post-mistress of Oaksey; comm. C. WATERFALL.

Juncus tenuis Willd. Nr. Llanberis, Carnarvon, Aug. 1916. Coll. Miss Cobbe.—G. C. DRUCE. "Very unlike the *tenuis* of our Reigate Heath, and must, I believe, be placed under var. *laxiflorus* Fiek."—SALMON. "Seems quite typical and a fine specimen."—ADAMSON. "This sp. differs in size, etc., very greatly. Miss Cobbe's spms. represent a diffuse-panicle form. Evidently there are two forms in Carnarvonshire, as these are much more diffuse in the panicle than others from 'near Portmadoc, Carnarvon, 1880,' gathered in the same month (Aug.)"—BENNETT.

J. castaneus Sm. Ben Laoigh, M. Perth, 88, Aug. 1916. In great abundance and luxuriance this year. Evidently it varies in quantity. In Balfour's Excursions it is related that in 1849 they were unable to see it in Glasmaol where it abounded in 1847.—G. C. DRUCE.

Juncoides campestre Morong, var. *congestum* (Syme). Sandhills, Freshfield, S. Lancs., 59, April 30, 1916.—W. G. TRAVIS. "Yes."—DRUCE. "I do not think this will pass. Syme says (*E.B.* ed. iii.) 'spikes all sessile,' but one of my spms. has them distinctly stalked. I do not in any case consider Syme's *congestum* more than a *forma*, or at most a sub-variety. It certainly has nothing to do with *Luzula campestris*, var. *congesta* Buchenau (*Monog. Junc.* 162, 1890), figured in Engler *Pflanzenr.* iv. 36, 91, f. 54, 1906. This is a most distinct plant. The present spms. I should call stunted but typical."—ADAMSON.

Lemna trisulca L. Loch Fithie, Forfar, 90, July 1915. In Loch Fithie we have never seen the *Lemna* on the surface of the water. These spms. were dredged from the loch, submerged under three feet of water. Is this unusual?—R. & M. CORSTORPHINE. "No doubt large quantities do sink in late autumn."—BENNETT. "Have dredged it repeatedly from 8-12 feet, adhering to *Potamogeton*—July."—PEARSALL.

Alisma lanceolatum With. Wey and Arun Canal, nr. Bramley, Surrey, Aug. 1916.—J. COMBER. "Yes."—SALMON.

Potamogeton lucens L., var. *acuminatus* Schum. R. Nene, Thrapstone, 32, Aug. 24, 1916.—G. CHESTER. "Some of the specimens support Mr Bennett's contention that this is a state rather than a variety."—EDS. "The latest writer on *Potamogeton* corroborates Mr Fryer's opinion that this is only a state or form."—BENNETT.

P. praelongus Wulf. Nene at Thrapstone, 32, Aug. 24, 1916. First permanent station for Northants.—G. CHESTER. "Recorded for this county by Mr Druce in *Record Club Rep.*, 1880, p. 138."—BENNETT.

P. crispus × *alpinus* Balb. River Earn above Dalreoch Bridge, Mid-Perth, Aug. 11, 1916. See last year's *Rep.*, p. 376.—W. BARCLAY.

Scirpus compressus Pers. Nr. Moreton Station, The Wirral, Cheshire, May 20, 1916.—C. WATERFALL. "Is *C. disticha* Huds."—TRAVIS, WHELDON, BARTON. "A small form of *C. disticha*, in the early flrg. stage having superficial resemblance to *S. compressus*."—DRUCE.

Eriophorum latifolium Hoppe. Walverden valley, near Burnley, S. Lancs., 59, July 1912. *Leg. C. R. Ritchings*; comm. W. G. Travis.

Rhynchospora fusca Aiton. Hamsworthy, Dorset, June 1916—G. C. DRUCE. "In flower—interesting because so rarely gathered flwrg."—BENNETT.

Cladium Mariscus Br. Wicken Fen, Aug. 4, 1916.—ALFRED WEBSTER.

Carex — ? [189]. Wet heath, Stow Bedon, 28, June 10, 1916. F. ROBINSON. "*C. panicea*. From this colour to pale green in our area."—PEARSALL and LUMB. "A 'smutted' form of *C. panicea* L."—DRUCE. "*C. panicea*. Is it alga-infested?"—BENNETT.

C. riparia × *vesicaria*. Nr. Wytham, Berks., July 1916. Not quite the same plant as × *C. csomadensis* from Grendon, Bucks., but doubtless of the above parentage, growing with both parents and merging into one or the other. These represent the intermediate stage. See *Rep.* 1915, 216.—G. C. DRUCE. "According to some, *riparia* × *vesicaria* is *C. riparia* L. sub-sp. *gracilescens* Hartm. There is not the slightest difficulty in separating Mr Druce's plant from *vesicaria*."—BENNETT.

C. acutiformis Ehrh. and var. *Kochiana* (DC.), from a marsh rich in Carices, near Fairwater, Cardiff, May 23, 1912.—H. J. RIDDELSDELL. "Yes, type."—DRUCE.

C. lasiocarpa Ehrh. Rydal Water, Westmorland, 69a. Altitude 181 feet. June 28, 1916.—A. WILSON and J. A. WHELDON. Stow Bedon, 28, June 10, 1916.—F. ROBINSON. Wilverley Bog, New Forest, S. Hants., June 1916.—J. COMBER. Rydal Water, 69a, June 28, 1916.—A. WILSON.

C. hirta L., var. *spinosa* Mort. Water meadows, St Cross, Winchester, S. Hants., June 1916.—J. COMBER. "Yes."—DRUCE.

C. sylvatica Huds. [206]. Shipdham, 28, July 20, 1916.—F. ROBINSON.

C. fulva Host. [220]. Damp pasture, Caston, 28, Aug. 11, 1916.—F. ROBINSON. "I think *C. distans* L. The glumes have no scarious border as in *fulva*."—DRUCE. "Our local maritime plant seldom shows roughness of beak."—PEARSALL and LUMB.

C. limosa L. Wilverley Bog, New Forest, S. Hants, June 1916.—J. COMBER.

C. atrata L. Caenlochan, 90, Aug. 20, 1916.—R. & M. CORSTORPHINE.—"Yes, it was in very fine condition there."—DRUCE.

C. elata All. Moat at Lyveden Old Buildings, 32, July 2, 1916.—G. CHESTER. "Yes, quite typical."—DRUCE.

C. gracilis Curt. With *C. acutiformis*, *vesicaria*, *riparia*, *disticha*, *inflata*, and others in a marsh, Fairwater, 41, May 23, 1912. Some of the spms. have long points to the glumes (? var. *prolixa* Fr.)—H. J. RIDDELSDELL. "Yes, fairly typical."—BENNETT.

C. Goodenowii Gay, *forma*. [217]. Carbrooke Fen, 28, Aug. 6, 1916.—F. ROBINSON. "Surely only *C. acutiformis*."—DRUCE, MARSHALL, SALMON, BENNETT.

C. Goodenowii Gay, var. *chlorostachya* Asch. [4268]. Strath Mashie, Laggan, E. Inverness, 96, July 15, 1916. Fruit light green, much exceeding the glumes.—E. S. MARSHALL.

C. curta Good. Baildon Moor, 64, Millstone Grit at 800 ft., June 29, 1916. A new station, I believe.—J. CRYER. "Yes, *C. canescens* L."—DRUCE.

C. disticha Huds., *forma*. [211]. Pool near heath, Garboldisham, 28, July 29, 1916.—A. R. HORWOOD and F. ROBINSON. "Yes, *forma congesta*."—DRUCE. "I do not see any *forma* in this; it varies greatly."—BENNETT.

C. dioica L. [176]. Carbrooke Fen, 28, July 6, 1915.—F. ROBINSON. "Mine were mixed spms., one being *C. dioica* L., the others *Scirpus pauciflorus* Lightf."—DRUCE. "*S. pauciflorus*"—BENNETT. "Most of this gathering was *S. pauciflorus*."—PEARSALL and LUMB.

Panicum capillare L. Waste-tip, Eastville, Bristol, October 1916. A common weed of cultivation in U.S.A., occurs rarely on waste ground in Europe.—J. W. WHITE. "Yes, alien from N. America."—DRUCE.

Setaria viridis Beauv. [171]. W. pl., Watton, 28, Sep. 4, 1916.—F. ROBINSON.

Panicum glauca Beauv. [1]. Garden weed, Leicester, 55a, Sept. 1915.—A. E. WADE. "Yes, *P. glaucum* L., now *Setaria glauca* Beauv."—DRUCE.

Alopecurus bulbosus Gouan. Damp meadow near Lavant sluice, Appledram, Chichester, June 7, 1916.—R. J. BURDON. "Yes, Prebend. Burdon showed it me there, growing in great quantities."—DRUCE.

A. bulbosus Gouan. Chichester, W. Sussex, May 1916.—G. C. DRUCE. "Yes—recorded from this locality by Arnold (*Sussex Flora*, 1887)."—SALMON.

A. aequalis Sobol. [208]. Margins of Scoulton Mere, 28, July 22, 1916.—F. ROBINSON. "Yes."—DRUCE, SALMON.

Phleum pratense L., var. *nodosum* L. Fields near Cranford, 32, July 25, 1916. Rare in Northants.—G. CHESTER. "Yes, more robust than usual. Mr Chester says the associated *F. bromoides* and *Agrostis alba* were also striking and robust. *P. pratense*, var. *nodosum* L. Teste Dr Thellung."—DRUCE.

P. alpinum L. Feula Burn, Clova, 90, Aug. 5, 1916.—R. & M. CORSTORPHINE.

P. alpinum L. Caenlochan, Forfar, 90, Aug. 1916.—G. C. DRUCE.

Agrostis tenuis Sibth., var. *aristata* Druce. [1703]. Ham, Surrey, July 30, 1916.—C. E. BRITTON. "Yes, but more stoloniferous than usual."—DRUCE. "Ligules truncate, awns long, for *tenuis*: is it a hybrid?"—BENNETT.

Polypogon — ? Garden, Haymesgarth, Cleeve Hill, near Cheltenham, June 1916. It comes near a Maltese plant I received

in 1875 from Mr J. F. Duthie. It sprang up on gravel paths this summer. The gravel came from near Worcester seven years ago, but the plant was not detected till this year.—C. BAILEY.

Gastridium lendigerum Gaud. West Chiltington, Sussex, Aug. 20, 1916.—ALFRED WEBSTER. "Yes, correctly *G. ventricosum* (Gouan) Sch. & Th."—DRUCE.

Apera interrupta Beauv. [201]. Threxton, 28, July 6, 1916.—F. ROBINSON. "Yes, excellent spms."—DRUCE.

Ammophila baltica Link. [196]. Sea-wall, Wells-next-Sea, 28, June 17, 1916.—F. ROBINSON. "No, this is a condition of *Agrostis alba* with hypertrophied glumes. Even more pronounced than the one I described in *Rep. B.E.C.* 508, 1913, from Aldeburgh."—DRUCE. "Not as named, but an abnormal state of *Agrostis alba* with the glumes hypertrophied owing to the attacks of a *Tyleuchus* (eel worm) producing a galled condition. Stanton (*British Plant Galls* 1912, p. 112) mentions *Tyleuchus agrostidis* Steinb. which attacks various grasses of the genus *Agrostis*, causing the ovary to become elongated and tinted violet and the glumes hypertrophied."—JACKSON.

Aira caryophyllea L., var. *aggregata* (Tim.). [204]. Felmingham, 27, June 19, 1916.—F. ROBINSON.—"Yes, may pass."—DRUCE.

A. praecox L. Upland moors (1100 ft.), E. Witton Fell, Yoredale, W. Yorks., June 12, 1916.—C. WATERFALL.

A. praecox L. Nr. Freshfield, S. Lancs., 59, about sea-level, June 3, 1916.—C. WATERFALL.

Cynosurus echinatus L. Alien, in plenty, South Inch, Perth, June 1916. Seed probably derived from fodder supplied to horses of A.S. Corps, encamped here in 1915.—W. BARCLAY.

Molinia caerulea Moench. [248]. Open common, Llandrindod Wells, Radnor, 43, Aug. 17, 1916. Among the hundreds on the common, only one clump with wide-spreading panicle; at a distance it looked like elongated *Poa trivialis*. Have other members observed a similar state? Unfortunately the peculiarity is much less evident in the dried spms.—W. C. BARTON. "Spreading panicle not evident in my example—most of the branches now appressed to the rachis, so the peculiarity is perhaps temporary, and—as the anthers are just protruded—due to anthesis and sunshine."—WHELDON. "The gathering, as a whole, supported Mr Barton's note. We have repeatedly seen similar states on a hot dry day."—PEARSALL and LUMB. "I put it under var. *major* Roth."—DRUCE. "Var. *robustior* Prah."—BENNETT.

M. caerulea Moench, var. *obtusata* Hackel? [228]. Foulden, 28, Sept. 2, 1916.—F. ROBINSON. "This has obtuse glumes—the main characteristic; the curiously interrupted growth is not essential."—DRUCE.

Poa nemoralis L., var.? [202]. Threxton, 28, July 6, 1916.—F. ROBINSON.

P. nemoralis L., var. *uniflora* M. & K.? Weekley Hall Woods, 32, May 28, 1916.—G. CHESTER. "A slender form near *subuniflora* Reichb."—DRUCE.

P. alpina L. This *Poa* with reddish-purple panicle is very abundant on Caenlochan, 90, Aug. 20, 1916.—R. & M. CORSTORPHINE.

Glyceria festuciformis Praeger (in *J.B.* 353, 1903), ? not of Heynh. in *Reich. El. Excurs.* 45, 1830. Chichester Harbour, W. Sussex, July 1916. Dr Stapf agrees that neither these nor Mr Praeger's spms. from Strangford Lough, Co. Down, nor those distributed by me (*Rep. B.E.C.* 174, 1914) as var. *hibernicus* are the true *festuciformis*—a Mediterranean species.—G. C. DRUCE. "Near *G. festuciformis*, but differs in relative size of barren glumes and the shape of the barren flwrg. glumes."—RENDLE and WILMOTT.

G. Borreri Bab. Chichester Harbour, W. Sussex, July 1916. This I strongly suspect to be a hybrid, but experiments are needed to solve the problem. It is very plastic and differs enormously according to the condition of the soil, gravel, or clay, in which it grows. If put in a distinct genus from *Glyceria*, as is done by Hackel (who calls it *Atropis*), the older name is (*J.B.* 108, 1916) *Puccianella Borreri* (Bab.), with which, however, *P. permixta* Parl. Fl. It. i. 370, is said to be synonymous by Rouy. If so, Parlatore's trivial is the older; but a question arises as to the validity of either generic name over *Glyceria*.—G. C. DRUCE.

G. Borreri Bab. Pagham Harbour, Sussex, June 10, 1916.—R. J. BURDON. "Probably all are hybrids. The gathering afforded evidence of *procumbens*, of *distans*, and of *maritima*. A good number would pass for *Borreri*."—PEARSALL and LUMB.

Festuca —? [188]. Sandy soil, Thompson, 28, June 3, 1916.—F. ROBINSON. "*F. ambigua* Le Gall."—PEARSALL and LUMB, DRUCE, ROPER.

Festuca —? [195]. Morcom, 28, June 17, 1916.—F. ROBINSON. "A mixed gathering, which includes any or all of the following:—*F. ambigua*, *F. bromoides*, *F. Myuros*, *F. rigida*, and *Avena*

flavescens. In most tufts, at least two of these species are separably intermixed."—PEARSALL and LUMB. "We agree with Editors."—DRUCE, BRITTON, RIDDELSDELL.

F. ambigua Le Gall. [222]. Gravel pit, Mildenhall, W. Suffolk, June 12, 1916.—W. C. BARTON. "Yes."—DRUCE, SALMON.

Bromus erectus Huds. [1085]. Roadside, Kettlebarston, W. Suffolk, May 28, 1916.—G. C. BROWN. "Yes, but not normal."—DRUCE.

B. hordeaceus L., var. *leptostachys* (Pers.). [1089]. Roadside, Langham, N. Essex, June 7, 1916.—G. C. BROWN. "This is var. *glabrescens* (Coss.) Druce, *Fl. Berks.*"—DRUCE.

B. hordeaceus L., var. *compactus* (Bréb.). Dry banks by the sea, Abraham's Bosom, near South Stack, Holyhead, Anglesea, June 1916. This has the panicle of var. *Thominiï* (Bréb.), but differs in being more erect and in having the glumes hairy.—W. G. TRAVIS. "I call this *B. hordeaceus* L., var. *conglomeratus* (Pers.). See *Rep.* 393, 1892."—DRUCE.

B. interruptus Druce. Great Wallingford, W. Suffolk, May 28, 1916.—G. C. BROWN. "Yes, rather poor, but it has the split glumes."—DRUCE.

B. interruptus Dr. [221]. Roadside, Mildenhall, W. Suffolk, June 12, 1916.—W. C. BARTON. "Yes."—DRUCE.

B. interruptus Druce. [186]. Rocklands, 28, abundant in sainfoin field, May 25, 1916.—F. ROBINSON. "Yes, quite good."—DRUCE.

B. interruptus Druce. Eynsham, Oxon., June 1916.—G. C. DRUCE. "No more *B. interruptus* is needed, unless from new vice-counties."—PEARSALL and LUMB.

Agropyron repens Beauv., var. *glaucum* Doell. Hedgebank, Guildford, Surrey, July 1916.—J. COMBER. "Yes."—DRUCE. "Differs from *glaucum* by ls. not being involute and pungent at the end. Probably a short-glumed f. of var. *aristatum* Doell."—BENNETT.

Hordeum sylvaticum Huds. (= *Elymus europaeus* L.). Brampton Ash Woods, 32, July 20, 1916. Rare in Northants.—G. CHESTER. "Yes, a very rare plant in Northants—*Elymus europaeus* L.—if retained in *Hordeum* it is *H. europaeum* All."—DRUCE.

Equisetum arvense × *limosum*. [4378]. Near Dulverton, S. Somerset, June 3, 1916.—E. S. MARSHALL.

E. limosum L., var. *polystachyum* Lejeune. Wareham, Dorset, June 1916. Necessarily this belongs to the var. *fluviatile*.—G. C. DRUCE.

E. limosum L., var. *fluviatile* L., f. *polystachyum*. Rhine, Heth Felton, Dorset, June 28, 1916.—IDA M. ROPER.

E. palustre L. Meadow by R. Bret, Monk's Fleigh, W. Suffolk, May 28, 1916.—G. C. BROWN.

E. palustre L., var. *polystachyum* Weigel. Swamp near Shamley Green, Surrey, June 1916. This (so-called) variety grew here in great quantity apparently to the exclusion of the type. All plants appeared to have borne a central spike, withered by the time I found them. The aberration did not seem to be due to any injury.—J. COMBER.

Adiantum Capillus Veneris L., variety? From the crevices in the limestone pavement near Ballyvaughan, Co. Clare, July 1907. The pinnae in this variety are much larger than those of the common Continental form.—G. C. DRUCE.

Asplenium Adiantum-nigrum L., var. *acutum* (Bory). Killarney, Kerry, Aug. 1911. Not an extreme form but nearer to *acutum* than to *Adiantum-nigrum*. These are from a root I brought from Killarney, and are grown in a glass-house on which the sun does not shine, so that the segments are not quite so narrow as when I found it on a sun bathed rock-face.—G. C. DRUCE. "I am doubtful whether this is the true *acutum* Bory, as, although the points of pinnae and fronds are very acute, the pinnules are less so, and have not the linear segments of the true 'French fern.' The frond seems to correspond to Moore's *Asplenium Adiantum-nigrum*, v. *intermedium*. I have found similar plants in Devon."—STANSFIELD.

Athyrium alpestre Milde, var. *obtusatum* Syme. [4273, 4274]. Coire nan Gall, N. of Loch Laggan, W. Inverness, 97, July 14, and Aug. 7, 1916. I thought these might be *A. flexile* Syme; but they do not agree at all with the spms. in the Boswell Herbm., though the stipe is usually short for *A. alpestre*. The blunt pinnules seem to favour var. *obtusatum*.—E. S. MARSHALL. "Yes."—STANSFIELD.

A. alpestre Milde. Winter Corrie, Clova, 90, Aug. 31, 1916.—R. & M. CORSTORPHINE. "Yes."—STANSFIELD.

Cystopteris fragilis Bernh. Within 5 m. of Stow-on-Wold, 33, May 24 and June 22, 1916. Not a new county record. This fern was known in E. Glos. many years ago, but it has disappeared from

its original station. Now happily rediscovered and may quite probably be found in other spots on the Cotteswolds. It is also known in W. Glos., 34. The later gathering, June 22, makes identification certain.—H. J. RIDDELSDELL. “Yes.”—STANSFIELD.

Polypodium vulgare L., var. *serratum* Willd. Bury Hill, Yate Rocks, W. Glos., Feb. 22, 1916.—IDA M. ROPER. “Not the most extreme form of that plant.”—STANSFIELD.

Azolla filiculoides Lam. [175]. Shallow water, Acle, 27, Nov. 12, 1915.—F. ROBINSON.

A. filiculoides Lam. Near Chichester, W. Sussex, July 1916.—G. C. DRUCE.

A. caroliniana Willd. Dyke at Thurn, Norfolk, Aug. 18, 1916. The collector—N. Wooding—noticed dykes full of this at Thurn and Ludham, Norfolk. It was also seen on open water at South Walsham Broad, and less commonly on the R. Thurne. He had not noticed it in the dykes during previous years.—Comm. R. S. CREED. “Is it not *filiculoides*?”—DRUCE.

Chara aspera Willd. Frensham Great Pond, Surrey, Aug. 1916.—J. COMBER.

C. fragilis Desv., sub-sp. *delicatula* Braun. Old brick earth, Wanborough, Surrey, Aug. 1916. *Fide* J. Groves.—J. COMBER.

REFERENCES AND SUGGESTIONS.

Report 1912, 273.—“Stromness.” We suggest that this plant is glandr. and comes between *occidentalis* and *latifolia*. Assisted by Mr Pugsley, we have come to the conclusion that *latifolia* is the more nearly correct name. May we appeal for another gathering of this most interesting plant?

Report 1913, 445.—*R. fluitans*. If Mr Groves had written “dense sub-spheres” instead of “dense tufts,” his note would have been almost beyond criticism. Mr Hiern *in lit.* uses the word “orbs.” Boiss. and Blanche, *Rep.* 1914, 7, have “undique divergentes.”

Report 1913, 491.—*P. Coronopus*. Obviously nothing to do with *pygmaea* Lange, from seeds of which Dr Salisbury has grown quite large plants, we understand.

Report 1913, 512.—*F. ambigua*. Must have been mixed. Ours are *Myuros*. *Broteri* is much nearer *bromoides*.

Report 1914, 130.—Sagina —? Boddin. We suggest that these plants are eglandular. Most of the hairs have three cells. In many instances the two lower have collapsed, leaving the terminal cell with the *appearance* of a gland, when viewed through a lens.

Report 1915, 328.—V. segetalis. Syston. Dr Drabble has named Mr Pearsall's spm. of this "*obtusifolia*." Mixed or a matter of labels?

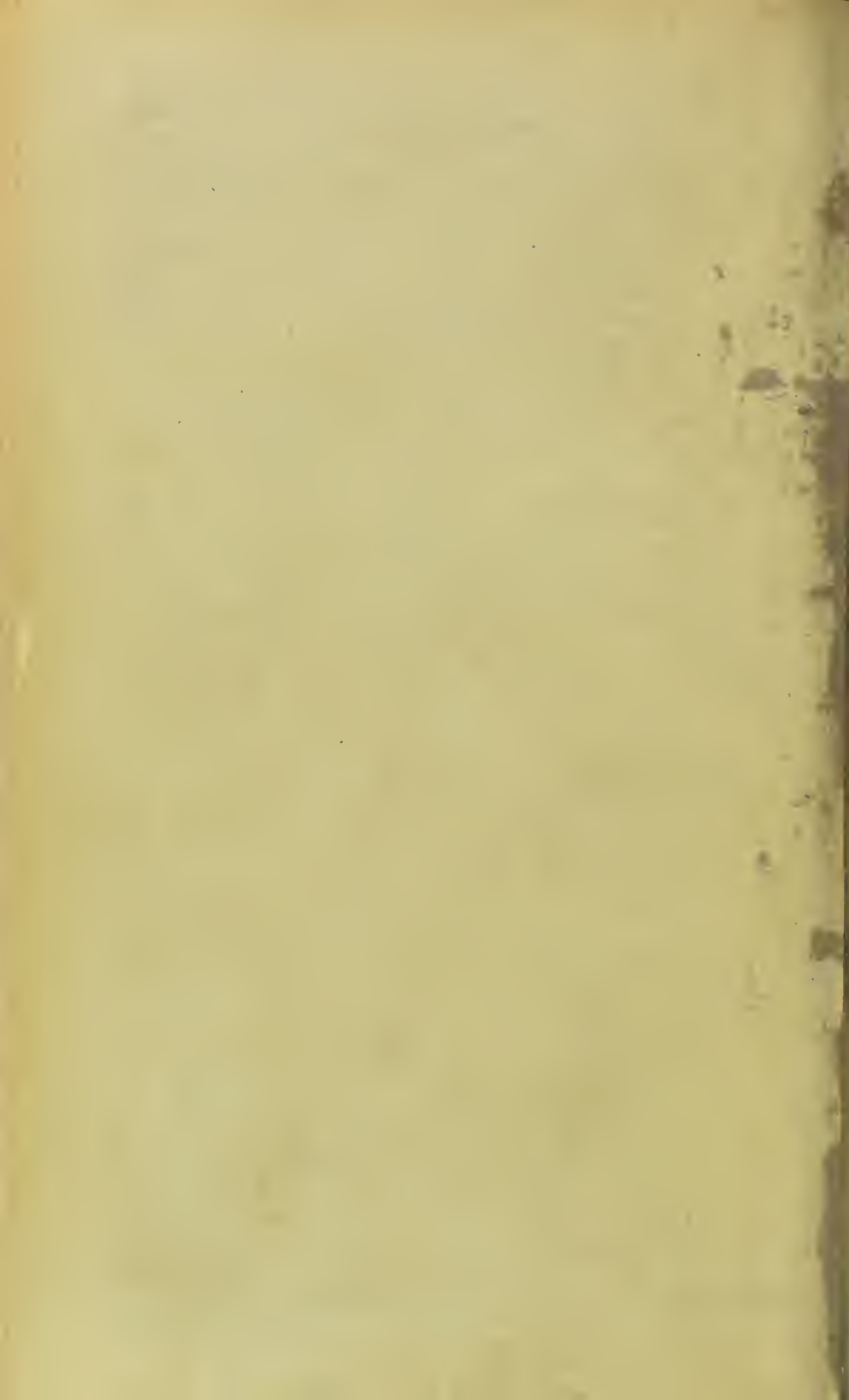
Report 1915, 332.—M. parviflora. We agree with Mr Barton that this is *M. rotundifolia*. Mixed? How many of our species of *Malva* have the contact-surfaces of the carpels reticulated? We mean the sides which are in contact so long as the fruit is unbroken.

May we ask members to test ls. of *Potamogeton polygonifolius* by looking through them, using a field lens, first with one surface toward the observer, and then with the other? The "lattices" thus seen appear quite different, and, so far, we have not seen posterior and anterior lattices anything like them. If the character prove constant, it should be especially useful in a species where the ls. vary so much in shape.

How many of our species of *Barbarea* have *ciliate* auricles?

W. H. P. & D. L.





NOMENCLATORIAL NOTES:
CHIEFLY AFRICAN AND AUSTRALIAN,

BY

G. CLARIDGE DRUCE, M.A., F.L.S.

RECENTLY I have had occasion to arrange and examine a large number of African and Australian plants, and to consult rather critically the Floras of the two great British possessions which have been compiled by those able Botanists, Bentham and Hooker, as well as that by Harvey and Sonder. The method of nomenclature of the Hookerian school differed from the continental plan in not insisting upon the permanence of the trivial name when changed into a different genus.

In order to comply with the 'Actes,' numerous alterations in them have been found necessary, some of these have already been made by other writers, but I am unable to find the following combinations, which seem to be rendered incumbent, in the pages of the *Index Kewensis* or its *Supplements*. Some may have been formed elsewhere which have escaped attention; others may have to be united to different generic names. I have thought it well to bring together such as seem to have priority, so that trouble may be saved to those working at the various genera which are involved. It may be urged that the new combinations should await a monographer; such a course has the objection of perpetuating for an indefinite period an invalid name and the consequent greater future difficulty. There may be reasons for a few of the suggested changes being ignored, but great care has been taken to avoid suggesting any which seem doubtful. The places where these names are cited in synonymy are abbreviated for the sake of space: I.K. = Index Kewensis; Fl. Austral. = Bentham's Flora Austral-

iensis; Fl. Cap. = Harvey and Sonder's Flora Capensis and its continuations.

It may be added that the course adopted by Bentham and Hooker was strongly defended by Sir W. Thistleton Dyer: but, if the 'Actes' are followed, the combinations these authors made are too frequently in defiance of the present rules. The early works on the African or Australian flora have been in some cases neglected, therefore the *Supplement* of the younger Linnaeus, the *Linnean Mantissa*, the works of Forster and Burmann have been also collated.

Necessarily this supplement only carries with it my own views and is not printed at any expense to the members.

ACACIA SIMPLICIFOLIA (L. f. *Suppl.* 436, 1781, as *Mimosa*): comb. nov., Leguminosae. Pacific Isles. Vice *A. laurifolia* Willd. *Sp. Pl.* iv, 1053.

ACAENA ANSERINIFOLIA (Forst. *Char. Gen.* 4, 1776, as *Ancistrum*): comb. nov., Rosaceae. Vice *Acaena Sanguisorbæ* Vahl *Symb.* I, 294, 1804. Cited I.K. and Hook. f. *N.Z. Fl.* *A. anserinifolia* var. *antarctica* (Cockayne in *Trans. N.Z. Ins.* xxxvi., 319, 1904 under *A. Sanguisorbæ*) comb. nov.

ACAENA DECUMBENS (Linn. f. *Suppl.* 251, 1781, as *Agrimonia*, and *Ancistrum decumbens* Thunb. *Pr. Fl. Cap.* 6, 1807-13): comb. nov. Rosaceae. Vice *A. latebrosa* Ait. *Hort. Kew Ed.* 2, i 67, 1810, the *Ancistrum latebrosum* Willd. *Sp. Pl.* i., 155. This is not the *Acaena decumbens* of Menzies in Hook. f. *Fl. Antarct.* 9, which is *A. Sanguisorbæ* Vahl. Cited I.K. and *Fl. Cap.* ii., 291, 1862.

ACMADENIA TRIGONA (Eckl. and Zeyher, n. 792, p. 100, 1836, as *Adenandra*): comb. nov. Rutaceae. Vice *A. psilopetala* Sonder, in *Fl. Cap.* i., 380, 1860, cited there and in I.K.

ACOMIS ACOMA (F. v. Muell. *Fragm.* ii., 89, 1860-1, as *Rutidosis*): comb. nov., Compositae. Vice *A. Rutidosea* (F. v. Muell. *Fragm.* ii., 89, 1860-1, in syn.) ex *Fl. Austr.* iii., 591, 1866, as *A. Rutidosis*.

ACROCEPHALUS CAPITELLATUS (L. f. *Suppl.* 276, 1781, as *Ocy-mum*): comb. nov. Lamiaceae. East India, China. Vice *A.*

capitatus Benth. in Bot. Reg. under t. 1300, 1829, where *Capitelatus* is cited with a ?.

ADENOGRAMMA CAPILLARIS (Eckl. and Zeyh. Enum. 283, 1836, as *Stuedelia*): comb. nov., Ficoideae. Africa austr. Vice *A. lampocarpa* E. Mey. ex Fenzl in Ann. Wien. Mus. ii., 276, 1840, cited I.K. and Fl. Cap. i., 150, 1860.

ADENOGRAMMA GLOMERATA (L. f. Suppl. 185, 1781, as *Phar-naceum*): comb. nov., Ficoideae. Africa austr. Vice *A. galio-ides* Fenzl in Ann. Wien. Mus. ii., 277, 1840.

ADENOGRAMMA LICHTENSTEINIANUM (Ser. in DC. Prod. i., 393, 1825, as *Mollugo*): comb. nov., Ficoideae. Vice *A. diffusa* Fenzl in Ann. Wien. Mus. ii., 275 (255), 1840, cited I.K. and Fl. Cap. i., 150, 1860.

AELUROPUS LAGOPOIDES (L. Mant. i., 33, 1768, and Burm. f. Fl. Ind. 28, 1768, as *Dactylis*): comb. nov., Graminaceae. Vice *A. laevis* Trin. Fund. Agrost. 143.

AGATHOSMA CILIARIS (Linn. Syst. ed. xii., 625, as *Hartogia*): comb. nov., Rutaceae. Vice *A. pubescens* Willd. Enum. Hort. Berol. 259, cited I.K. See Fl. Cap. i., 421, 1860.

AGROPYRON ARISTATUM (Petrie in Trans. New Zeal. Inst. xxvi., 272, 1894, as *Asprella*, not of Besser Enum. Pl. Volh., 41 which is *A. cristatum*): comb. nov., Graminaceae. Vice *A. Enyssii* T. Kirk in Tr. New Zeal. Inst. xxvii., 352, 1895.

AINSLIAEA TRIFLORA (Buch. Ham. ex D. Don Prod. Fl. Nepal, 169, 1825, as *Perdicium triflorum*): comb. nov., Compositae. Vice *Ainsliaea pteropoda* DC. Prod. vii., 14, 1839.

ALBIZZIA CORNICULATA (Loureiro Fl. Cochinch. 651, 1790, as *Mimosa*, teste Benth. in Linn. Soc. Tr. xxx., 565, 1875): comb. nov., Leguminosae. Vice *A. Milletti* Benth. in Hook. f. Lond. Journ. Bot. iii., 89, 1846.

ALONSOA MERIDIONALIS (L. f. Suppl. 280, 1781, as *Scrophu-laria*): comb. nov., Scrophulariaceae. Amer. aust. Vice *A. caulialata* Ruiz and Pav. Syst. Veg. 152.

AMMANNIA INDICA (Willd. Sp. Pl. ii., 244, 1799, as *Peplis*, not of Lamarck = *A. baccifera* L.): comb. nov., Lythraceae. Vice *A. peploides* Sprengel Syst. Veg. i., 444, 1825, where *indica* is cited.

AMPEREA XIPHOCLADA (Sieb. in Sprengel Syst. Cur. Post. 109, 1827, as *Leptomeria*): comb. nov., Euphorbiaceae. Vice *Amperea spartioides* Brongniart in Duperr. Voy. Coquille 226, t. 49, 1829, Cited Fl. Austral. v., 841, 1873.

AMPHIBROMUS NERVOSUS (R. Brown Prod. 178, 1810, as *Avena*): comb. nov., Graminaceae. Vice *A. Neesii* Steudel Syn. Glum. i., 328, 1855. It is the *Danthonia nervosa* Hook. f. Fl. Tasman. ii., 121, t. 163. Cited I.K. Benth. Fl. Austral. vii., 589, 1878. It is not the *Avena nervosa* of Lamarck III. t. 1115, 1791 which is *A. strigosa* Schreber Spic. 52, 1771.

ANDERSONIA AXILLIFLORA (Stschégl. in Bull. Soc. Nat. Mosc. xxxii., 1, 22, 1859, as *Sphincterostoma*): comb. nov., Epacridaceae. Vice *A. collossea* F. V. Muell. Fragm. vi., 63, 1867-8. Cited I.K. and Fl. Austral. iv., 251, 1869.

ANDERSONIA ECHINOCEPHALA (Stschégl. l.c. 23, 1859, as *Sphincterostoma*): comb. nov., Epacridaceae. Vice *A. patricia* F. v. Muell. Fragm. vi., 79, 1867-8. Cited I.K. and Fl. Austral. iv., 250, 1869.

ANDERSONIA SIMPLEX (Stschégl. l.c. 21, 1859, as *Homalostoma*): comb. nov., Epacridaceae. Vice *A. homalostoma*—Fl. Austral. iv., 253, 1869 cited there and I.K.

ANDROPOGON ORIENTALIS (Desvaux Opuscula 69, 1831, as *Rhaphis*): comb. nov., Graminaceae. Vice *A. Wightianus* Steudel Gram. 395, 1855. In I.K. it is put as *Chrysopogon*. If that genus is retained this plant is *C. orientale* (Desv.).

ANDROPOGON ZIZANIOIDES (L. Mant. ii., 183, 1771, as *Phalaris*): comb. nov., Graminaceae Reg. Trop. Vice *A. squarrosus* L. f. Suppl. 433, 1781.

ANGELICA MONTANA (Forster Char. Gen. 42, 1776, as *Gingidium*, not of Brotero which = *A. sylvestris* L.): comb. nov., Umbelliferae. Vice *A. Gingidium* Hook f. Handb. N.Z. Fl. 97, 1867. Cited I.K. and Cheeseman Man N.Z. 222.

ANGIANTHUS PHYLLOCALYMMEUS (F. v. Muell. in Trans. Vict. Inst. 37, 1855, as *Pleuropappus*): comb. nov., Compositae. Vice *A. pleuropappus* Fl. Austral. iii., 563, 1866. Cited there and I.K.

ANGOPHORA COSTATA (Gaertn. Fruct. i., 171, t. 34, l. 2, 1788,

as *Metrosideros*): comb. nov., Myrtaceae. Vice *A. lanceolata* Cavan. *Icones* iv., 337, t. 22, 1797. Cited *Fl. Austral.* iii., 184, 1866, and I.K.

ANISACANTHIA ANISACANTHOIDES (F. v. Muell. in *Trans. Phil. Inst. Vict.* ii., 76, 1858, as *Echinopsilon*): comb. nov., Chenopodiaceae. Vice *A. echinopsila* F. v. Muell. *Fragm.* vii., 14, 1869-71. Cited I.K. and *Fl. Austral.* iii., 201, 1870.

ANODENDRON AFFINE (Hook. and Arn. *Bot. Beechey Voy.* 198, 1841 as *Holarrhena*): comb. nov., Apocynaceae. Vice *A. laeve* Max. ex Franch. and Sav. *En. Pl. Jap.* i., 315, 1875.

ANTHOCERCIS ANTHOCERCIDEA (F. v. Muell. in *Trans. Phil. Inst. Vict.* ii., 72, 1849, as *Eadesia*): comb. nov., Solanaceae. Vice *A. Eadesii* F. v. Muell. *Fragm.* ii., 139, 1859-60. Cited *Fl. Austral.* iv., 480, 1869.

ARGYROLOBIUM TOMENTOSUM (Andrews *Repos.* t. 237, 1802, as *Cytisus*): comb. nov., Leguminosae. Vice *A. Andrewsianum* Steud. *Nom. ed.* ii., i. 129, 1840, who cites Andrews as do I.K. and *Fl. Cap.* ii., 75, 1862.

ARGYROLOBIUM TRIFOLIATUM (Thunb. *Pr. Pl. Cap.* 134, 1807-13, as *Galega*): comb. nov., Leguminosae. Vice *A. sericeum* Eck. and Zeyher *Enum.* 184, 1836. Cited in I.K. and *Fl. Cap.* ii., 70, 1862.

ARUNDINELLA BENGALENSIS (Sprengel *Syn.* i., 311, 1825, as *Panicum*): comb. nov., Graminaceae. Vice *Arundinella Wallichii* Nees ex Steudel *Not. Gram.* 114, 1855.

ARUNDINELLA MILIACEA (Link *Hort. Bot. Berol.* i. 230, 1827, as *Acratherum*): comb. nov., Graminaceae. Vice *A. nepalensis* Trin. *Spec. Gram.* t. 268, 1828-32. Cited I.K. and *Fl. Austral.* vii., 554, 1878. (*A. miliacea* Nees is a nomen nudum.)

ASCLEPIAS DIPLOGLOSSA (Turez. in *Bull. Soc. Nat. Mosc.* i., 228, 1848, as *Gomphocarpus*): comb. nov., Asclepiadaceae. Vice *A. schizoglossoides* Schlecht. in *Engl. Jahrb.* xviii., beibl. 45, 32, 1894, teste *Fl. Cap.* iv. (i), 688, 1909.

ASCLEPIAS LANATA (E. Meyer *Comm.* 202, 1835, as *Gomphocarpus*): comb. nov., Asclepiadaceae. Vice *A. Burchelli* Schlechter in *Journ. Bot.* 336, 1895, in nota; teste *Fl. Cap.* iv (i), 691.

The earlier *Gomphocarpus tomentosus* Burch. is not available as there is already Elliott's N.A. plant.

ASPALATHUS CONTAMINATUS (Thunb. nov. Gen. 140, 1800, as *Lebeckia*): comb. nov., Leguminosae. Vice *A. corymbosus* E. Meyer in *Linnaea* vii., 159, 1832. Cited I.K. and Fl. Cap. ii., 139, 1862

ASPALATHUS FASCICULATA (Thunb. Pr. Fl. Cap. 130, 1807-13, as *Ononis*): comb. nov., Leguminosae. Vice *A. undulata* Eckl. and Zeyher Enum. 199, 1836. Cited I.K. and Fl. Cap. ii., 101, 1862.

ASPALATHUS TERNATA (Thunb. Pr. Pl. Cap. 134, 1807-13, as *Galega*): comb. nov., Leguminosae. Vice *A. ferruginea* Banks ex Benth. in Hook. Lond. Journ. Bot. vii., 607, 1848. Cited I.K. and Fl. Cap. ii., 109, 1862.

ASTER TRICHOCARPUS (DC. Prod. (v.), 263, 1836, as *Doellingeria*): comb. nov., Compositae. Vice *A. striatus* Champ. in Hook. Kew Journ. Bot. iv., 233, 1852.

ASTEROLASIA ASTERISCOPHORA (F. v. Muell. in Tr. Vict. Inst. i., 31, 1855, as *Phebalium*): Rutaceae. Vice *A. Muelleri* Benth. Fl. Austr. i., 350, 1863. Cited there and I.K. (It is partly *Eriostemon correifolius* F. v. Muell. Fragm. i., 105, 1858-9.

ASTEROLASIA HEXAPETALA (A. Jussieu in Mém. Soc. Nat. Hist. Paris, ii., 131, t. 11, 1825, as *Phebalium*): comb. nov., Rutaceae. Vice *A. mollis* Benth. Fl. Austr. i., 351, 1863. Cited there and in I.K.

ASTRANTIA CAPENSIS (Berg. in Act. Nov. Sc. Upsala iii., 187, t. 10 1780, as *Jasione*): comb. nov., Umbelliferae. Vice *A. ciliaris* L. fil. Suppl. 177, 1781 (here Bergius. *J. capensis* is cited) as cited I.K. In Fl. Cap. ii., 534, 1862, *Jasione capensis* is made synonymous with *Alepidea ciliaris* Roche Eryng. 19, t. 1.

ASTROLOMA CILIATUM (Lindley Swan River App. 25, 1840, as *Stenantha*): comb. nov., Epacridaceae. Vice *A. longiflorum* Sond. in Lehmann Pl. Preiss. i., 297, 1845. (It is also *A. discolor* Sond. I. c. p. 298, *Mesotriche longiflora* and *M. discolor* Stschégl. in Bull. Soc. Nat. Mosc. i., 8, 1859). Cited Fl. Austral. iv., 158, 1869. and I.K.

ASTROLOMA EPACRIDUM (DC. Prod. vii., 754, 1838, as *Leucopogon*): comb. nov., Epacridaceae. Vice *A. divaricatum* Sonder in Lehmann Pl. Preiss. i., 299, 1845. Cited Fl. Austral. iv., 156, 1869.

ASTROLOMA SERRATIFOLIUM (DC. Prod. vii., 738, 1838, as *Stomarrhena*): comb. nov., Epacridaceae. Vice *A. Candolleianum* Sonder in Lehmann Pl. Preiss. i., 302, 1845. Cited Fl. Austral. iv., 154, 1869 and I.K.

ATHANASIA VESTITA (Thunb. Prod. Fl. Cap. 147, 1807-13, as *Tanacetum*): comb. nov., Compositae. Vice *A. fasciculata* D. Dietrich Syn. Pl. iv., 1401, 1832-59. Cited I.K. and Fl. Cap. iii., 197, 1865.

ATHIRIXIA ATHIRIXIOIDES (Sond. and Muell. in Linn. xxv., 506, 1852, as *Panaetia*): comb. nov., Compositae. Vice *Athrixia tenella* Benth. Fl. Austral. iii., 600, 1866. Cited there and I.K.

ATHIRIXIA CRINITA (Thunb. Prod. Fl. Cap. 160, 1807-13, as *Aster*, not *A. crinitus* L.): comb. nov., Compositae. Vice *A. capensis* Ker-Gawl in Bot. Reg. t. 681, 1823. Cited I.K. and Fl. Cap. iii., 293, 1865.

ATHIRIXIA NIVEA (Steetz in Lehmann Pl. Preiss. i., 460, 1844-8 (1845), as *Chrysodiscus*): comb. nov., Compositae. Vice *A. stricta* Benth. Fl. Austral. iii., 600, 1866, based on *Asteridia stricta* A. Gray in Hook. Kew Journ. Bot. iv., 275, 1852. Cited by Benth. l.c. and I.K.

ATHIRIXIA PULVERULENTA (Lindley Swan River App. 24, 1839, as *Asteridia*): comb. nov., Compositae. Vice *A. australis* Steetz in Lehmann Pl. Preiss. i., 482, 1844-8 (1845). Cited Fl. Austral. iii., 599, 1866, and I.K.

ATYLOSIA PAUCIFLORA (Wight and Arnott Prod. 255, 1834, as *Cantharospermum*): comb. nov., Leguminosae. Vice *A. scarabaeoides* Benth. in Pl. Junghuhnerianae i., 242, 1851-5. Cited in Austral. ii., 263, 1864. and I.K.

AZORELLA FRAGOSEA (F. v. Muell. in Trans. Phil. Inst. Vict. i., 102, 1855, and in Hook. Kew Journ. Bot. viii., 70, as *Pozoa*): comb. nov., Umbelliferae. Vice *A. Muelleri* Benth. Fl. Austral. iii., 304 1866. Cited there and I.K.

AZORELLA RANUNCULACEA (F. v. Muell. in Hook. Kew Journ.

Bot. vii. 378, t. 11, 1855, and Trans. Phil. Inst. Vict. i., 102, 1855, as *Dichopetalum*): comb. nov., Umbelliferae. Vice *A. dichopetala* Benth. Fl. Austral. iii., 367, 1866. Cited there and I.K. There is already *Azorella Ranunculus* Urville from the Magellan.

BAECKEA CRENULATA (F. v. Muell. in Trans. Vict. Inst. i., 123, 1855 as *Camphoromyrtus*): comb. nov. Myrtaceae. Vice *B. crenatifolia* F. v. Muell. Fragm. iv. 70 1863-4. It is also the *Harmogia crenulata* Miguel. Cited I.K. and Fl. Austral. iii., 82, 1866.

BAECKEA IMBRICATA (Gaertner Fruct. i., 175, t. 35, 1788—the details are incorrect—as *Jungia*): comb. nov., Myrtaceae. Vice *B. crenulata* DC. Prod. iii., 230, 1828). It is the *Mollia imbricata* Gmelin Syst. Veg. 420. Cited by I.K. and Fl. Austral. iii., 78, 1866. *Leptospermum imbricatum* Sm. in Trans. Linn. Soc. vi., 300, 1802, is therefore not available to replace the more recent *Baekkea camphorata* of Robert Brown in Bot. Mag. under t. 2694.

BAECKEA PREISSIANA (Schauer in Linnaea, xvii., 283, and in Lehmann Pl. Preiss, i., 107, 1845, as *Tetrapora*): comb. nov., Myrtaceae. Vice *B. pentandra* F. v. Muell. Fragm. iv., 74, 1863-4, based on *Harmogia pentandra* F. v. Muell. Fragm. ii., 31, 1860-1. Cited Fl. Austral. iii., 87, 1866..

BAMBUSA BAMBOS (L. Sp. Pl. 81, 1753, as *Arundo*): comb. nov., Graminaceae. Vice *B. arundinacea* Willd. Sp. Pl. ii., 245, 1799.

BERGIA VERTICILLARIS (F. v. Muell. Fragm. ii., 148, 1860-1, as *Elatine*): comb. nov., Elatinaceae. Vice *B. pusilla* Benth. Fl. Austral. i., 180, 1863. Cited Bentham l. c. and I. K. *Bergia verticillata* Willd. is *B. capensis*.

BERKHEYA ARMATA (Vahl in Danske Nat. Selsk. Skiv. i., 11, 17, 1791, as *Rohria*): comb. nov., Compositae. Vice *B. carthamoides* Willd. Sp. Bl. iii., 2274, 1800, based on *Rohria carthamoides* Thunb. in Act. Soc. Nat. Sc. Hafn., iii., 103-8, ?1793, but Thunberg himself changed it to *R. armata* in his Prod. 140. Cited I.K. and Fl. Cap. iii., 503, 1865.

BERKHEYA ASTEROIDES (L. f. Suppl. 381, 1781, as *Gorteria*): comb. nov., Compositae. Afr., austr. Vice *B. fruticosa* Ehrh. Beitr. iii., 138, not of L.

BERKHEYA HERBACEA (L. f. Suppl. 1, 381, 1781, as *Gorteria*):

comb. nov., Compositae. Afr., austr. Vice *B. cynaroides* Willd. Sp. Pl. iii., 2275, 1800, who cites L.

BERKHEYA ILICIFOLIA (Vahl in Danske Nat. Selsk. Skriv. ii., 11, 40, t. 7, 1791, as *Rohria*): comb. nov., Compositae. Vice *B. grandiflora* Willd. Sp. Pl. iii., 2271, 1800. Cited I.K. and Fl. Cap. iii., 506, 1865.

BERKHEYA REVOLUTA (Vahl l. c. as *Rohria*): comb. nov., Compositae. Afr. austr. Vice *B. lanceolata* Willd. Sp. Pl. iii., 2270, 1800 (who cites Vahl). Cited I.K. and Fl. Cap. iii., 506, 1865.

BERKHEYA SPINOSA (L. f. Suppl. 381, 1781, as *Gorteria*): comb. nov., Compositae. Afr. austr. Vice *B. obovata* Willd. Sp. Pl. iii., 2269, 1800, based on *Rohria obovata* Thunb. 1793.

BEYERIA LEDIFOLIA (Klotzsch in Lehmann Pl. Preiss. I., 176, 1845, as *Calyptrostigma*): comb. nov., Euphorbiaceae. Vice *B. Drummondii* Muell. Arg. in Linnaea xxxiv, 58, 1865-6. Cited Fl. Austral. vi., 68, 1873 (*B. Drummondii* F. v. Muell. Census 18 in I.K.

BILLARDIERA LATIFOLIA (Turczaninow in Bull. Nat. Soc. Mosc. ii., 363, 1854, as *Pronaya*): comb. nov., Pittosporaceae. Vice *B. coriacea* Benth. Fl. Austral. i., 124, 1863, cited there and I.K.

BLENNODIA BLENNODIODES (F. v. Muell. in Linnaea xxv., 367, 1852, as *Erysimum*): comb. nov., Cruciferae). Vice *B. lasiocarpa* F. v. Muell. in Tran. Phil. Soc. Vict. i., 100, 1855. Cited Fl. Austral. i., 76, 1863, and I.K.

BLENNODIA NASTURTIIUM (F. v. Muell. in Linnaea xxv., 368, 1852, as *Erysimum*): comb. nov., Cruciferae. Vice *B. Nasturtioides* Benth. Fl. Austral. i., 74, 1863, based on *Sisymbrium nasturtioides* F. v. Muell. in Trans. Inst. Vict. i., 115, 1855. Cited by Benth. l.c. and I.K.

BLETIA STRIATA (Thunberg Fl. Jap. 28, 1784, as *Limodorum*): comb. nov., Orchidaceae. Vice *B. hyacinthina* R. Br. in Ait. Hort. Kew ed. 2, v., 206, 1813, var. *Gebina* (Blume Coll. Orch. p. 7, t. 6, f. 2) comb. nov.

BLUMEA LANCEOLARIA (Roxb. Fl. Ind. iii., 432, 1832, as *Conyza*): comb. nov., Compositae. Vice *B. myriocephala* DC. Prod. v., 445, 1836.

BLUMEA OBLIQUA (L. Mant. ii., 573, 1771, as *Erigeron*): comb.

nov., Compositae. Vice *B. amplexans* DC. in Wight Contr. Bot. Ind. 13, 1834.

BOSCIA UNDULATA (Zeyh. ms. ex Eckler and Zeyher Enum. n. 112, 14, 1834-7, as *Capparis*): comb. nov., Capparidaceae. Vice *B. caffra* Sonder in Linnaea, xxiii., 8, 1850. Cited I.K. and Fl. Cap. i., 60, 1860.

BOSSIAEA OBCORDATA (Ventenat Jard. Malmaison, t. 31, 1803-4, as *Platylobium*): comb. nov., Leguminosae. Vice *B. microphylla* Sm. in Linn. Trans. ix., 303, 1808, based on *Platylobium microphyllum*, Sims in Bot. Mag. t. 863, 1805. Cited Fl. Austral. ii., 164, 1864, and I.K.

BOTHRIOSPERMUM ZEYLANICUM (Jacq. f. Eclog. 47, t. 29, 1819, as *Anchusa*): comb. nov., Boraginaceae. Vice *B. tenellum* Fisch. and Mey. Ind. Sem. Hort. Petr. 24, 1835.

BOTRYCERAS CAPENSIS (Thunb. Nov. Gen. vi., 104, 1792, as *Laurophyllus*): comb. nov., Anacardiaceae. Vice *B. laurinum* Willd. in Ges. Nat. Fr. Berl. Mag. v., 396, 1811. Cited I.K. and Fl. Cap. i., 524, 1860. The genus *Laurophyllus* Thunberg precedes Willdenow's genus *Botryceras* by nineteen years and the plant should stand as *Laurophyllus capensis* Thunberg if that genus is kept up.

BOUCHEA DEHISCENS (L. f. Suppl. 277, 1781, as *Phryma*): comb. nov., Verbenaceae. Afr. austr. Vice *B. cuncifolia* Schau in DC. Prod. xi., 559, 1847, there cited.

BOWKERIA VERTICILLATA (Ecklon and Zeyher Enum. Pl. Afr. Austr. 336, n. 2271, 1834-7, as *Trichocladus*): comb. nov., Scrophulariaceae. Vice *B. simpliciflora* Mac Owan in Journ. Linn. Soc. xxv., 390, teste Hiern in Fl. Cap. iv., 219, 1904.

BRACHYCARPAEA FLAVA (Linn. f. Suppl. 297, 1781, as *Helio-phila*): comb. nov., Cruciferae. Vice *B. varians* DC. Syst. ii., 698, 1821. Cited I.K. and Fl. Cap. i., 33, 1860.

BRACHYCOME LINEARILOBA (DC. Prod. vi., 39, 1837, as *Steiroglossa*): comb. nov., Compositae. Vice *B. ptychocarpa* F. v. Muell. in Trans. Phil. Soc. Vict. i., 43, 1855. Cited Fl. Austr. iii., 516, 1866, and I.K.

BRACHYCOME LINEARIS (Petrie in N.Z. Inst. Trans. xxv., 271, 1893, as *Lagenophora*): comb. nov., Compositae. Vice *B. lineata* T. Kirk Students Fl. 259, 1899. See Cheeseman, N.Z. Man. 275.

BRACHYLAENA GLABRA (L. f. Suppl. 360, 1781, as *Tarchonanthus*): comb. nov., Compositae. Vice *B. dentata* DC. Prod. v., 430, 1835, based on *T. dentata* Thunb. Prod. Pl. Cap. 145, 1794-1800.

BRASSICA RETRORSA (Burch. in DC. Syst. ii., 609, as *Sinapsis*): comb. nov. H. and S. Fl. Cap. i., 32, 1859-60.

BRUCEA AMARISSIMUS (Loureiro Fl. Cochinch. 658, 1790, as *Gonus*): comb. nov., Simarubaceae. Vice *B. sumatrana* Roxb. Fl. Ind. i., 449, 1832.

BRYOMORPHE ARETIOIDES (Turczan. in Bull. Soc. Nat. Mosc. ii., 79, 1851, as *Helichrysum*): comb. nov., Compositae. Vice *B. Zeheri* Harvey in Thes. Cap. ii., 33, 1863. Cited I.K. and Fl. Cap. iii., 277, 1865.

BRYOPHYLLUM DELAGOENSUM (Eckl. and Zeyher Enum. Pl. Cap. 305, n. 1955, 1837, as *Kalanchoë*): comb. nov., Crassulaceae. Vice *B. tubiflorum* Harvey in Fl. Cap. ii., 380, 1862. Cited Fl. Cap. l. c. and I.K.

BUCHNERA SIMPLEX (Thunb. Prod. Pl. Cap. 102, 1794-1800, as *Erinus*): comb. nov., Scrophulariaceae. Vice *B. glabrata* Benth. in Hook. Comp. Bot. Mag. I, 366. Cited Fl. Cap. iv., 393, 1904, and I.K.

CAJANUS CAJAN (L. Sp. Pl. 739, 1753, as *Cytisus*): comb. nov., Leguminosae. Vice *C. indicus* Sprengel Syst. iii., 248, 1826, where *Cytisus* *Cajan* is cited.

CALADENIA CATENATA (Smith Exotic Botany, t. 104, plate dated Aug. 1, 1906, as *Arethusa*): comb. nov., Orchidaceae. Vice *C. carnea* R. Br. Prod. 324, 1810. Cited Fl. Austral. vi., 386, 1873, and I.K.

CALOTIS MULTICAULIS (Turczaninow in Bull. Soc. Nat. Mosc. xxiv., i., 173, 1851, as *Goniopogon*): comb. nov., Compositae. Vice *C. plumulifera* F. v. Muell. in Trans. Phil. Inst. Viet. iii., 57, 1859. Cited I.K. and Fl. Austral. iii., 505, 1866.

CALPURNIA CAPENSIS (Burm. f. Prod. Fl. Cap. 22, 1768, as *Robinia*): comb. nov., Leguminosae. Vice *C. robinoides* E. Meyer Comm. Pl. 3, 1835, based on *Virgilia robinoides* DC. Prod. ii., 98, 1825, where Burman's plant is cited. Cited I.K. and Fl. Cap. ii., 268, 1862.

CALYTHRIX CUSPIDATA (F. v. Muell. in Hook. Kew Journ. Bot.

viii., 324, 1856, as *Lhotzkya*): comb. nov., Myrtaceae. Vice *C. achaeta* F. v. Muell. in Trans. Phil. Inst. Vict. iii., 43, 1859. Cited I.K. and Fl. Austral. iii., 52, 1866.

CAMPANUMOEIA TRUNCATA (Wallich Cat. n. 1301, 1828, as *Condopsis*, not of Endlicher): comb. nov., Campanulaceae. Vice *C. axillaris* Oliv. in Hook. Ic. Pl. xviii., t. 1775, 1887-8.

CANDOLLEA ENERVIA (Steudel in Lehmann Pl. Preiss, i., 264, 1845, as *P. enervia*): comb. nov., Dilleniaceae. Vice *C. teretifolia* Turcz. in Bull. Soc. Nat. Mosc. ii., 7, 1849. Cited Fl. Austral. i., 43, 1863, and I.K.

CARDANTHERA DIFFORMIS (L. f. Suppl. 289, 1781, as *Ruellia*): comb. nov., Acanthaceae. Vice *C. triflora* Buch. Ham. in DC. Prod. xi., 68, 1847, only cited in syn. and invalid.

CARMICHAELIA ARBOREA (Forst. f. Prod. 52, 1786, as *Lotus*): comb. nov., Leguminosae. Vice *C. australis* Brown in Bot. Reg. t. 912, 1825. Cited I.K. and *C. flagelliformis* Col. l. c.

CARUM AROMATICUM (L. Mant. ii., 218, 1771, as *Bunium*): comb. nov., Umbelliferae. Vice *C. copticum* Benth. and Hook. f. Gen. Pl. i., 891, *Ptychotia copticum* DC. in Mem. Soc. Phys. Genev. iv., 496, 1828. (*C. aromaticum* Salisb. is *C. Carvi*.)

CASSINE TETRAGONA (L. f. Suppl. 153, 1781, as *Rhamnus*, teste I.K. and Thunb. Prod. Fl. Cap. 42, 1807-13, as *Celastrus*): comb. nov. Celastraceae. Vice *C. scandens* Eckl. and Zeyh. 128, 1836. Cited I.K. and Fl. Cap. i., 467, 1860

CATOSPERMA GOODENIACEA (F v. Muell. Fragm. i., 121, 1858-9, as *Scaevola*): comb. nov., Goodenovieae. Vice *C. Muelleri* Benth. in Hook. Ic. Pl. t. 1028, 1868. Cited in Fl. Austral. iv., 83, 1869, and I.K.

CELSIA CHINENSIS (L. Mant. ii., 250, 1771, as *Scrophularia*): comb. nov., Scrophulariaceae. Vice *C. coromandelina* Vahl Symb. iii., 79, 1794.

CENTAURIUM, Hill Brit. Herb. 62, 1756. The following plants which have been described under the generic name *Erythraea* must now be referred to *Centaurium* as Comb. nov. The describers names of the authorities who put them in *Erythraea* are enclosed in brackets.

CENTAURIUM ACUTIFLORUM (Schott in Oken, Isis, 821, 1818).
Am. Bor.

- C. ALBIFLORUM* (Kit. in Linnaea, xxxii., 431, 1863). Hung.
C. AMEGHINOI (Speg. Nov. Add. Fl. Patag. ii., 31, 1902). Patagonia.
C. ARIZONICUM (Rydb. in Bull. Torr. Club. xxiii., 148, 1906. N. Austr.
C. AUSTRALE (R. Br. Prod. 451, 1810). Australia.
C. BABYLONICUM (Griseb. in DC. Prod. xi., 60). Persia.
C. BRANDEGEEI (Purps in Gart. fl. ii., 1903). Calif.
C. CANDOLLI (Des Moul. in Act. Linn. Soc. Bord. xx., 597, 1855). S. Eur.
C. CHANETH (Leville in Frede Rep. Nov. Sp. viii., 280, 190). China.
C. CHILENSE (Pers. Syn. I, 283, 1805), Chile, with var. *humile* (Phil.) and var. *paposanum* (Phil.).
C. CHIRONIOIDES (Gray Bot. Calif. i., 479). Mexico.
C. CURVISTAMINEUM (Witt. in Bot. Centr. xxvi., 317, 1886).
C. COCHINCHINENSE (Spreng. Syst. i., 580). Cochin.
C. COMPAR (R. Br. in Salt Abyss App. 64). Abyssinia.
C. CONFERTUM (Pers. Syn. i., 283, 1805). Hispan.
C. CORYMBOSUM (Willd. ex Steud. Nom. ed. 2, i., 595). Algeria.
C. DIVARICATUM (Porta in Nuov. Giorn. Bot. Ital. xix., 312, 1887). Ins. Balearic.
C. DOUGLASH (A. Gray Bot. Calif. i., 480. Calif.
C. ELODES (Roem. and Schultes Syst. iv., 172). Pyrenees.
C. FASTIGIATUM (Wallr. Beitr. Fl. Hercyn. 186). Europe.
C. GLOMERATUM (Witt. in Bot. Notiser, 115, 1884). Scandiv.
C. GRACILIFLORUM (Pomel Nouv. Mat. Fl. Atl. i., 13). Alger.
C. GRACILE (Schleich. Cat. Pl. Helv. ed. iv., 16). Helv.
C. GRANDIFLORUM (Bivona Sic. Cent. 3). Lusit.
C. GYPSICOLUM (Boiss. and Reut. in Boiss. Diagn. Ser. i., v., 89). Hispan.
C. JAPONICUM (Maxim. in Bull. Acad. St. Petérsb. xxxi., 67, 1887). Japan.
C. LINARIIFOLIUM (Pers. Syn. i., 283, 1805). Eur.
C. LOMAE (Gilg. in Fedde Rep. Nov. Sp. ii., 34, 1906). Persia.
C. MAJUS (Hoffmg. and Link Fl. Port, 1, 349, t. 65).
C. MEYERI (Bunge in Ledeb. Fl. Alt. i., 220). Asia.
C. MICRANTHIUM (Greenm. in Proc. Am. Ac. xxxix., 83. Am. bor.

- C. MICROCALYX (Boiss and Reut. Diagn. ser. 2, iii., 121). Lusit.
 C. MINIMUM (Howell Fl. N.W. Am. i., 443). Amer. bor.
 C. RAMOSISSIMUM (Pers. Syn. i., 283, 1805). Europe. (If kept distinct from pulchellum.
 C. RETUSUM (Robins. and Greenm. in Proc. Amer. Ac. xxxii., 38. Mexico.
 C. ROXBURGII (D. Don. Gen. Syst. iv., 206). India.
 C. SABAEOIDES (A. Gray in Proc. Am. Acad. vi., 41, 1866). Ins. Sandvich.
 C. SCILLOIDES (L. f. Suppl. 175, 1781, as *Gentiana scilloides*). Azores. C. Massoni (Sweet) and C. diffusa (Woods).
 C. SPECIOSUM (A. Gray Bot. Calif. i., 479). Mexico.
 C. SPICATUM (Pers. Syn. i., 283, 1805). Eur.
 C. STRICTUM (Schlecht. in Bot. Ziet. xiii., 918, 1855). Mexico.
 C. SUBSPICATUM (Velen. in Sitz. Boehm. Ges. Wiss. 1889, ii., 37, 1890). Bulg.
 C. SYLVATICUM (Kanitz in Kit. Add. Fl. Hung. 127). Hungaria.
 C. TETRAMERUM (Schlecht. in Bot. Zeit. xiii., 919, 1855). Peru.
 C. VIRESCENS (Willd. ex Steud. Nom. ed. 2, i., 596.) Creta.
 C. VIRIDENSE (C. Bolle in Bonplandia ix., 52, 1861). Cape Verde.
 C. TURCICUM (Velen. in Abh. Boehm. Ges. Wiss. vii., 1, n. 8-31, 1886. Bulgaria.

CENTROLEPIS CILIATA (Hook. f. Fl. Antarct. i., 85, 1844, as *Gaimardia*): comb. nov., Centrolepidaceae. Vice *C. viridis* T. Kirk Trans. N.Z. Inst. xxiii., 441, 1891, teste Cheeseman Man. 758, 1906. Retained as *Gaimardia ciliata* in I.K. In Engler's Pflanz., Hieronymus put it in the genus *Alepyrum*=*Alepyrum ciliatum* (Hook f.) comb. nov.

CHAMIRA CIRCAEOIDES (L. f. Suppl. 298, 1781, as *Heliophila*): comb. nov. Cruciferae. Vice *C. cornuta* Thunb. Nov. Gen. ii., 48, 1782.

CHELONOPSIS DEFLEXA (Benth. and Hook. f. Gen. Pl. ii., 1216, 1876, as *Bostrycanthera*): comb. nov., Labiatae. Vice *C. Benthiana* Hemsl. in Journ. Linn. Soc. xxv., 298, 1891.

CHILOGLOTTIS REFLEXA (Labill. Pl. Nov. Holl. ii., 60, t. 211, f. I, 1806, as *Epipactis*): comb. nov., Orchidaceae. Vice *C. diphylla* R. Brown, 323, 1810. Cited I.K. and Fl. Austral. vi., 390, 1873, and Hook. Fl. Tasm. ii., 23.

CHORIZEMA GLYGINIFOLIUM (Sm. in Trans. Linn. Soc. ix., 264, 1808, as *Dillwynia*): comb. nov., Leguminosae. Vice *C. angustifolio* Benth. in Enum. Pl. Hueg, 28, 1837, and in Ann. Wien. Mus. ii. 71, 1838. Cited I.K. and Fl. Austral. ii., 29, 1864.

CINERARIA LANATA (Linn. f. Suppl. 370, 1781, as *Senecio lanata*, not of Jacquin Coll. iii., 177, which is *Senecio lanosa*, nor of Lamarck Enc. ii. 7, 1786 which is *Senecio Heriteiri*, nor of Link which is *Doronicum cruentum*, teste I.K.): comb. nov., Compositae. Vice *C. tomentosa* Less. Syst. Comp. 391, 1832. Cited I.K. and Fl. Cap. iii. 308, 1865, cites it as of Thunberg. Prod. Fl. Cap. n. 681, 1807-13.

CINERARIA PINNATIFIDA (Thunberg Prod. Pl. Capensis, 108, 1807-13, as *Othonna*): comb. nov., Compositae. Vice *C. othonnoides* Harvey who (with I.K.) cites the above in Fl. Cap. iii., 314, 1865. (*Cineraria pinnatifida* Willd. Sp. Pl. iii., 2074, 1800, is *Senecio incertus*).

CITRIOBATUS SPINESCENS (F. v. Muell. Fragm. Austr. ii., 76, 1860-1, as *Ixiosporum*): comb. nov., Pittosporaceae. Vice *C. pauciflorus* A. Cunn. in Loudon Hort. Brit. Suppl. 585 nomen ex Fl. Austral. i., 122, 1863.

CLADIUM AUSTRALE (A. Rich. Fl. Nouv. Zel. 107, t. 20, 1832, as *Vauthiera*): comb. nov. Cyperaceae. Vice *C. Vauthiera* C. B. Clarke ex Cheeseman Man. Fl. N. Z. 789, 1906. It is the *Lepidosperma australis* Hook. f. Fl. Nov. Zel. i., 279, 1853, where Richard's name is cited.

CLADIUM RUBIGINOSUM (Soland ex Forst. f. Prod. 89, 1786, as *Schoenus*): comb. nov., Cyperaceae. Vice *C. glomeratum* R. Brown Prod. 237, 1810. Cited I.K. and Cheeseman Man. n. 2, 786.

CLADIUM TENAX (Hook. f. Fl. Nov. Zel. i., 277, 1853, as *Lampocarya*): comb. nov., Cyperaceae. Vice *C. Gunnii* Hook. f. Fl. Tasm. ii., 95, t. 148, b., 1860. Cited I.K. and Cheeseman, 788, 1906.

CLERODENDROM SCANDENS (L. f. Suppl. 292, 1781, as *Volkameria scandens*): comb. nov., Verbenaceae.

COCCOSPERMA HEXANDRA (Klotzsch in Linnaea ix., 352, 1834, as *Salaxis*): comb. nov., Ericaceae. Vice *C. Forbesianus* Klotzsch

in *Linnaea* xii., 215, 1838, who cites his *Salaxis* for it. Cited *Fl. Cap.* iv. (i.), 399, 1909, but in I.K. it is kept under *Salaxis*.

COELANTHUM SEMIQUINQUEFIDUM (Hook. *Icones Pl.* t. 83, 1837, as *Pharnaceum*): comb. nov., Ficoideae. Vice *C. parviflorum* Meyer E. ex Fenzl. in *Ann. Wien. Mus.* i., 358, 1836. Cited I.K. in *Fl. Cap.* ii., 148, 1860 (as *Coelanthium*).

COELIDIUM PARVIFLORUM (Thunb. *Prod. Fl. Capen.* 124, 1807-13, as *Crotalaria*): comb. nov., Leguminosae. Vice *C. Thunbergii* Harvey in *Fl. Cap.* ii., 24, 1862. Cited there and I.K.

COELIDIUM TORTILE (E. Meyer *Comm. Afr. Pl.* 22, 1835, as *Ingenhoussia*): comb. nov., Leguminosae. Vice *C. Vogellii* Walp. in *Linn.* xiii., 472, 1839, he cites *I. tortilis* as do I.K. and *Fl. Cap.* ii., 25, 1862.

COLEONEMA RUBRUM (Berg. *Descr. Cap.* 62, 1767, sine syn. as *Diosma*): comb. nov., Rutaceae. Vice *C. alba* Bartl. and Wendl. f. *Diosm.* 56, 1824. Cited I.K. and *Fl. Cap.* i, 378, 1860.

COLOBANTHUS APETALUS (Labill. *Nov. Holl. Pl.* i., 112, t. 142, 1804, as *Spergula*): comb. nov., Caryophyllaceae. Vice *C. Billaudieri* Fenzl. in *Ann. Mus. Wien.* i., 49, 1836. Cited in I.K. Hook. f. *N.Z. Fl.* 25, 1864, and *Cheeseman Man. N.Z.* 67.

CONOPODIUM FERGANENSE (Lipsky in *Act. Hort. Petrop.* xxii., 136, as *Scaligeria*): comb. nov., Asia Cent. Umbelliferae, also *C. assyriacum* (Freyn and Börnm. in *Bull. Herb. Boiss.* v., 611, as *Scaligeria*, comb. nov., and *C. multijugum* (Börnm. in *Verh. Zool.-Bot. Ges. Wein.* xlvi., 592, as *Scaligeria*), comb. nov., Syria; *C. Hermone* (Post in *Bull. Herb. Boiss.* i. 399, 1893, as *Scaligeria*), comb. nov., Syria.

CONYZA PINNATA (L. fil. *Suppl.* 368, 1781, as *Erigeron*): comb. nov., Compositae. Vice *C. pinnatilobata* DC. *Prod.* v., 387, 1836. Cited in I.K. and *Fl. Cap.* iii., 112, 1864-5. De Candolle cites for this *Baccharis leucanthemifolia* Burman.

CORNUS INTERIOR (Rydb. in *Bull. Torr. Bot. Club*, 572, 1904, as *Svida*). comb. nov., Cornaceae.

CORYNOTHECA MICRANTHA (Lindley *Swan River App.* 58, 1840, as *Asparagus*): comb. nov., Liliaceae. Vice *C. dichotoma*, cited as of F. Muell. *Fragm.* vii., 68, 1869-71, based on *Caesia dichotoma* F. v. Muell. *Fragm.* i., 215, 1858-9. Cited I.K. and *Fl. Austral.* vii., 50, 1878. Bentham cites *Corynotheca* as of *Fragm.* vii., 68, but it

is not there, nor is it indexed for vol. vii., *Caesia dichotoma* is there.

CORYSANTHES ACONITIFLORUS (Salisbury Parad. Lond. t. 83, 1806-7, as *Corybas*): comb. nov., Orchidaceae. Vice *C. bicarata* R. Brown Prod. 328, 1810. The details of Salisbury's figure, t. 83, are said by Bentham Fl. Austral. vi., 1873, to be incorrect. This 'opus splendidum' teste Pritzell, in which the figures are by W. Hooker (who published the work), Salisbury giving the descriptions of the species. Bentham, who seems to have inherited the spite which his predecessor in the Chair of the Linnean Society so often showed, thus acridly alludes to Salisbury: 'Salisbury's above quoted plate contains rude copies of Bauer's three figures of the whole plant, with analytical details incorrectly borrowed. Whether Salisbury's story of the withered specimen from Lady Essex's garden, and the dried specimens of the two other be a fiction or not, cannot now be ascertained, but if they existed they could never have been examined for his character and description. He was far too shrewd an observer to have overlooked the tubular nature of the labellum, and to have so grossly misdescribed other essential characters which he had misunderstood from a hasty inspection without study of Bauer's original drawings, as he had mistaken the colouring which was only indicated by figures.' Even if this were true, which is conjectural, there was no adequate reason for Brown to invent a new trivial, or for Bentham Fl. Austr., vi., 351, 1873, continuing to use it.

COTULA COTULOIDES (Steetz in Lehmann Pl. Preiss, i., 432, 1844-8 (1845), as *Gymnogyne*): comb. nov., Compositae. Vice *C. gymnogyne* F. v. Muell. ex Fl. Austral. iii., 549, 1866. Cited there and I.K.

COTULA MINUTA (L. f. Suppl. 389, 1781, as *Hippia*, out of Forster which is *Centipeda*): comb. nov., Compositae. Vice *C. pygmaea* Benth. and Hook. in Hemsl. Biol. Centr. Amer. Bot. ii., 230, 1882, not of Poiret. There *Hippia minuta* is cited.

COTULA POTENTILLINA (F. Muell. Veg. Chath. Isl. 28, t. 6, as *Leptinella*): comb. nov., Compositae. Vice *C. Muelleri* T. Kirk St. Fl. 324, 1899, who cites *L. potentillina*. teste Cheesman Man. N.Z. 353, 1806.

CRASSULA OVATA (Miller Gard. Dict. n. 8, 1768, as *Cotyledon*):

comb. nov., Crassulaceae. Vice *C. portulacae* Lam. Enc. ii., 172, 1786. Cited I.K. and Fl. Cap. ii., 337, 1862. This is not *Crassula ovata* of E. Meyer ex Fl. and S. Fl. Cap. ii., 348, which = *C. samentosa* Harvey l. c. 348.

CRASSULA SIEBERIANA (Schultes Mant. iii., 345, 1827, as *Tillaea*): comb. nov., Crassulaceae. Vice *T. verticillaris* DC. Prod. iii., 382, 1828.

CRATAEGUS XANTHOCARPA (L. f. Suppl. 254, 1781, as *Mespilus*): comb. nov., Rosaceae. Amer. bor. Vice *C. parvifolia* Ait. Hort. Kew ed. i. ii., 169, 1789.

CRYPTOCARYA BOWIEI (Hook. Journ. Bot. iv., 419, t. 23, as *Laurus*): comb. nov., Lauraceae. Vice *C. australis* Benth. Fl. Australis v., 299, 1870. Cited there and I.K. It is the *Oreodaphne Bowiei* Walp. Ann. i., 576.

CUNNINGHAMIA JACULIFOLIA (Salisb. in Tr. Linn. Soc. viii., 315, 1807, as *Belis*): comb. nov., Coniferae. Vice *C. sinensis* R. Br. in Rich. Conif. p. 80, t. 18, 1826. The generic name *Belis* Salisb. l.c. is earlier than Brown's *Cunninghamia* and should be restored.

CURANGA BIVALVIS (L. f. Suppl. 280, 1781, as *Besleria*): comb. nov. Vice *P. surinamensis* Spreng. Syst. ii., 843, 1825, who cites the Linnean name.

CYATHODES JUNIPERINA (Forst. Char. Gen. 20, 1776, as *Epacris*): comb. nov., Epacridaceae. Vice *C. acerosa* R. Brown Prod. 539, 1810. Cited Cheeseman Man. 411, I.K. and Hook. f. Fl. N.Z. 163, 1853.

CYATHODES PETIOLARIS (DC. Prod. vii., 753, 1839, as *Leucopogon*): comb. nov., Epacridaceae. Vice *C. ascendens* Hook. f. in Hook. Lond. Journ. Bot. vi., 268, 1847. Cited Fl. Austral. iv., 169, 1869.

CYATHULA ALTERNIFOLIA (L. f. Suppl. 159, 1791, as *Achyranthes*): comb. nov., Amarantaceae. Vice *C. geniculata* Lour. Fl. Coch. 102. See Moq. in DC. Prod. xiii. (2), 330, under *Cyathula globosa*. Moquin places *geniculata* Lour. under *prostrata*.

CYNANCHUM OVATUM (Meyer E. Comm. Pl. Afr. 221, 1835, not of Thunb. which is *Leptadenia reticulata*, as *Sarcostemma*): comb. nov., Asclepiadaceae. Vice *C. Meyeri* Schlecht. in Engl. Jahrb. xx., Beibl. 51, 2, 1895. Cited Fl. Cap. iv. (i.), 744, 1909.

DAMPIERA DISCOLOR (De Vrij. in Mitch. Trop. Austral. 346,

1848, as *Linschotenia*): comb. nov., Goodenoviae. Vice *D. Linschotenii* F. v. Muell. *Fragm.* vi., 28, 1867-8. Cited I.K. and *Fl. Austral.* iv., 108, 1869.

DANTHONIA CAPENSIS (L. Mant. ii., 185, 1771, as *Milium*): comb. nov., Graminaceae. S. Africa. Vice *D. papillosa* Schrad. in *Schultes Mantiss.* ii., 385, 1824.

DEERINGIA ARBORESCENS (R. Brown *Prod.* 414, 1810, as *Les-tibudesia*): comb. nov., Amarantaceae. Vice *D. altissima* F. v. Muell. *Fragm.* ii., 92, 1860-1 and vi., 251. Cited I.K. and *Fl. Austral.* v., 210, 1870.

DESMODIUM CAFFRUM (E. Meyer *Comm. Pl. Afr.* 123, 1835, as *Nicolsonia*): comb. nov., Leguminosae. Vice *Dregeanum* Benth. in *Miq. Pl. Jungh.* 222, 1861-5. Cited I.K. and *Pl. Cap.* ii., 228, 1862.

DIASCIA LONGICORNIS (Thunberg *Prod. Fl. Cap.* 105, 1794-1800, as *Antirrhinum*): comb. nov., Scrophulariaceae. Vice *D. thunbergiana* Sprengel. *Syst. Veg.* ii., 800, 1825. Cited *Fl. Cap.* iv., 152, 1904 and I.K. It is the *Nemesia longicorne* Pers. *Syn.* ii., 159, 1806, who cites Thunberg.

DIASCIA SINUATA (Sm. in *Rees Cyclop.* xvii., n. 1811, as *Hemimeris*): Scrophulariaceae. Vice *D. heterandra* Benth. in *Hook. Comp. Bot. Mag.* ii., 16, 1836 Cited *Fl. Cap.* iv., 144, 1904 and I.K., the latter with a ?.

DICHELACHNE MICRANTHA (Cavan. *Ic.* v., 42, 1799, as *Stipa*): comb. nov., Graminaceae. Vice *D. sciurea* Hook. f. *Fl. Nov. Zel.* i., 294, 1853, teste Cheeseman *Man.* 874, 1906. (*Stipa micrantha* Cav. is retained in I.K.)

DICHROCEPHALA AURICULATA (Thunb. *Prod. Fl. Cap.* 141, 1807-13, as *Ethulia*): comb. nov. Vice *Dichrocephala latifolia* DC. *Prod.* v., 372, 1836. Cited I.K. and *Fl. Cap.* iii., 115, 1865.

DICOMA PICTA (Thunberg *Prod. Fl. Cap.* 160, 1807-13, as *Layserra*): comb. nov. Vice *D. radiata* Less. in *Linnaea* v, 278, 1830, cited I.K. and *Fl. Cap.* iii. 516, 1865.

DICRASTYLIS EXSUCCOSA (F. v. Muell. *Fragm.* i., 60, 1858-9, as *Pityrodia*): comb. nov., Verbenaceae. Vice *D. ochrotricha* F. v. Muell. *Fragm.* iv., 161, 1863-4. Cited I.K. and *Fl. Austral.* v., 42, 1870.

DILLWYNIA RETORTA (Wendl. *Hort. Herrenb.* t. 9, 1788-1801,

as *Pultenaea*): comb. nov., Leguminosae. Vice *D. ericifolia*, Sm. in Koenig and Sims Ann. Bot. 510, 1805, and Trans. Linn. Soc. ix., 262, 1808, Exot. Bot. t. 25, 1804-5. Cited Fl. Austral. ii., 148, 1864.

DILLWYNIA DILLWYNOIDES, as *Aotus* ? Meissner in Pl. Preiss. i., 60, and ii., 215, 1838): comb. nov. Vice *D. Preissii*. Benth. Fl. Austral. ii., 149, 1864, but in I.K. *Aotus dillwynioides* is referred to *D. floribunda*.

DIMORPHOTHECA FLACCIDA (Vent. Malmais. t. 20, 1803-4, as *Calendula*): comb. nov., Compositae. Vice *D. aurantiaca* DC. Prod. v., 72, 1837, who cites Ventenat's name. It is the *Castalis Ventenati* Cassini Dict. xxx., 332. See Fl. Capensis iii., 421, 1864-5.

DIMORPHOTHECA VISCOSA (Andrews Rep. Bot. t. 412, 1805, as *Calendula*): comb. nov., Compositae. Vice *D. cuneata* Less. Syn. Comp. 257, 1832, see Thunb. Prod. Fl. Cap. 705, 1807-13. Cited Fl. Cap. iii., 422, 1865, and I.K.

DISA BIVALVATA (L. f. Suppl. 403, 1781, as *Ophrys*): comb. nov., Orchidaceae. Afr. austr. Vice *D. melaleuca* Swartz in Vet. Ac. Handl. Stockl. xxi., 213, 1800.

DISCARIA PUBESCENS (Brongniart in Ann. Sc. Nat. ser. i., x., 366, 1827, as *Colletia*): Rhamnaceae. Vice *D. australis* Hook. Bot. Misc. i., 157, t. 45, in nota 1830. Cited in Hook. f. Fl. Nov. Zel., and Fl. Austr. i., 445, 1863.

DRACOPHYLLUM DRACOPHYLLOIDES (Sonder in Lehmann Pl. Preiss. 1, 335, 1845, as *Sphenotoma*): comb. nov., Epacridaceae. Vice *D. phlogiflorum* F. v. Muell. Fragm. vi., 65, 1867-8, in part. Cited I.K. and Fl. Austral. iv., 262, 1869.

DRIMYS INSIPIDA (R. Brown in DC. Syst. Veg. i., 445, 1818, as *Tasmannia*): comb. nov. Vice *D. dipetala* F. v. Muell. Pl. Viet. i., 21, based on *Tasmannia dipetala* DC. Prod. i., 78, 1824. Cited in Fl. Austral. i., 49, 1863, and I.K.

ECHINOCACTUS NOBILIS (Linn. Mant. ii., 243, 1771, as *Cactus*): comb. nov., Cactaceae. Vice *E. recurvus* (not of Haworth = *E. gibbosus*) Link and Otto in Verh. Preuss. Gartenb. Ver. iii., 426, 1827, DC. Prod. iii., 462, 1828, where *C. nobilis* is cited.

EHRETIA RIGIDA (Thunberg Prod. Pl. Cap. 103, 1794-1800, as

Capraria): comb. nov., Boraginaceae. Vice *E. hottentotica* Burchell Trav. ii., 147, 1824. Teste Wright in Fl. Cap. iv., 5, 1904, but in I.K. *Capraria rigida* Thunb. is kept up.

ELEOCHARIS INDICA (Lour. Fl. Cochinchin. 16, 1790, as Hippuris): comb. nov., Scirpaceae. Vice *E. tuberosa* Roem and Schult. Mant. ii., 86.

ELYTRARIA ACAULIS (L. f. Suppl. 84, 1781, as Justicia): comb. nov., Acanthaceae. Reg. Trop. Vice *E. crenata* Vahl Enum. I., 106, 1804.

ELYTROPAPPUS SCABRUS (Linn. f. Suppl. 391, 1781, as Stoebe): comb. nov., Compositae. Vice *E. glandulosus* Less. Syn. 343, 1832. Cited Fl. Cap. iii., 274, 1805.

ELYTROPAPPUS HISPIDUS (L. f. Suppl. 303, 1781, as Gnaphalium): comb. nov., Compositae. Vice *E. spinellosus* Cassini in Bull. Soc. Philom. 199, 1816. Cited I.K. and Fl. Cap. iii., 273, 1865.

EMBELIA OLEOIDES (Lam. Ill. ii., 93, 1793, as Celastrus): comb. nov., Myrsinaceae. Vice *E. Krausii* Harvey Thes. Cap. ii., 17, t. 127, 1863, teste Fl. Cap. iv. (i), 433, 1909. In I.K. *C. oleoides* is maintained.

EMPIEURUM UNICAPSULARE (L. f. Suppl. 155, 1781, as Diosma): comb. nov., Rutaceae. Afr. austr. Vice *E. serrulatum* Aiton Hort. Kew ed. i., III, 340, who cites L. f.

ENCHYLAENA TAMARISCINA (Lindley in Mitchell Trop. Austral. 239, 1848, as Suaeda): comb. nov., Chenopodiaceae. Vice *E. microphylla* Moq. in DC. Prod. xiii., ii., 128, 1849. Cited in I.K. and Fl. Austral. v., 181, 1870.

ENTADA SPICATA (E. Meyer Comm. Pl. Afr. austr. 164, 1835, as Mimosa): comb. nov., Leguminosae. Vice *Entada* ? Natalensis Benth. in Hook. Journ. Bot. iv., 332, 1842. Cited I.K. and Fl. Cap. ii., 276, 1862.

ERAGROSTIS AMBOINICEA (L. Mant. ii., 557, 1771, as Poa): comb. nov., Graminaceae. Vice *E. amboinensis* Trin. ex Steud. Nom. ed. 2, i., 562.

ERAGROSTIS POLYMORPHA (R. Brown Prod. 180, 1810, as Poa): comb. nov., Graminaceae. Vice *E. Brownei* Nees in Steudel Syn.

Pl. Glum. I., 279, 1855, who cites *Poa polymorpha* Br. Cited Fl. Austral. vii., 647, 1878, and I.K. It is not the *Poa polymorpha* of Roem. and Schultes which is *P. bahiensis*, nor of Steudel l. c. 265, which is *P. major*, nor of Trinius in Steudel Nom. i., 564, which is *P. amabilis*, but in any case these three names were published after that of R. Brown. It is the *Megastachya polymorpha* Beauv. Agrost. 74, 1812, and the *Poa Brownii* of Kunth Enum. i., 333.

EREMAEA PAUCIFLORA (Endlicher in Enum. Pl. Hueg. 50, 1837, as *Metrosideros*): comb. nov., Myrtaceae. Vice *E. pilosa* Lindley Swan River App. II., 1839. Cited Fl. Austr. iii., 182. 1866, and I.K.

EREMIA XERANTHEMIFOLIA (Salisb. in Trans. Linn. Soc. vi., 339, as *Erica*): comb. nov., Ericaceae. Vice *E. lanata* Benth. in DC. Prod. vii., 700, 1839, who cites *Hexastemon lanatus* Klotzsch, *Braeria xeranthemifolia* G. Don and Salisbury's *Erica*.

EREMOPHILA SERRULATA (A. Cunn. in DC. Prod. xi, 715, 1847, as *Stenochilus*): comb. nov., Myoporinaceae. Vice *E. latifolia* F. v. Muell. in Linnaea xxv., 428, 1852. Cited Fl. Austral. v., 30, 1870, and I.K.

ERIOCEPHALUS ERICOIDES (L. f. Suppl. 360, 1781, as *Tarchoanthus*): comb. nov. Vice *E. glaber* Thunb. Prod. Fl. Cap. 168, 1807-13. Cited in I.K. and Fl. Cap. 204, 1865.

EUCHLORA HIRSUTA (Thunb. Prod. Pl. Cap. 129, 1807-13, as *Ononis*): comb. nov., Leguminosae. Vice *E. serpens* Ecklon and Zeyher Enum. Pl. Cap. n. 1246, 171, 1836. Cited I.K. and Fl. Cap. ii., 39, 1862.

EUCRYPHIA LUCIDA (Labille Voyage, t. 18, 1797, as *Carpodontos*): comb. nov., Rosaceae. Vice *E. Billardierii* Spach in Hook. f. Fl. Tasman. i., 54, 1860. Cited there and Fl. Austral. ii., 446, 1864.

EUSTEGIA MINUTA (L. f. Suppl. 169, 1781, as *Apocynum*): comb. nov., Asclepiadaceae. Vice *Eustegia hastata* R. Brown in Mem. Wern. Soc. i., 51. 1809.

EXOCARPUS LONGIFOLIUS (L. Mant. ii., 221, 1771, as *Xylophylla*): comb. nov., Santalaceae. Vice *E. Ceramica* A. DC. Prod. xiv., 691, who cites the Mantissa, taking *Ceramica* from Rumph. Amboin. 19, t. 12, a pre-Linnean work.

FAGRAEA FAGRAEACEA (F. v. Muell. *Fragm.* vi., 130, 1867-68, as *Gardneria*): comb. nov., Loganiaceae. Vice *F. Muelleri* Benth. *Fl. Austral.* iv., 368, 1869. Cited there and I.K.

FICINIA TRIGYNA (L. *Mant.* ii., 180, 1771, as *Scirpus*): comb. nov., Cyperaceae. Africa. Vice *F. scariosa* Nees in *Linnaea*, ix., 292, 1834, based on *Schoenus scariosa* Vahl. *Enum.* ii., 210, 1806.

FICINIA TRISPICATA (Linn. f. *Suppl.* 103, 1781, as *Scirpus*): comb. nov., Cyperaceae. Vice *F. sylvatica* Kunth, *Enum. Pl.* ii., 254, 1837.

FIMBRISTYLIS FILIFORMIS (Thwaites *Enum. Pl. Zeylan*, 352, 1864, as *Arthrostylis* not of Kunth or Thonu.): comb. nov., Cyperaceae. Vice *F. actinoschoenus* C. B. Clarke in *Hook. f. Fl. Br. Ind.* vi., 650, who cites Thwaites.

FIMBRYSTYLIS FIMBRISTYLOIDES (F. v. Muell. in *Fragm.* viii., 273, 1872-4), as *Abildgaardia*): ? comb. nov., Cyperaceae (Andaman). Vice *F. Dallachyi* F. v. Muell. ex Benth. *Fl. Austral.* vii., 309, 1878, and *F. disticha* Boeck. in *Linnaea*, xxxviii., 393, 1874, as in I.K.

FOCKEA SINUATA (E. Meyer *Comm. Afr.* 198, 1835, as *Brachystelma*): comb. nov., Asclepiadaceae. Vice *F. undulata* N.E. Br. in *Kew Bulletin*, 260, 1895. Cited *Fl. Cap.* iv. (i.), 777, 1909.

FUIRENA HOTTENTOTTA (Linn. *Mant.* ii., 182, 1771, as *Scirpus*): comb. nov., Cyperaceae. Vice *F. hirta* Vahl *Enum.* ii., 287, 1909.

FUNKIA JAPONICA (Thunb. *Fl. Jap.* 142, 1784, as *Hemerocallis* not of Regel): comb. nov., Liliaceae. Vice *F. subcordata* Sprengel *Syst.* ii., 41, 1825. See *Bot. Mag.* t. 1433.

FUSANUS EUCALYPTOIDES (A. Cunningham in *Ann. Nat. Hist.* ser. i., 376, 1838, as *Mida*): he also gives *M. lanceolata*, *salicifolia* and *undulata*, all now referred to one species—comb. nov., Santalaceae. Vice *S. Cunninghamii* Hook. f. *N.Z.* i., 223, 1853. Cited I.K. and as *Santalum* in *Hook. f. N.Z. Fl.* 247, 1864, et *Fusanus Cunninghamii* Benth. and *Hook. ex T. Kirk Forest Flora*, t. 75, in *Cheeseman Man.* 624, 1906.

GAHNIA TERETIFOLIA (Presl in *Oken, Isis*, xxi., 270, 1828, as *Epiandria*): comb. nov., Cyperaceae. Vice *G. Sieberi* Boeckl. in *Linnaea* xxxviii., 343, 1874, and as given in roman letters in I.K. *G. tristis* Nees in *Linnaea* ix., 301, 1834, nomen nudum. *Fl. Austral.* vii., 414, 1878.

GALAXIA FUGACISSIMA (Linn. f. Suppl. 94, 1781, as *Ixia*). : comb. nov., Iridaceae. Africa austr. Vice *G. graminea* Thunb. Nov. Gen. 50, 1782. Baker in Journ. Linn. Soc. 104, 1878, cites Linnaeus.

GALENIA PUBESCENS (Ecklon and Zeyher Enum. 326, n. 2133, 1837, as *Aizoon*): comb. nov., Mesembryanthemaceae. Vice *G. spathulata* Fenzl ex Sonder in Fl. Cap. ii., 475, 1862. Cited there.

GALIUM THUNBERGII: comb. nov., Rubiaceae. Vice *Galium asperum* Thunb. Prod. Pl. Cap. 152, 1794-1800, not *G. asperum* Schreb. Spicil. Fl. Lips. 3, 1771.

GARDENIA CAPENSIS (Thunberg. in Vet. Acad. Handl. Stochh. 65, f. 2, 1776, as *Rothmannia*): comb. nov., Rubiaceae. Vice *G. Rothmannia* L. fil. Suppl. 165, 1781 (who cites Thunberg's name. Cited Fl. Cap. iii., 6, 1865, and I.K.

GARNOTIA MUTICA (Munro in Proc. Amer. Acad. iv., 362, 1864, as *Berghausia mutica*): comb. nov., Graminaceae. Vice *G. tectorum* Hook. f. Fl. Br. India vii., 242, 1897, there cited.

GAZANIA LINEARIS (Thunberg Pr. Pl. Cap. 162, 1807-13, as *Gorteria*): comb. nov., Compositae. Vice *G. subulata* R. Br. in Ait. Hort. Kew ed. 2, v., 140, 1813. Cited I.K. and Fl. Cap. iii., 473, 1865.

GEIJERA PANICULATA (F. v. Muell. Fragm. iii., 26, 1862-3, as *Coatesia*): Rutaceae. Vice *G. Muelleri* Benth. Fl. Austral. i., 364, 1863. Cited there and I.K.

GERBERA SERRATA (Thunberg Prod. Fl. Cap. ed. Schultes 669, 1823, as *Arnica*): comb. nov., Compositae. Vice *G. ferruginea* DC. Prod. vii., 15, 1838. Cited I.K. and Fl. Cap. iii., 520, 1865.

GERBERA TOMENTOSA (Thunberg Fl. Japan, 319, 1784, as *Perdicium*): comb. nov., Compositae. Vice *G. Anandria* Sch. Bip. ex Hochst. in Flora xxvii., 780, 1844, teste I.K.

GLOCHIDION PUBERA (L. Mant. ii., 296, 1771, as *Agyneia*): comb. nov., Euphorbiaceae. Vice *G. obscurum* Blume Bidj. 585, 1826, teste Hemsley.

GLYPTOSTROBUS LINEATUS (Poiret Suppl. v., 305, 1810, as *Thuya*): comb. nov., Coniferae. Vice *G. heterophylla* Endl. Syn. Conif. 70, 1847.

GNEPHOSIS GNEPHOSIODES (F. v. Muell. Fragm. ii., 158, 1860-1, as *Cyathopappus* [*Cephalosorus* in syn.]): comb. nov.,

Compositae. Vice *G. cyathopappa* Benth. Fl. Austral. iii., 571, 1866. Cited there and I.K.

GOMPIIRENA CUNNINGHAMII (Moq. in DC. Prod. xiii., ii., 342, 1849, as *Iresine*): comb. nov., Amarantaceae. Vice *G. Maitlandi* F. v. Muell. Fragm. iii., 124, t. 23, 1862-3. Cited I.K. and Fl. Austral. v., 256, 1870.

GRAPTOPYLLUM EXCELSUM (F. v. Muell. Fragm. iii., 160, 1862-3, as *Earlia*): comb. nov., Acanthaceae. Vice *G. Earlii* F. v. Muell. Fragm. vi., 87, 1867-8, and also *Thyrsacanthus Earlii* F. v. Muell. l. c. in syn. Cited Fl. Austral. iv, 551, 1869.

GREVILLEA CUNEATA (Endlicher Nov. Stirp. Dec. 25, 1839, as *Manglesia*): comb. nov., Proteaceae. Vice *G. glabrata* Meissner in Lehmann Pl. Preiss. I., 549, 1845, based on *Manglesia glabrata* Lindley Swan River App. 37, 1840. It is the *Anadenia Manglesii* Hook. Ic. Pl. t. 337. Cited Fl. Austral. v., 486, 1870, and I.K.

GREVILLEA LINEARIFOLIA (Cavan. Ic. iv., 59, t. 386, 1797, as *Embrotium*): comb. nov., Proteaceae. Vice *G. linearis* R. Brown Prod. 376, 1810, based on *Embrotium lineare* Andrews Bot. Rep. t. 272, 1800. Brown cites Cavanilles name. Cited I.K. and Fl. Austral. v., 471, 1870.

GREVILLEA PILULIFERA (Lindley Swan River App. 30, 1840, as *Hakea*): comb. nov., Proteaceae. Vice *G. oxystigma* Meissner in Lehmann Pl. Preiss. i., 540, 1845. Cited Fl. Austr. v., 466, 1870, and I.K.

GRISEBACHIA CILICIFLORA (Salisb. in Trans. Linn. Soc. vi., 339, 1802, as *Erica*): comb. nov., Ericaceae. Vice *G. velleriflora* Klotzsch in Linnaea xii., 227, 1838. It is the *Blaeria ciliciflora* G. Don Gen. Syst. iii., 35, 1834. Cited in Fl. Cap. iv., (i.), 342, 1909.

GRISEBACHIA PARVIFLORA (Klotzsch in Linnaea xii., 498, 1838, as *Eremia*): comb. nov., Ericaceae. Vice *G. eremioides* Mac Owan in Journ. Linn. Soc. xxv., 392, 1890. Cited Fl. Cap. ix. (i.), 349.

GUICHENOTIA ANGUSTIFOLIA (Turczan. in Bull. Soc. Nat. Mosc. ii., 499, 1846, as *Ditomostrophe*): Sterculiaceae. Vice *G. semihastata* Benth. Fl. Austr. i., 258, 1863, based on *Sarotes semihastata* F. v. Muell. Fragm. ii., 4, 1860-1. Cited there and I.K.

GYNANDROPSIS CLEOMOIDES (F. v. Muell. in Hook. Kew Journ.

Bot. ix., 15, 1857, as *Roeperia*): comb. nov., Capparidaceae. Vice *G. Muelleri* Bentham Fl. Austral. i., 91, 1863. Cited there and in I.K.

HALIMODENDRON HALODENDRON (L. f. Suppl. 330, 1781, et Pall. It. ii., 741, teste L. f. as *Robinia*): comb. nov., Leguminosae. Vice *H. argenteum* Fisch. in DC. Prod. ii., 269, 1825, where L. f. is cited.

HELICHRYSUM HOOKERI (Sonder in *Linnaea* xxv., 509, 1852, as *Ozothamnus*. It is *O. lepidophyllus* Hook. f. non Steetz): comb. nov., Compositae. Vice *H. baccharoides* F. v. Muell. in Fl. Austral. iii., 633, 1866. Cited there and I.K. An abundant species throughout Tasmania.

HELICHRYSUM ORBICULARE (Thunb. Prod. Fl. Cap. 152, 1807-13, as *Gnaphalium*): comb. nov., Compositae. Vice *H. serpyllifolia* Less. Syn. Comp. 277, 1832. Cited in I.K. and Fl. Cap. iii., 218, 1865.

HELICHRYSUM ROSEUM (Lindley Swan River App. 23, 1839, as *Lawrencella*): comb. nov., Compositae. Vice *H. Lawrencella* F. v. Muell. ex Fl. Austral. iii., 616, 1866, as cited there and in I.K. This is distinct from *Helipterum roseum* Benth. l. c. p. 640, which is based on *Acroclinium roseum* Hook. Bot. Mag. t. 4801.

HELICHRYSUM RAMOSISSIMUM (F. v. Muell. in *Linnaea* xxv., 412, 1852, as *Pteropogon*): comb. nov., Compositae. Vice *H. semifertile* F. v. Muell. in Rep. Babbage Exp. 14, 1858. Cited Fl. Austral. iii., 626, 1866, and I.K. *Helichrysum ramosissimum* Hook in Mitchell Journ. Trop. Austral. 83, is now made synonymous with *H. apiculatum* D. Don.

HELICHRYSUM STAEHELINOIDES (Thunb. Prod. Fl. Cap. 150, 1807-13, as *Gnaphalium*): comb. nov., Compositae. Vice *H. lucilioides* Less. Syn. Comp. 290, 1832. Cited I.K. and Fl. Cap. iii., 237, 1865. *Helichrysum staehelinoides* Less. is *Helipterum gnaphalodes*.

HELICHRYSUM STRICTUM (Lam. Enc. ii., 747, 1786, as *Gnaphalium*): comb. nov., Compositae. Vice *H. splendidum* Less. Syn. 286, 1832, based on *Gnaphalium splendidum* Thunb. Pr. Fl. Cap. i., 149, 1807-13. Cited as *G. strictum* 'Link' in Fl. Cap. iii., 234, 1865. Four plants are named *Gnaphalium strictum* in I.K., but all of them are subsequent to Lamarck's species. Three are

sunk in synonymy and Asa Gray's species refers to a N. American plant.

HELIOPHILA JUNCEA (Berg. Descr. Pl. Cap. 164, 1767, as Cleome): Cruciferae. Vice *H. callosa* DC. Syst. ii., 696, 1821, based on *Cheiranthus callosus* Linn. f. Suppl. 296, 1781. Cited I.K. See Fl. Cap. i., 52, 1860.

HELIPTERUM AUSTRALE (A. Gray in Hook. Ic. Pl. t. 856, and Hook. Kew Journ. Bot. iv., 227, 1852, as *Dimorpholepis*): comb. nov., Compositae. Vice *H. Dimorpholepis*) Benth. Fl. Austral. iii., 650, 1866. *Triptilodiscus pygmaeus* Turcz. in Bull. Soc. Nat. Mosc. ii., 66, 1851, contains a one-year earlier trivial, but *Helipterum pygmaeum* Benth. l.c. 647, based on *Pleuropogon pygmaeus* DC. Prod. vi., 245, 1838, precedes Turczaninow's name. *Duttonia sessiliceps* F. v. Muell. in Linnæa xxv., 410, 1852, is synonymous with *H. australe* and of the same year.

HELIPTERUM DEMISSUM (A. Gray in Hook. Kew Journ. Bot. iv., 269, 1852, as *Pteropogon*): comb. nov., Compositae. Vice *H. exiguum* F. v. Muell. in Trans. Vict. Inst. 39, 1855. Cited I.K. and Fl. Austral. iii., 649, 1866.

HELIPTERUM MILLEFLORUM (Linn. f. Suppl. 362, 1781, as *Gnaphalium*): comb. nov., Compositae. Vice *H. phlomoides* DC. Prod. vi., 213, 1837, who cites the Linnean name, based on *Gnaphalium phlomoides* Lam. Enc. ii., 740, 1786. Cited in I.K. and Fl. Cap. iii., 259, 1865.

HELIPTERUM GLUTINOSUM (Steetz in Lehmann Pl. Preiss, i., 477, 1845, as *Hyalosperma*): comb. nov., Compositae. Vice *H. hyalospermum* F. v. Muell. ex Fl. Austr. iii., 644, 1866, cited there and in I.K. This is distinct from *Helipterum glutinosum* Hook. in Mitchell Journ. Trop. Austral. 361, which is now *Helichrysum glutinosum*. Strictly speaking this change is necessary but the confusion it entails seems to justify its rejection.

HERMANNIA DRYADIPHYLLA (Ecklon and Zeyher Enum. 51, 1836, as *Mahernia*): comb. nov., Sterculiaceae. Vice *H. dryadifolia* Harv. in Fl. Cap. i., 191, 1860. Cited there and I.K.

HETERACHNE ABORTIVUM (R. Brown Prod. 181, 1810, as *Poa*): comb. nov., Graminaeae. Vice *H. Brownii* Benth. [in Hook. Ic. Pl. xiii., 40, t. 635, t. 1250, 1877] Fl. Austral. vii., 635, 1878, cited there and I.K.

HETEROLEPIS ALIENA (L. fil. Suppl. 390, 1781, as *Oedera*): comb. nov., Compositae. Vice *H. decipiens* Cass. in Dict. Sc. Nat. xxi., 120. Cited I.K. and Fl. Cap. iii., 469, 1864-5.

HETEROPOGON TRITICEUS (R. Brown Prod. 201, 1810, as *Andropogon*): comb. nov., Graminaceae. Vice *H. insignis* Thwaites Enum. Ceyl. Fl. 437, 1864. Cited Fl. Austral. vii., 517, 1878, and I.K.

HEXASTEMON XERANTHEMIFOLIUS (Salisb. in Trans. Linn. Soc. vi., 339, 1802, as *Erica*): comb. nov., Ericaceae. Vice *H. lanatus* Klotzsch in Linnaea xii., 220, 1838. Cited in Fl. Cap. iv. (i), 336. See also *Eremia*.

HEWITTIA SUBLOBATUS (L. f. Suppl. 135, 1781 as *Convolvulus*): comb. nov., Convolvulaceae. Vice *H. bicolor* Wight and Arn. in Madr. Journ. Sc. ser. i., v., 22, 1837.

HIBBERTIA OVATA (Labill. Pl. Nov. Holl. ii., 5, t. 143, 1806, as *Pleurandra*): comb. nov., Dilleniaceae. Vice *H. Billardieri* F. v. Muell. Pl. Vict. i., 14. Cited I.K. and Fl. Austral. i., 28, 1863.

HIPPIA PILOSA (Berg. Descr. Pl. Cap. 244, 1767, as *Tanacetum*): comb. nov., Compositae. Vice *H. gracilis* Less. in Linn. v., 218, 1831. Cited I.K. and Fl. Cap. iii., 171, 1865. It is also *Tanacetum cotuloides* L. Mant. 282, 1771.

HIRPICIUM ALIENATUM (Thunberg Prod. Fl. Cap. 169, 1794-1800, as *Oedera* excl. syn.): comb. nov. Compositae. Vice *H. echinulatum* Cass. in Bull. Soc. Phil. 27, 1820. Cited I.K. and Fl. Cap. iii., 485, 1865.

HOMALIUM COCHINCHINENSE (Lour. Fl. Cochinchin. 222, 1790, as *Astranthus*): comb. nov., Samydaceae. Vice *H. fagifolium* Benth. in Journ. Linn. Soc. iv., 35, 1860.

HYPOCALYPTUS SOPHOROIDES (Berg. Descr. Pl. Cap. 198, 1767, as *Spartium*): comb. nov., Leguminosae. Vice *H. obcordatus* Thunb. Pr. Fl. Cap. 124, 1807-13, and *H. cordifolius* Taub. in E. and P. Nat. Pfl. ii., 3, 240, 1893. Cited I.K. and Fl. Cap. ii., 82, 1862. It is also *Crotolaria cordifolia* L. Mant. 266, 1771, where Bergius' name is cited.

IFLOGA DISTICHA (L. f. Suppl. 391, 1781, as *Stoebe disticha*): comb. nov., Compositae. Afr. austral.

IMPERATA CYLINDRICA (L.) Beauv. var. *Koenigii* (Benth. Fl. Hongk. 419): comb. nov., under *I. arundinacea*.

IPHONA RETROFRACTA (Thunb. Prod. Fl. Cap. 142, 1807-13, as *Eupatorium*): comb. nov., Compositae. Vice *I. polygalifolia* Benth. and Hook. Gen. in I.K. Cited by I.K. and in Fl. Cap. iii., 123, 1865.

ISOPOGON DUBIUS (R. Brown Proteaceae, Nov. 7, 1810, as *Petrophila*): comb. nov., Proteaceae. Vice *I. roseus* Lindley Bot. Reg. 1842, Misc. 39. Cited in Fl. Austral. v., 343, 1870, and I.K.

ISOTOMA HYPOCRATERIFORMIS (R. Brown Prod. 505, 1810, as *Lobelia*): comb. nov., Lobeliaceae. Vice *I. Brownii* G. Don. Gen. Syst. iii., 716. Cited I.K. and Fl. Austral. iv., 135, 1869.

JACKSONIA APHYLLA (Turczan. in Bull. Mosc. i., 258, 1853, as *Piptomeris*): comb. nov., Leguminosae. Vice *J. Piptomeris* Benth. Fl. Austr. ii., 62, 1864. Cited there and I.K.

JUSTICIA CHINENSIS (Benth. in Hook. Kew Journ. Bot. v., 134, 1853, as *Adhatoda*, not of Linn., Mart and Nees, Roxburgh, Vahl or Wallich): comb. nov., Acanthaceae. Vice *J. Championi* T. Anders. in Benth. Fl. Hong Kong. 264, 1861, where *chinensis* is cited.

KEDROSTIS SPIENOLOBA (Schrad. in Eckl. and Zeyher. Enum. 276, 1836, as *Cyrtionema*): comb. nov., Cucurbitaceae. Vice *K. Zeyheri* Cogniaux in DC. Mon. Phan. 641. Cited I.K. and under *Coniandra* in Fl. Cap. ii., 485, 1862.

KEDROSTIS TRILOBA (Thunb. Pr. Pl. Cap. 13, 1794-1800, as *Bryonia*): comb. nov., Cucurbitaceae. Vice *K. nana* Cogn. in DC. Mon. Phan. iii., 643. Cited under *Coniandra* in Fl. Cap. ii., 484, 1862.

KERAUDRENIA COROLLATA (Steetz in Lehm. Pl. Preiss. ii., 350, 1845, as *Seringia*): Sterculiaceae. Vice *K. Hookeriana* Walp. Ann. ii., 164, 1852. Cited in I.K. and Fl. Austr. i., 246, 1863.

KUNZEA AMBIGUA (Smith in Trans. Linn. Soc. iii., 264, 1797, as *Leptospermum*): comb. nov., Myrtaceae. Vice *K. corifolia* Reichb. Consp. 175, based on *Metrosideros corifolia* Ventenat Jard. Malmaison, t. 46, 1803-4. Cited I.K. and Fl. Austral. iii., 116, 1866.

KUNZEA PHYLICOIDES (A. Cunn. ex Schauer in Walpers Rep. ii., 921, 1843, as *Baeckea*): comb. nov., Myrtaceae. Vice *K. peduncularis* F. v. Muell. in Trans. Viet. Inst. 124, 1855. Cited

in I.K. and Fl. Austr. iii. It is also the *Kunzea leptospermoides* F. v. Muell.

KYLLINGA CEPHALOTES (Jacq. Hort. Vindob. i., 42, t. 97, 1770, as *Scirpus*): comb. nov., Cyperaceae. Vice *K. monocephala* Rottlb. Descr. et Ic. i., 3, t. 4, f. 4, 1773. *Scirpus Cephalotes* L. is *Rynchospora cephalotes*.

KYLLINGA COLORATA (L. Sp. Pl. 64, 1753, and Herb. as *Schoenus*): comb. nov. Vice *K. brevifolia* Rottlb. Descr. et Ic. 13, 1773, teste C. B. Clarke.

LACHNOSTACHYS ERIBOTRYA (F. v. Muell. Fragm. i., 241, 1858-9, as *Walcottia*): comb. nov., Verbenaceae. Vice *L. Walcottii* F. v. Muell. Fragm. ii., 140, 1860-1. Cited in I.K. and Fl. Austral. v., 39, 1870.

LAGAROSIPHON ALTERNIFOLIA (Roxb. Hort. Bengal, 71, 1814, as *Vallisneria*): comb. nov., Hydrocharidaceae. Vice *L. Roxburgii* in Benth. and Hook. f. Gen. Pl. iii., 451 = *Nechamandra Roxburgii* Planch. Ann. Sc. Nat. ser. 3, xi., 78, 1849.

LAGENOPHORA BELLIOIDES (Cass. Dict. Sc. Nat. lv., 174, 1828, and DC. Prod. v., 367, as *Solenogyne*): comb. nov., Compositae. Vice *L. Solenogyne* F. v. Muell. Fragm. v., 62, 1865-6, in syn. under *Solenogyne brachycomoides*, ex Fl. Austral. iii., 508, 1866. Cited there and I.K.

LAGENOPHORA STIPITATA (Labill. Pl. Nov. Holl. ii., 55, t. 105, 1806, as *Bellis*): comb. nov., Compositae. Vice *L. Billardieri* Cass. in Bull. Soc. Philom. 34, 1818, and DC. Prod. v., 307, 1836. Cited Fl. Austral. iii., 507, 1866, and I.K.

LAPPULA LAEVIGATUM (Kar. and Kir. as *Echinospermum*): comb. nov.

LAPPULA MATSUDAIRAI (Makino in Bot. Mag. Tokyo xvii., 52, ? 1904, as *Echinospermum*): comb. nov.

L. PATAGONICA (Speng. Nov. Add. Fl. Pat. ii., 37, 1902, as *Echinospermum*): comb. nov.

L. POLYMORPHA (Lipsky in Act. Hort. Petr. xxvi., 541, 1910, as *Echinospermum*): comb. nov. As. Cent.

L. SIMPLEX (Lojac. F. Sicil. ii., 87, 1907, as *Echinospermum*): comb. nov.

L. SKORPILI (Vel. Fl. Bulg. Suppl. i., 206, as *Echinospermum*): comb. nov.

LASIOCHLOA CAPITATA (Linn. f. Suppl. 110, 1781, as *Dactylis*): comb. nov., Gramineae. Afr. austr. Vice *L. laevis* Kunth. Enum. i., 388, 1833, who cites *L. f.*

LASIOPERMUM BIPINNATUM (Thunb. Prod. Fl. Cap. 161, 1794-1800, as *Lidbeckia*): comb. nov., Compositae. Vice *L. radiatum* Trev. in Nov. Act. Nat. Cur. xiii., 205, 1826. Cited by I.K. and Fl. Cap. iii., 154, 1865. It is the *Lancisia bipinnata* Pers. Syn.

LASIOSPERMUM ERECTUM (Lam. in Poir. Enc. vi., 508, 1804, and III. 671, t. 4, 7, sine syn. as *Santolina*): comb. nov., Compositae. Vice *L. pedunculare* Lag. Nov. Gen. 31, 1816. Cited I.K. and Fl. Cap. iii., 154, 1865.

LATHRIOGYNE DECIPIENS (E. Meyer Comm. Pl. Afr. Austr. 153, 1835, as *Heudusa*): comb. nov., Leguminosae. Vice *L. parvifolia* Eckl. and Zeyher Enum. 170, 1836. Cited I.K. and Fl. Cap. ii., 593, 1862. But *Heudusa* E. Meyer is as I.K. shows one year earlier than Ecklon and Zeyher's *Lathriogyne*; the species should stand as *Heudusa candicans* Presl and *H. decipiens* E. Meyer.

LATROBEA ABNORMIS (Mueller Fragm. ii., 106, 1860-1, as *Daviesia*): comb. nov., Leguminosae. Vice *L. pungens* Benth. Fl. Austr. ii., 141, 1864. Cited there and I.K.

LAURENTIA SECUNDA (L. f. Suppl. 395, 1781, as *Lobelia*, not of Kuntze): comb. nov., Lobeliaceae. Vice *L. repens* [Benth. and Hook. f. Gen. Pl. ii., 549, 1876].

LEBECKIA CAPENSIS (L. Mant. ii., 264, 1771 as *Ebenus*): comb. nov., Leguminosae. Vice *L. cytisioides* Thunb. Nov. Gen. 143.

LEBECKIA CARNOSA (E. Meyer Comm. Pl. Afr. 32, 1835, as *Sarcophyllum*): comb. nov., Leguminosae. Vice *L. Candolleana* Walp. Repert. i., 607, 1842. Cited in I.K. and Fl. Cap. 85, 1867. Harvey l. c. rejects Candolle's *Lebeckia contaminata* (which is kept up in I.K.) as not being the plant of Thunberg which, according to his Herbarium, is an *Aspalathus*.

LEBECKIA CUSPIDOSA (Burchell Travels, i., 348, 1822, as *Spartium*): comb. nov., Leguminosae. Vice *L. psiloloba* Walp. in Linnaea, xiii., 478, 1839. Cited Fl. Cap. ii., 84, 1862.

LEPIRONIA CONIFERA (Poiret in Lam. Enc. Meth. vi., 756, 1804, as *Scirpus*): comb. nov., Cyperaceae. Vice *L. mucronata* Rich. in Pers. Syn. i., 70, 1805. This was first discovered in Madagascar.

LEPTOCHLOA DECIPIENS (R. Brown Prod. 181, 1810, as *Poa*): comb. nov., Gramineae. Vice *L. chinensis* Nees in Syll. Ratisb. i., 4, 1824. Cited Fl. Austral. vii., 617, 1878, and *L. capillacea* Beauv. Agrost. 71, 1812, and in I.K.

LEPTOMERIA DRUPACEA (Labill. Pl. Nov. Holl. I., 68, t. 93, 1804, as *Thesium*): comb. nov., Santalaceae. Vice *L. Billardieri* R. Br. Prod. 354, 1810, who cites Labill. Cited Fl. Austral. vi., 222, 1873, and Hook. Fl. Tasm. i., 337.

LEPTOSPERMUM BRACHYANDRUM (F. v. Muell. Fragm. ii., 27, 1860-1, as *Kunzea*): comb. nov., Myrtaceae. Vice *L. abnorme* F. v. Muell. ex Fl. Austral. iii., 110, 1866. Cited there and in I.K.

LESCHENAULTII GRANDIFLORA (Bentham in Enum. Pl. Hueg. 70, 1837, as *Scaevola*): comb. nov., Goodenovieae. Vice *L. linarioides* DC. Prod. vii., 519, 1839. Cited I.K. and Fl. Austral. iv., 40, 1869.

LESSERTIA CAPENSIS (Berg. Descr. Pl. Cap. 215, 1767, as *Vicia*): comb. nov., Leguminosae. Vice *L. pulchra* Sims Bot. Mag. t. 2064, 1819. Cited I.K. and Fl. Cap. ii., 218, 1862.

LESSERTIA DUBIA (Jacquin Ic. Pl. Rar. t. 576, et Coll. ii., 132, 1788, as *Galega*): comb. nov., Leguminosae. Vice *L. diffusa* R. Br. in Ait. Hort. Kew, ed. 2, iv., 327. Cited I.K. and Fl. Cap. ii., 220, 1862.

LEUCADENDRON PALLENS (L. Mant. ii., 193, 1771, as *Protea*): comb. nov., Proteaceae. S. Africa. Vice *L. adscendens* R. Br. in Trans. Linn. Soc. x., 61, 1810, the Linnean name and herb. Cited there.

LEUCADENDRON PARVIFLORUM (L. Mant. ii., 195, 1771, as the male plant of *Protea parviflora*): comb. nov., Proteaceae. Vice *L. plumosum* R. Brown in Trans. Linn. Soc. x., 53, 1810, who cites Linnaeus l. c.

LEUCADENDRON STROBILINUM (L. Mant. ii., 192, 1771, as the female plant of *Protea strobilina*): comb. nov., Proteaceae. S. Africa. Vice *L. squarrosus* R. Brown in Trans. Linn. Soc. x., 58, 1810, who cites Linn.

LEUCERIA SAUVEOLENS (Urv. in Mém. Soc. Linn. Par. iv., 611, 1826, as *Perdicion*): comb. nov. Falkland Isles. Vice *L. gossypina* Hook. and Arnott in Hook. Comp. Bot. Mag. ii., 43, 1836. Cited I.K.

LEUCOPOGON VILLOSUS (Cav. Ic. iv., 27, t. 347, 1797 as *Epacris*): comb. nov., Epacridaceae. Vice *L. juniperinus* R. Brown Prod. 546, 1810. It is not the *Leucopogon villosus* of R. Brown l. c. 542, which is *L. revolutus* R. Brown, nor the *L. villosus* of Lindley ex Bentham Fl. Austral. iv., 190, 1869, which is *L. thymifolius* of Lindley l. c. Cited Fl. Austral. iv., 220, 1869, and I.K.

LOTSKYA ALPESTRIS (Lindley in Mitchell Three Exped. ii., 178, 1839, as *Genetyllis*): comb. nov., Myrtaceae. Vice *L. genetylloides* F. v. Muell. in Trans. Phil. Soc. Vict. i., 16, 1855. Cited I.K. and Fl. Austral. iii., 54, 1866.

LIBOCEDRUS PLUMOSA (D. Don Lambert Pinus, ed. 2, App. 143, 1828, as *Dacrydium*): comb. nov., Coniferae. Vice *L. Doniana* Endl. Syn. Conifer. 43, 1847. Cited I.K. and Cheeseman Man. 646, and under *Thuja Doniana* by Hook. f. Fl. N.Z. 222, 1853.

LITHOSPERMUM MURICATUM (Thunberg in Schrad. Neues Journ. i., 111, 49, 1806—not of Ruiz and Pavon Fl. Peruv. ii., 4, which is *Eritrichium muricatum*—as *Cynoglossum*): comb. nov., Boraginaceae. Vice *L. flexuosum* Lehm. Pl. Asper. II., 333, 1818. Cited I.K. and Fl. Cap. iv., 24, 1904.

LOBOSTEMON FALCATUS (Lamarck Ill. i., 413, 1791, as *Echium*): comb. nov., Boraginaceae. Vice *L. glaber* Bueck. in Linnaea, xi., 137, 1837, based on *Echium glabrum* Vahl Symb. iii., 22, 1794. Cited I.K. and Fl. Cap. iv., 28, 1904.

LOGANIA ALBIFLORA (Andrews Repos Bot. viii., t. 520, 1808, as *Euosma*): comb. nov., Loganiaceae. Vice *L. floribunda* R. Brown Prod. 456, 1810, he cites Andrews.

LOGANIA VAGINALIS (Labill. Pl. Nov. Holl. i., 37, t. 51, 1804-6, as *Exacum*, not of F. v. Muell. Fragm. vi., 132, 1867-8, which teste I.K. is sp. coll.): comb. nov., Loganiaceae. Vice *L. latifolia* R. Brown Prod. 455, 1810, he cites Labill. Cited I.K. and Fl. Austral. iv., 361, 1869.

LONCHOSTOMA PENTANDRUM (Thunb. Diss. Fruct. Sect. Pr. 19, 1802, as *Gnidia*): comb. nov., Bruniaceae. Vice *L. obtusiflorum* Wickstroem in Vet. Acad. Hand. Stockh. 352, t. 10, 1818. Cited I.K. and Fl. Cap. ii., 316, 1862.

LOTONONIS ERUBESCENS (E. Meyer Comm. Afr. Pl. 76, 1835, as *Lipozygis*): comb. nov., Leguminosae. Vice *L. pumila* Eck-

lon and Zeyher Enum. 178, 1836. Cited in I.K. and Fl. Cap. ii., 65, 1862.

LOTONONIS GLABRA (Thunb. Prod. Pl. Cap. 130, 1794-1800, as *Ononis*): comb. nov., Leguminosae. Vice *L. trichopoda* Benth. in Lond. Journ. Bot. ii., 603, 1843. Cited in I.K. and in Fl. Cap. ii., 57, 1862.

LOTONONIS LOTOIDEA (Delile in Laborde Voy. Arab. Petr. 86, 1833, as *Leobordea*): comb. nov., Leguminosae. Vice *L. Leobordea* Benth. in Lond. Journ. Bot. ii., 607, 1843. Cited in I.K. and Fl. Cap. ii., 61, 1862.

LYSICARPUS ANGUSTIFOLIUS (Hooker f. in Mitchell Trop. Austr. 198, 1848, as *Tristania*): comb. nov., Myrtaceae. Vice *L. ternifolius* F. v. Muell. in Tr. Phil. Inst. Vict. ii., 68, 1858. Cited in I.K. and Fl. Austr. III., 267, 1866.

LYSIOSEPALUM INVOLUCRATUM (Turczan. in Bull. Soc. Nat. Mosc. ii., 143, 1852, as *Thomasia*): Sterculiaceae. Vice *L. Barryanum* F. v. Muell. Fragm. i., 143, 1858-9. Cited in Fl. Austr. i., 267, 1763, and I.K. Mueller named the plant after Redmond Barry, Chancellor of Melbourne University.

MACARANGA TOMENTOSA (Blume Bidj. 624, 1825-6, as *Mappa*, not of Wight): comb. nov., Euphorbiaceae. Vice *M. Tanarius* var. *tomentosa* Muell. Arg. in DC. Prod. xv. (2), 997.

MACROPIDIA FULIGINOSA (Hook. Bot. Mag. t. 4291, 1847, as *Anigozanthos*): comb. nov., Haemodoraceae. Vice *M. fumosa* Drummond in Hook. Kew Journ. vii., 57, 1855. Cited Fl. Austral. vi., 447, 1873. The name is given on account of the velvety-black covering of the upper part of the stem on this striking plant.

MARISCUS COMPACTUS (Retz. Obs. 5, 10, 1790, as *Cyperus*): comb. nov., Cyperaceae. Vice *M. microcephala* Presl Rel. Haenke i., 182, 1830.

MARLEA CHINENSIS (Lour. Fl. Cochinchin. 221, 1790, as *Stylidium*): comb. nov., Cornaceae. Vice *M. begonifolia* Roxb. Corom. Pl. t. 283, iii., 80, 1819. The earlier generic name is *Stelantes* Stokes Bot. Mat. Med. ii., 339, 1812.

MARSDENIA AUSTRALIS (R. Brown in App. Sturt Voyage, 18, 1849, as *Leichardtia*): comb. nov., Asclepiadaceae. Vice *M. Leichardtiana* F. v. Muell. Fragm. v., 160, 1865-6. Cited Fl. Austral. iv., 341, 1869.

MATRICARIA PILULIFERA (L. f. Suppl. 378, 1781, as *Cotula pilulifera*): comb. nov., Compositae. Vice *Matricaria globifera* Fenzl ex Harv. and Sond. Fl. Cap. iii., 165, 1865.

MELICHRUS PROCUMBENS (Cavan. Ic. iv., 28, t. 349, f. 1., 1797, as *Vintenatia* (and as *Ventenatia* l. c. 79) in part, and *Styphelia procumbens* Pers. syn. i., 174, 1805): comb. nov., Epacridaceae. Vice *M. rotatus* R. Brown Prod. 539, 1810, who cites Cavanilles. Cited Fl. Austral. iv., 162, 1869.

MELICOPE OCTANDRA (F. v. Muell. Fragm. ii., 102, 1860-1, as *Euodia*): comb. nov., Rutaceae. Vice *M. australasica* F. v. Muell. Fragm. ii., 102, in synonymy and ex Fl. Austral. i., 360, 1863. Cited there and I.K.

MENTHA AFFINIS (Hook. f. in Hook. Lond. Journ. Bot. vi., 274, 1847, as *Micromeria*): Lamiaceae. Vice *M. serpyllifolia* Benth. in DC. Prod. xii., 174, 1848. Cited I.K. and Fl. Austral. v., 84, 1870. *Mentha affinis* Boreau Fl. du Centre Fr. is sunk under *M. aquatica*, but it seems a pity to disturb Benth. name.

METALASIA GNAPHALODES (Thunb. Prod. Fl. Cap. ed. Schultes 726, 1823, as *Stoebe* 'in montibus Cannaland'): comb. nov. Vice *M. pulcherrima* Less. Syn. Comp. 340, 1832. Cited Fl. Cap. iii., 270, 1865. This is not *Stoebe gnaphaloides* of L. Mantissa, ii., 518, 1771, which is antedated by *S. gomphrenoides* Berg. Descr. Pl. Cap. 336, 1767.

METROSIDEROS PERFORATA (Forst. Char. Gen. 72, 1776, as *Leptospermum*): A. Rich. Myrtaceae. Vice *M. scandens* Gaertn. Fruct. i., 172, t. 34, f. 10, 1786. Cited I.K. and Cheeseman Man. N.Z. 167.

METROSIDEROS SCANDENS (Forster Char. Gen. 72, 1776, as *Leptospermum*): comb. nov., Myrtaceae. Vice *M. florida* Sm. in Linn. Trans. Linn. Soc. iii., 269, 1797, based on *Melaleuca florida* Forst. f. Prodr. 37, 1786. Cited I.K. and Cheeseman Man. N.Z. 162.

MICROCHLOA INDICA (Linn. f. Suppl. 105, 1781 as *Nardus Indica*): comb. nov., Graminaceae. Vice *M. setacea* R. Brown Prod. i., 208, 1810, who cites the Linnean Syn. but chooses the trivial from *Rottboellia setacea* Roxb. Corom. ii., 18, 1798.

MICRODON POLYGALOIDES (L. f. Suppl. 284, 1781, as *Selago*): comb. nov., Selaginaceae. Vice *M. cylindricus* E. Mey. Comm. 253, 1835.

MICROMYRTUS CILIATA (Smith in Trans. Linn. Soc. iii., 259, 1797, as *Imbricaria*): comb. nov., Myrtaceae. Vice *M. microphylla* Benth. Fl. Austral. iii., 64, 1866. It is the *Stereoxylon ciliatum* of Poiret, the *Escallonia ciliata* of Roemer and Schultes, and the *Baeckea ciliata* of Sieber.

MICROSTEPHIUM POPULIFOLIUM (Berg. Descr. Cap. Pl. 323, 1767, as *Arctotis*): comb. nov., Compositae. Vice *M. niveum* Less. Syn. Comp. 55, 1832, and DC. Prod. vi., 496, 1837, based on *Osteospermum niveum* L. f. Suppl. 386, 1781. Cited I.K. and (with a ?) in Fl. Cap. 468 1865, and DC. Prod. l. c. If removed to the genus *Callistemma* as *populifolium* it replaces *C. niveum*, Nicholson.

MILLETTIA GRANDIS (E. Meyer Comm. Pl. Afr., 1835, as *Virgilia*): comb. nov., Leguminosae. Vice *M. caffra* Meisner in Lond. Journ. Bot., ii., 99, 1843. Cited I.K. and Fl. Cap. ii., 211, 1862. In I.K. *Virgilia grandis* E. Meyer is followed by 'Quid?'

MODECCA REPANDA (Burchell Trav. I., 543, 1821, as *Paschan. thus*): comb. nov., Passifloraceae. Vice *M. Paschanthus* Harvey in Fl. Cap. ii., 500, 1862. Cited there and I.K.

MOLLUGO MOLLUGINIS (F. v. Muell. in Hook. Kew Journ. Bot. ix., 16, 1857, as *Trigastrotheca*): comb. nov., Ficoideae. Vice *M. trigastrotheca* F. v. Muell. Pl. Vict. i., 201, 1860. Cited Fl. Austral. iii., 334, 1866, and I.K.

MONOTOCA GLAUCA (Labill. Pl. Nov. Holl. I., 45, t. 61, 1804, as *Styphelia*): comb. nov., Epacridaceae. Vice *M. lineata* R. Brown Prod. 547, 1810. Cited Fl. Austral. iv., 230, 1869, and I.K.

MORAEA RAMOSISSIMA (Linn. f. Suppl. 99, 1781, as *Iris*): comb. nov., Iridaceae. Vice *M. ramosa* Ker-Gawl in Bot. Mag. t. 771, 1804, he cites *Iris ramosissima*.

MORAEA SETIFOLIA (Linn. f. Suppl. 99, 1781, as *Iris*, cited by Baker, Journ. Linn. Soc. 131, 1878): comb. nov., Iridaceae. Vice *M. setacea* Ker-Gawl in K. & S. Ann. Bot. i., 240, 1805. *Moraea setifolia* Ecklon is a nomen nudum.

MUEHLENBECKIA DICLINA (F. v. Muell. in Trans. Phil. Soc. Vict. i., 23, 1855, as *Polygonum*): comb. nov., Polygonaceae. Vice *M. polygonoides* F. v. Muell. Fragm. v., 73, 1865-6. Cited I.K. and Flora Austral. v., 276, 1870. (Not of Ledet).

MUEHLENBECKIA JUNCEA (A. Cunn. Lindley in Mitchell Trop. Austral. 85 1848, as *Polygonum*): comb. nov., Polygonaceae. Vice *M. Cunninghamii* F. v. Muell. Fragm. v., 91, 1865-6. Cited I.K. and Flora Austral. v., 276, 1870.

MOSCHOSMA MOSCHATUS (R. Brown Prod. 506, 1810, as *Plectranthus*): comb. nov., Lamiaceae. Vice *M. australe* Benth. Labiate Gen. et. Sp. 708, 1832-36. Cited in I.K. and Fl. Austr. v., 76, 1870.

MYOPORUM CORDIFOLIUM (F. v. Muell. Fragm. i., 126, 1858-9, as *Disoon*): comb. nov., Myoporinaceae. Vice *M. salsoloïdes* Turczan. in Bull. Soc. Nat. Mosc. xxxvi., ii., 226, 1863. Cited in I.K. and Fl. Austral. v., 8 1870.

MYOPORUM MYOPOROIDES (F. v. Muell. Fragm. v. 23, 1865-6, as *Eremophila*): comb. nov., Myoporinaceae. Vice *M. laxiflorum* Benth. Fl. Austral. v., 6, 1870. Cited there and I.K.

MYRTUS VITIS-IDAEA (Raoul in Ann. Sc. Nat. sér. iii., ii., 122, 1844, as *Eugenia*): comb. nov., Myrtaceae. Vice *M. pedunculata* Hook. f. in Hook. Ic. Pl. t. 629, 1844. Cited I.K. and Cheeseman Man. N.Z. 169.

MYSTACIDIUM CAPENSE (L. f. Suppl. 407, 1781, as *Epidendrum*): comb. nov., Orchidaceae. Vice *M. filicorne* Lindl. in Hook. Comp. Bot. Mag. ii., 206, 1836.

NEMESIA MACROCARPA (Aiton Hort. Kew ii., 335, 1789, as *Antirrhinum*): comb. nov., Scrophulariaceae. Vice *N. chamaedri-folia* Vent. Jard. Malmaï. sub. n. 42, 1803-4. Cited Fl. Cap. iv., 196, and I.K.

NEPENTHES MIRABILIS (Lour. Fl. Cochinchin, 606, 1790, as *Phyllamphora*): comb. nov., Nepenthaceae. Vice *N. Phyllamphora* Willd. Sp. Pl. ii., 874, 1799.

NEPHELIUM CHINENSE (Gaertn. Fruct. i., 197, t. 42, 1788, as *Scytalia*): comb. nov., Sapindaceae. Vice *N. Litchi* Camb. in Mém. Mus. Par. xviii., 30, 1829.

NEPTUNIA NATANS (L. f. Suppl. 439, 1791, as *Mimosa*): comb. nov., Leguminosae. Vice *N. triquetra* Benth. in Hook. Journ. Bot. iv., 355, 1842.

NERTERA GRANADENSIS (Mutis in Linn. f. Suppl. 129, 1781, as *Gomozia*): comb. nov., Rubiaceae. Vice *N. depressa* Banks and Soland. in Gaertn. Fruct. i., 124, t. 26, 1788. The genus *Gomozia* precedes *Nertera*.

NESTLERA SPINESCENS (DC. Prod. vi., 280, 1837, as *Rosenia*): comb. nov., Compositae. Vice *N. Dregeiana* Harvey in M. and S. Fl. Cap. iii., 296, 1865, who cites it. *Rosenia spinescens* DC. is retained in I.K.

NIVENIA SCEPTRUM-GUSTAVIANUM (Linn. f. Suppl. 116, 1781, as *Protea*, et Sparm. Act. Holm. 55, 1777, teste L. f.): comb. nov., Proteaceae. Vice *N. Sceptrum* R. Brown in Trans. Linn. Soc. x., 134, 1810.

OLEARIA ARBORESCENS (Forster f. Prod. 56, n. 298, 1786, as *Solidago*): comb. nov., Compositae. Vice *O. nitida* Hook. f. Handb. N.Z. Fl. 125, 1867. Cited I.K. and Cheeseman Man. N.Z. 285.

OLEARIA MICROPHYLLA (Ventenat Jard. Malmais. under t. 83, 1804, as *Aster*): comb. nov., Compositae. Vice *O. ramulosa* Benth. Fl. Austral. iii., 476, 1866. Bentham has united with Ventenat's plant (the *Diplostephium microphyllum* of Nees and the *Eurybia microphylla* DC. Prod. v., 270) the *Aster ramulosus* and *aculeatus* of Labill. Pl. Nov. Holl. ii., 51, 52, 198, 200, 1806, and the *Eurybia ramulosa* DC. l. c. as well as other synonyms.

OLEARIA PANICULATA (Forster Char. Gen. 95, t. 48, 1776, as *Shawia*): comb. nov., Compositae. Vice *O. Forsteri* Hook. Handb. N.Z. Fl. 127, 1855. Cited I.K. and Cheeseman Man. N.Z. 292.

OLEARIA RANI (A. Cunningham in Ann. Nat. Hist. Ser. i., ii., 132, 1839, as *Brachyglottis*): comb. nov., Compositae. Vice *O. Cunninghamii* Hook. f. Handb. N.Z. Fl. 126, 1864, cited there, I.K., and Cheeseman Man. N.Z. 286.

OTHONNA ABROTANIFOLIA (Harvey in H. and S. Fl. Cap. iii., 324, 1865, as *Doria abrotanifolia*): comb. nov., Compositae. Cited in Fl. Cap. iii., 324, 1865. (Not of L. which is *Euryops*).

OTHONNA FURCATA (Lindley in Bot. Reg. Misc. 11, 1845, as *Ceradia*): comb. nov., Compositae. Vice *D. Ceradia* Harvey in Fl. Cap. iii., 323, 1865. *Doria* is now merged into *Othonna*.

OXYLOBIUM LANCEOLATUM (Ventenat Jard. Malmaison, t. 115, 1803-4, as *Callistachys*): comb. nov., Leguminosae. Vice *O. Callistachys* Benth. Fl. Austral. ii., 16, 1864. Cited there and in I.K.

OXYSTELMA SECAMONE (L. Mant. ii., 216, 1771, as *Periploca*):

comb. nov., Asclepiadaceae. Vice *O. esculenta* R. Brown in Mem. Wern. Soc. i., 40, 1809.

PARATROPHIS MICROPHYLLA (Raoul Choix, 14, t. 9, 1846, as *Epicarpurus*): comb. nov., Urticaceae. Vice *P. heterophylla* Blume Mus. Bot. Lugd. Bat. ii., 81, 1852. Cited I.K. and Hook. f. Fl. N.Z. i., 224, 1853, Cheeseman Man. 632, 1906.

PARATROPHIS OPACA (Banks and Soland ex Hook. f. Nov. Zel. Fl. i., 224, 1853, not of DC. Prod. xvii., 253, as *Trophis*): comb. nov., Urticaceae. Vice *P. Banksii* Cheeseman Man. N.Z. Fl. 633, 1906.

PATERSONIA FRAGILIS (Labill. Pl. Nov. Holl. I., 13, t. 9, 1804, as *Genosiris*): comb. nov., Iridaceae. Vice *P. glauca* R. Brown Prod. 304, 1810, who cites Labill. Cited I.K. and Fl. Austral. vi., 402, 1873, Hook. Fl. Tasm. ii., 34. But *Genosiris* Labill. l. c. supersedes *Patersonia* R. Br. l. c. 1810.

PENTZIA INCANA (Thunb. Prod. Pl. Cap. 693, 1794-1800, as *Chrysanthemum*): comb. nov., Compositae. Vice *P. virgata* Less. Syn. Comp. 266, 1832. Cited in H. and S. Fl. Cap. iii., 174, 1865.

PEUCEDANUM MONTANUM (Ecklon and Zeyher Enum. 350, 1836, as *Dregea*): comb. nov., Umbelliferae. Vice *P. Ecklonianum* Sonder in Fl. Cap. ii., 555, 1862. Cited there and I.K. *P. montanum* Koch = *P. austriacum* Koch.

PIARNACEUM AURANTIUM (DC. Prod. iii., 362, 1828, as *Ginginsia*): comb. nov., Ficoideae. Vice *P. reflexum* Eckl. and Zeyher, n. 1825, 285, 1836. Cited I.K. and Fl. Cap. i., 140, 1860.

PHEBALIUM SQUAMEUM (Labill. Pl. Nov. Holl. i., 111, 1804, as *Eriostemon*): comb. nov., Rutaceae. Vice *P. Billardierii* A. Juss. in Mem. Soc. Hist. Nat. Par. ii., 134, 1825. Cited Hook. Fl. Tasm. 63, 1860.

PHILOTHECA SALSOLIFOLIA (Smith in Rees Cycl. Vol. xiii., 3, 1809, as *Eriostemon*): Rutaceae. Vice *P. australis* Rudge in Trans. Linn. Soc. xi., 298, t. 21, 1815. Cited in Fl. Austral. i., 348, and I.K.

PHYLLANTHUS TRIANDRUS (Hook. in Mitchell Trop. Austral. 342, 1848, as *Micranthemum*): comb. nov., Euphorbiaceae. Vice *P. Mitchelli* Benth. Fl. Austral. vi., 104, 1873, and I.K.

PIMELEA TOMENTOSA (Forst. Char. Gen. 8, 1776, as *Banksia*):

comb. nov., Thymeleaeaceae. Vice *P. virgata* Vahl. Enum. i., 306, 1804. Cited I.K. and Hook. f. N.Z. Fl. 243, see Cheeseman Man. N.Z. 611. It is *Passerina pilosa* L. f. Suppl. 226, 1781, and he cites *Banksia tomentosa* Forst. 1776, and also *Banksia pilosa* Forst. f. Act. Upsal. iii. 174, 1780.

PINELLIA TERNATA (Thunb. Fl. Jap. 233, 1784, as *Arum.*): comb. nov., Araceae. Vice *P. tuberifera* Tenore Att. Sc. Nap. iv., 57, 1839, and ? Sem. Cat. Hort. Neap. 1830.

PITYRODIA AXILLARIS (Endlicher Nov. Stirp. Dec. 11, 1839, as *Dasymalla*): comb. nov., Verbenaceae. Vice *P. racemosa* Benth. Fl. Austral. v., 50, 1870, based on *Quoya? racemosa* Turczan. in Bull. Soc. Nat. Mosc. ii., 194, 1863. Endlicher also had a *Dasymalla terminalis* which is merged now into *axillaris*. Cited by Bentham l. c. and I.K.

PITYRODIA LOXOCARPA (F. v. Muell. Fragm. ii., 22, 1860-61, as *Chloanthes*): comb. nov., Verbenaceae. Vice *P. Drummondii* Turczan. in Bull. Soc. Nat. Mosc. xxxvi., ii., 213, 1863. Cited in Fl. Austral. v., 51, 1870, and I.K.

PLECTRANTHRUS VERTICILLATUS (L. f. Suppl. 276, 1781, as *Ocymum*): comb. nov., Lamiaceae. Vice *P. Thunbergii* Benth. Labiatae 37, 1832-6, who cites L. f.

PLUCHEA RUBELLIFLORA (F. v. Muell. in Linnæa xxv., 403, 1852, as *Eyrea*): comb. nov., Compositae. Vice *P. Eyrea* F. v. Muell. in Rep. Babbage's Exp. 11, 12, 1858. Cited in Fl. Austral. iii., 528, 1866.

POA POAEFORMIS (Labill. Pl. Nov. Holl. i., 27, t. 35, 1804, as *Arundo*): comb. nov., Graminaceae. Vice *P. Billardieri* [sic] Steud. Syn. Glum. I., 262, 1855. Cited Fl. Austral. vii., 651, 1878, and I.K.

PODOCARPUS EXCELSA (D. Don in Lamb. Pinus ed. ii., App., 1828, as *Dacrydium*): comb. nov., Coniferae. Vice *P. Dacrydioides* A. Rich. Fl. Nouv. Zel. 358, t. 39, 1834, teste Cheeseman Man. N.Z. 651.

PODOLEPIS ARACHNOIDEA (Hook. in Mitch. Trop. Austral. 341, 1848, as *Rutidosis*): comb. nov., Compositae. Vice *P. Rhytidochlamys* F. v. Muell. Fragm. iv., 79, 1863-4. Cited as *P. rutidochlamys* in Fl. Austral. iii., 604, 1866. It is the *Rutidochlamys Mitchellii* Sonder in Linnæa, xxv., 497.

PODOLEPIS JACEOIDES (Sims. Bot. Mag. t. 950, 1800, as *Scalia*): comb. nov., Compositae. Vice *P. acuminata* R. Brown in Ait. Hort. Kew ed. 2, v., 82, 1813. Cited in I.K. and Fl. Austr. iii., 604, 1866, Hook. Fl. Tasm. 209, 1860.

POLLINIA CONTORTA (Brongniart in Duperr. Voy. Coq. 90, t. 17, 1829, as *Pogonatherum*): comb. nov., Graminaceae. Vice *P. articulata* Trinius in Mém. Acad. Petersb. ser. vi., iii., 71, 1836. Cited Fl. Austral. vii., 525, 1878, and I.K.

POLYCARENA AETHIOPICA (Thunberg Prod. Pl. Cap. 101, 1794-1800, as *Manulea*): comb. nov., Scrophulariaceae. Vice *P. aurea* Benth. in Hook. Comp. Bot. Mag. i., 372. Cited Fl. Cap. iv., 327, 1904, and I.K.

POLYTOCA DIGITATA (L. f. Suppl. 434, 1781, as *Apluda*): comb. nov., Graminaceae. Vice *P. bracteata* R. Br. in Benn. Pl. Jav. Rar. 20.

POTHOS REPENS (Lour. Fl. Cochinchin. 212, 1790, as *Flagellaria*): comb. nov., Araceae. Vice *P. Loureiri* Hook. and Arn. Bot. Beechey Voy. 220, 1841, there cited.

PRATIA CONCOLOR (R. Brown Prod. 563, 1810, as *Lobelia*): comb. nov., Lobeliaceae. Vice *P. erecta* Gaudich in Freyc. Voy. Bot. 456, 1826. Cited in I.K. and Fl. Austral. iv., 133, 1869.

PRIESTLEYA LAEVIGATA (Linn. Mant. 100, 1767, as *Borbonia*): comb. nov., Leguminosae. Vice *P. Thunbergii* Benth. in Lond. Journ. Bot. ii., 446, 1843. Cited by I.K. and Fl. Cap. ii., 18, 1862.

PRIESTLEYA REFLEXA (Thunberg Pr. Pl. Cap. 125, 1794-1800, as *Crotolaria*): comb. nov., Leguminosae. Vice *P. sericea* E. Meyer Comm. Pl. Afr. Austr. 19, 1835. Cited in I.K. and Fl. Cap. ii., 20, 1862.

PRIESTLEYA VILLOSA (Thunb. Fl. Cap. 560, as *Borbonia*): comb. nov., Leguminosae. Vice *P. angustifolia* Eckl. and Zeyher Enum. n. 1222, 1834-1837. Cited in I.K. and Fl. Cap. ii., 17, 1862. *Priestleya villosa* DC. Prod. ii., 122, 1825, is *P. tomentosa* (L.) Druce.

PRIVA CORDIFOLIA (L. f. Suppl. 287, 1781, as *Büchnera*): comb. nov., Verbenaceae. Vice *P. leptostachya* Juss. in Ann. Mus. Par. vii., 70, 1806, Ind. Afr. Trop.

PRINTZIA CERNUA (Berg. Descr. Pl. Cap. 288, 1767, as *Inula*): comb. nov., Compositae. Vice P. Bergii Cass. in Dict. Sc. Nat. xliii., 324, 1826. Cited in I.K. and Fl. Cap. iii., 513, 1865.

PROSTANTHERA SCUTELLARIOIDES (R. Brown Prod. 507, 1810, as *Chilodia*): comb. nov., Lamiaceae. Vice P. *empetrifolia* Sieber in Spreng. Syst. Cur. Post. 226, 1827. Cited I.K. and Fl. Austral. v. 101, 1870.

PROTIUM AMBROSIACUM (L. f. Suppl. 216, 1781, as *Amyris*): comb. nov., Burseraceae. Vice P. *Icicariba* March. in Baill. Adans. viii., 52, 1867-8.

PSAMMOTROPHA MARGINATA (Thunb. Prod. Pl. Cap. 54, 1794-1800, as *Pharnaceum*): comb. nov., Ficoidae. Vice P. *parvifolia* Eckl. and Zeyh. Enum. 286, 1836. Cited I.K. and Fl. Cap. ii., 147, 1860.

PSORALEA MEXICANA (L. f. Suppl. 335, 1781, as *Indigofera*): comb. nov., Leguminosae. Vice P. *Mutisii* Kunth. Mim. 181, t. 54.

PTEROCARPUS ROTUNDIFOLIUS (Sonder in Journ. Linn. Soc. xxii., 35, 1850, as *Dalbergia*): comb. nov., Leguminosae. Vice P. *sericeus* Benth. in Journ. Linn. Soc. iv., Suppl. p. 74, 1860. Cited Fl. Cap. ii, 264, 1862.

PTERYGODIUM ALARE (L. f. Suppl. 404, 1781, as *Ophrys*): comb. nov., Orchidaceae. Vice P. *catholicum* Sw. in Vet. Handl. Stockl. xxi., 218, 1800.

PTYXOSTOMA Vahl in Danske Nat. Selsk. Skriv. vi., 95, 1810. Vice *Lonchostoma* Wikstr. in Vet. Acad. Handl. Stockh. 350, t. 10, 1818.

PTYXOSTOMA ACUTIFLORUM (Wikstr. l. c. as *Lonchostoma acutiflora*): comb. nov.

PTYXOSTOMA MONOSTYLIS (Sond. in Harv. and Sond. Fl. Cap. ii., 317, 1867, as *Lonchostoma monostylis*): comb. nov.

PTYXOSTOMA PENTANDRUM (Thunb. Diss. Fruct. Sect. Pr. 18, 1802, as *Gnidia*): comb. nov.

PULICARIA SCABRA (Thunb. Prod. Pl. Cap. 153, 1794-1800, as *Erigeron*): comb. nov., Compositae. Vice P. *capensis* DC. Prod. v., 479, 1836. Cited Fl. Cap. iii., 121, 1865, and I.K. DC. refers *E. scabrum* to *P. erigeroides* with which teste I.K. it is synonymous.

PULTENAEA CAPITATUS (Turczan in Bull. Soc. Mosc. 22, ii., 17,

1849, as *Urodon*): comb. nov., Leguminosae. Vice *P. Urodon* Benth. Fl. Austral. ii., 124, 1864. Cited there and I.K.

PULTENAEA SUBALPINA (F. Muell. in Trans. Phil. Inst. Vict. i., 39, 1855, as *Burtonia*): comb. nov. Leguminosae. Vice *P. rosea* F. Muell. Fragm. ii., 15, 1860-1. Cited Fl. Austral. ii., 128, 1864, and I.K.

RADICULA CALEDONICA (Sonder in Linnaea, xxiii., 2, 1850, as *Nasturtium*): comb. nov. Vice *Nasturtium fluviatile* E. Meyer ex Fl. Cap. i., 21, 1860, and *N. caledonicum* i. c. with var. *brevistyla* (Sonder l. c.) comb. nov. Cited Fl. Cap. i., 21, 1860.

RAFANIA GIBBA (E. Meyer Comm. Afr. Pl. 14, 1835, as *Pelecynthis*): comb. nov., Leguminosae. Vice *R. dichotoma* Eckl. and Zeyh. Enum. Pl. Cap. n. 1190, 1836. Cited I.K. and Fl. Cap. ii., 37, 1862.

RELHANIA UNIFLORA (L. f. Suppl. 362, 1781, as *Athanasia*): comb. nov., Compositae. Vice *R. cuneata* L'Hérit. Sert. Ang. 23, 1788.

RHUS ARGENTEA (Thunb. Prod. Pl. Cap. 36, 1794-1807, as *Sideroxylon*): comb. nov., Anacardiaceae. Vice *R. Thunbergii* Hook. Icon. Bot. t. 595. Cited Fl. Cap. i., 521, 1860.

RHYNCHOSIA CILIATA (Thunb. in Nov. Act. Soc. Sc. Upsala vi., 43, 1799, as *Hedysarum*): comb. nov., Leguminosae. Vice *R. puberula* Harvey in Fl. Cap. ii., 255, 1862, and Steudel Nom. ed. 2, ii., 454. Cited I.K. and Fl. Cap. l. c.

RHYNCHOSIA EFFUSA (E. Meyer Comm. Pl. Afr. 132, 1835, as *Copisma*): comb. nov., Leguminosae. Vice *R. adenodes* Eckl. and Zeyh. 254, 1836. Cited I.K. and Fl. Cap. ii., 254, 1862.

RHYNCHOSIA ERECTA (Thunb. Pr. Pl. Cap. 131, 1794-1800, as *Glycine*): comb. nov., Leguminosae. Vice *R. Chrysoscias* Benth. ex H. and S. Fl. Cap. ii., 248, 1862. Cited I.K. and Fl. Cap. l. c.

RHYNCHOSIA PARVIFLORA (E. Meyer Comm. Pl. Afr. 139, 1835, as *Chrysoscias*): comb. nov., Leguminosae. Vice *R. microscias* Benth. ex Fl. Cap. ii., 249, 1862 (this is not the *Rhynchosia parviflora* of Steudel Nom. ed. 2, ii., 454, which is *Eriosema parviflorum*. Cited I.K. and Fl. Cap. l. c.

RHYNCHOSIA VILLOSA (Meisner in Hook. Journ. Bot. ii., 93, 1843, as *Sigmodostyles*): comb. nov., Leguminosae. Vice *R. sigmodes* Benth. ex Fl. Cap. ii., 251, 1862. Cited there and I.K.

ROCHELIA PLURISEPALEA (F. v. Muell. Fragm. i., 127, 1858-9, as *Maccoya*): comb. nov., Boraginaceae. Vice *R. Maccoya* F. v. Muell. ex Fl. Austral. iv., 408, 1869. Cited there and I.K.

ROTTBOELLIA ROTTBOELLIODES (R. Brown Prod. 205, 1810, as *Ischaemum*): comb. nov., Graminaceae. Vice *R. ophiuroides* Benth. Fl. Austral. vii., 514, 1878. Cited there and I.K. It is also the *Andropogon rottboellioides* Steudel Syn. Glum. i., 382, 1855.

RUTIDOSIS MULTIFLORA (Nees in Lehmann Pl. Preiss. ii., 244, 1844-8, as *Styloncerus*): comb. nov., Compositae. Vice *R. Pumilo* Benth. Fl. Austral. iii., 595, 1866. Cited there and I.K. It is *Pumilo Preissii* Sonder and *P. argyrolepis* Schlecht.

SALAXIS CALYCIFLORA (Tausch in Flora, xvii. (ii.), 617, 1834, as *Erica*): comb. nov., Ericaceae. Vice *S. Sieberi* Benth. in DC. Prod. vii., 711, 1839, teste Brown in Fl. Cap. iv (i.), 404, 1909. In I.K. *Erica calycina* Tausch is maintained.

SALICORNIA TRIANDRA (F. v. Muell. Fragm. i., 139, 1858-9), as *Arthrocnemon*): comb. nov., Chenopodiaceae. Vice *S. robusta* F. v. Muell. Fragm. vi., 251, 1867-8. Cited I.K. and Fl. Austral. v., 202, 1870. It is also *Pachycornia triandra* (Hook.).

SARCOCAULON SPINOSUM (Burm. f. Spec. Geran. 16, 1759, as *Geranium*): comb. nov., Geraniaceae. Vice *S. Burmanni* DC. Prod. i., 638, 1825. See I.K. and Fl. Cap. i., 256, 1860.

SARCOCEPHALIS COADUNATUS (Roxb. ex Smith in Rees Cyclop. xxiv., n. 6, 1813, as *Nauclea*): comb. nov., Rubiaceae. Vice *S. cordatus* Miquel Fl. Ind. Batav. ii., 133, 1855-9. Cited Fl. Austral. iii., 402, 1866.

SATUREIA CHANDLERI (Brandege in Zoe, v., 195, 1905, as *Calamintha*): comb. nov. Labiatae.

SATUREIA MACROCALYX (Small Fl. S. E. U. S. 1043, as *Calamintha*): comb. nov.

SATUREIA MONTENEGRINA (Sagorski in Ost. Bot. Zeitsch. 20, 1903, as *Calamintha*): comb. nov.

SCAEVOLA ALBIDA (Smith in Trans. Linn. Soc. ii., 348, 1794, as *Goodenia*): Goodeniaceae. Vice *S. microcarpa* Cavan. Icones vi., t. 509, 1801. Cited I.K. and Fl. Austral. iv., 101, 1869.

SCAEVOLA CALENDULACEA (Andrews Bot. Rep. t. 22, 1799, as *Goodenia*): comb. nov., Goodenovicae. Vice *S. suaveolens* R.

Brown Prod. 585, 1810, who cites Andrews. Cited I.K. and Fl. Austral. iv., 95, 1869.

SCAEVOLA MYRTIFOLIA (De Vrij Gooden. 72, 1854, as *Merkusia*): comb. nov., Goodenovicae. Vice *S. Groeneri* F. v. Muell. Fragm. vi., 15, 1867-8. Cited I.K. and Fl. Austral. iv., 88, 1869.

SCAEVOLA RAMOSISSIMA (Smith in Trans. Linn. Soc. ii., 349, 1794, as *Goodenia*): comb. nov., Goodenovicae. Vice *S. hispida* Cavan. Ic. vi., 7, t. 510, 1801. Cited I.K. and Fl. Austral. iv., 90, 1869.

SCHMIDELIA SPICATA (Thunb. Fl. Cap. ii., 117, ed. Schultes, 1823, as *Rhus*): comb. nov., Sapindaceae. Vice *S. decipiens* Arnott in Hook. Journ. Bot. iii., 152, 1841. Cited I.K. and Fl. Cap. i., 239, 1860.

SCHIZOGLOSSUM EUSTEGIOIDES E. Meyer Comm. 207, 1837, as *Lagarinthus*, also *Gomphocarpus eustegioides* Dietr. Syn. ii., 901): comb. nov., Asclepiadaceae. Vice *S. crassipes* S. Moore in Journ. Bot. 383, 1902, teste Fl. Cap. iv. (i.), 621, 1909.

SCHIZOGLOSSUM FILIFORME (L. f. Suppl. 169, 1781, as *Asclepias*): comb. nov., Asclepiadaceae. Vice *S. linifolium* Schlecht. in Engl. Jahr. xviii., Beibl. 45, 4, teste Fl. Cap. iv. (i.), 617, 1909, and var. *certrirostratum* (N.E. Br. l.c.).

SCHIZOGLOSSUM TENELLUM (Turezán. in Bull. Soc. Nat. Mosc. i., 256, 1848, as *Lagarinthus*): comb. nov., Asclepiadaceae. Vice *S. Aschersonianum* Schlecht. in Verh. Bot. Ver. Brand. xxxv., 48, teste Fl. Cap. iv. (i.), 618, with var. *radiatum* (N.E. Br.), var. *pygmaeum* (N.E. Br.), and var. *longipes* (N.E. Br.), comb. nov.

SCHIZOGLOSSUM TENUE (Arnott in Mag. Zool. and Bot. ii., 420, 1838, as *Rhinolobium*): comb. nov., Asclepiadaceae. Vice *S. Bolusii* Schlecht. in Abh. Bot. Ver. Brandenb. xxx., 5, 48, teste Fl. Cap. iv. (i.), 648.

SCHOLTZIA INVOLUCRATA (Endlicher in Enum. Pl. Hueg. 51, 1837, as *Baeckea*): comb. nov., Myrtaceae. Vice *S. obovata* Schauer in Linnaea, xvii., 241, 1843. Cited in I.K. and Benth. Fl. Austr. iii., 68, who says: 'Baeckea obovata DC. Prod. iii., 230, is referred by Schauer to this species. The diagnoses given will refer equally well to several other species of *Scholtzia*, but from French specimens in Herb. R. Brown it is more probably the *S. leptantha*.' *S. leptantha* Benth. l.c. p. 69, should therefore be *S. obovata* (DC. Prod. III., 230, 1828, as *Baeckia*).

SCILLA SCILLOIDES (Lindl Bot. Reg. t. 1029, 1826, as *Barnardia*): comb. nov., Liliaceae. Vice *S. chinensis* Benth. Fl. Hong Kong. 373, 1861, there cited.

SCLERIA COCHINCHINENSIS (Lour. Fl. Cochinchin. 578, 1790, as *Diaphora*): comb. nov., Cyperaceae. Vice *S. elata* Thwaites En. Pl. Zeyl. 353, 1864. This new comb. leaves *S. elata* for Wright's Cuban plant.

SCIRPUS SPIRALIS (A. Rich. Voy. Astrol. Bot. t. 19, 1834, as *Isolepis*): comb. nov. (not *Scirpus spiralis* of Bosc., Rottb., or Willd., all now sunk in syn.), Cyperaceae. Vice *S. frondosus* Banks and Soland. ex Boeck. in Flora, lxi., 141, 1878. It is *Desmoschoenus spiralis* Hook. f. Nov. Zel. i., 272, 1855 (teste Cheeseman Man. 777). Bockeler there cites both Richard and Hooker.

SCUTIA CIRCUMSCISSA (L. f. Suppl. 152, 1781, as *Rhamnus*): comb. nov., Rhamnaceae. Vice *S. Commersonii* Brongn. in Ann. Sc. Nat. ser. i., x., 363, 1827, and *S. capensis* G. Don. Gen. Syst. ii., 33.

SCYPHOGYNE MUSCOSA (Ait. Hort. Kew. ed. i., 150, 1789, as *Blaeria*): comb. nov., Ericaceae. Vice *S. inconspicua* Brongn. in Duperr. Voy. Coq. t. 54, 1829. Cited Fl. Cap. iv. (i.), 408, 1909.

SCYPHOCORONIS MAJUS (Turczan. in Ball. Soc. Nat. Mose. 1, 64, 1851, as *Toxanthes*): comb. nov., Compositae. Vice *S. viscosa* A. Gray in Hook. Kew Journ. Bot. iv., 225, 1852. Cited by Fl. Austral. iii., 592, 1866, and I.K.

SENECIO ELONGATUS (L. f. Suppl. 374, 1781, as *Cineraria*): comb. nov., Compositae. Vice *S. polymorphus* Sch. Bip. in Flora, xxvii., 702, 1844.

SENECIO NEO-ZEYLANDICUS comb. nov. Vice *S. glastifolia* Hook. f. El. Nov. Zel. i., 147, 1853, not *S. glastifolius* L. f. Suppl. 372, 1781, which is an African species. It is the *Cineraria glastifolio* Banks and Sol. mss.

SERINGIA ARBORESCENS (Aiton Hort. Kew ed. 2, ii., 36, 1811, as *Lasiopetalum*): Sterculiaceae. Vice *S. platyphylla* J. Gay in Mém. Mus. Paris, vii., 443, t. 16, 17, 1821. Cited I.K. and Fl. Austr. i., 245, 1863.

SERISSA SERISSOIDES (DC. Prod. iv., 540, 1830, as *Democritea*): comb. nov., Rubiaceae. Vice *S. Democritea* Baill. Hist. Pl. vii., 386.

SERRURIA SPHAEROCEPHALA (Berg. Descr. Pl. Cap. 26, and in Vet Acad. Hand. Stockh. 326, 1766, as *Leucadendron*): comb. nov., Proteaceae. S. Africa. Vice *S. Bergii* R. Brown in Trans. Linn. Soc. x., 220, 1810, who cites Bergius. Steudel's *S. sphaerocephala* is a jumble of several species.

SIEBERA LANCEOLATA (Labill. Pl. Nov. Holl. i., 74, t. 93, 1804, as *Azorella*): comb. nov., Umbelliferae. Vice *S. Billardieri* Benth. Fl. Austral. iii., 356, 1866. Benth. who cites it there, has joined it to *Azorella lanceolata* Labill., also *A. ovata* Labill., l. c. t. 100, and other forms. The point arises whether he was justified in ignoring *La Billardier's* trivial, which seems more than doubtful. Smith meanwhile (Rees Cyclop. Suppl) had named it *Fischeria lanceolata* retaining the original species name, which itself justifies the new combination, *Platysace lanceolata* (Labill.) since there is an older genus *Siebera* in the Compositae.

SIMOCHEILUS ARTICULATUS (L. Mant. ii., 198, 1771, as *Blaeria*): comb. nov., Ericaceae.

SIMOCHEILUS FLOSCULOSUS (Salisb. in Tr. Linn. Soc. vi., 340, 1802, as *Erica*): comb. nov.

SIMOCHEILUS PUBERULUS (Klotzsch in Linnæa, xii., 232, 1838, as *Plagiostemon*): comb. nov., Ericaceae. Vice *S. Klotzschianus* Benth. in DC. Prod. vii., 703, 1839, who cites *S. pubescens* [sphalm] Klotzsch. Cited I.K. and Fl. Cap. iv. (i.), 368, 1909.

SIMOCHEILUS PURPUREUS (Berg. Descr. Pl. Cap. 34, 1767, as *Blaeria*): comb. nov., Ericaceae. Vice *S. glabellus* Benth. in DC. Prod. vii., 304, 1839. Cited Fl. Cap. iv. (i.), 363, 1909. The Linnean Mantissa of 1767 has *Blaeria pusilla* for the same plant, should that have actually preceded the above the name would be *Simocheilus pusillus* (L.).

SISYMBRUM AURICULATUM (Korn. in Act. Hort. Petr. xviii., 437, as *Alliaria*): comb. nov., Cruciferae. Korea.

SOLANUM SOLONACEA (Linn. Mant. ii., 205, 1771, as *Atropa*): comb. nov., Solanaceae. Vice *S. aggregatum* Jacq. Coll. iv., 124, 1790. Cited I.K. and Fl. Cap. iv., 91, 1904.

SORGHUM SERRATUM (Thunb. Fl. Jap. 41, 1784, as *Andropogon*, not of Roem. and Schultes): Graminaceae. Vice *S. fulvum* Beauv. Agrost. 164, 1812, var. *nitidum* (Pers. Syn. 101 1806) comb. nov. In I.K. it is under *Andropogon serratum*.

SPERANSKIA CANTONENSIS (Hance in Journ. Bot. 14, 1878, as *Argyrothamnia*): comb. nov. Euphorbiaceae. Vice T. Henryii Oliv. in Hook. Ic. Pl. i., 1577, 1866-7. This was discovered by our late member, Prof. T. L. Bullock.

SPHAEROCARYUM PULCHELLUM (Roth No. Pl. Sp. 58, 1821, as *Isachne*): comb. nov., Graminaceae. Vice *S. elegans* Nees ex Steud. Nom. Ed. ii., 620, based on *Panicum elegans* Wight and Arnott. In I.K. this genus is merged into *Isachne*.

SPHAEROLOBIMUM LINEARE (*Euchilus linearis* Benth. in Enum. Pl. Hueg. 35, 1837, and in Ann. Wein. Mus. ii., 80, 1838, and Meissner in Lehm. Pl. Preiss. i., 72, 1844-8): comb. nov., Leguminosae. Vice *S. Euchilus* Benth. in Fl. Austral. ii., 67, 1864, cited there and I.K.

SPHENANDRA CAERULEA (L. f. Suppl. 285, 1781 as *Manulea*): comb. nov., Scrophulariaceae. Vice *S. viscosa* Benth. in Intr. Lind. Nat. Syst. ii., 445, 1836.

SPRENGELIA MONTICOLA (A. Cunn. ex DC. Prod. vii., 768, 1838, as *Ponceletia*): comb. nov., Epacridaceae. Vice *S. ponceletioides* Sond. in Linnaea, xxvi., 254, 1853 he cites Cunningham with a ?). Cited I.K. and Fl. Austral. iv., 248, 1869.

SPRENGELIA SPRENGELIOIDES (R. Brown Prod. 554, 1810, as *Ponceletia*): Epacridaceae. Vice *S. ponceletia* F. v. Muell. Fragm. i., 39, 1858-59, and vi., 60, 1867-8. Cited I.K. and Fl. Austral. iv., 248, 1869.

SPYRIDIMUM MICROPHYLLUM (Reisseck in Linnaea, xxix., 273, 1857-8, as *Trymalium*): Rhamnaceae. Vice *S. Lawrencii* Benth. Fl. Austral. i., 432, based on *Cryptandra Lawrencii*, Hook. f. Fl. Tasman. i., 72, 1860. Cited in I.K. and Fl. Austral. i., 430, 1863.

STENOCARPUS UMBELLIFERUS (Forst Char. Gen. 8, 16, 1776, as *Embrosium*): comb. nov., Proteaceae. New Caledonia. Vice *S. Forsteri* Brown in Trans. Linn. Soc. x., 201, 1810.

STENOTAPHRUM COMPRESSUM (Beauv. Agrost. t. 21, f. 8, 1812, as *Rottboellia*): comb. nov., Graminaceae. Vice *S. americanum* Schrank ex Benth. Fl. Austral. vii., 500, 1878, or *S. glabrum* Trin. Fund. Agrost. 176, 1820, as cited in I.K.

STERCULIA AUSTRALIS (Schott in Endl. Melet, 34, 1843, as *Trichosophon*): Sterculiaceae. Vice *S. trichosiphon* Benth. Fl.

Austr. i., 229, 1863. Cited in I.K. and Fl. Austr. l. c. It is the *Brachychiton platanoides* R. Br. in Benn. Pl. Jav. Rar. 234, 1838.

STERCULIA PARADOXA (Schott and Endl. Melet. 34, 1832, as *Brachychiton*): Sterculiaceae. Vice *S. ramiflora* Benth. Fl. Austral. i., 227, 1863. Cited Bentham l. c. and I.K.

STRELITZIA ALBA (L. f. Suppl. 157, 1781, as *Heliconia alba*): comb. nov., Scitamineae. Vice *S. Angusta* Thunberg Nov. Gen. 113, 1781-1801.

STRIGA COCCINEA (Hook. Exot. Bot. t. 203, 1823-7, as *Campuleia*): comb. nov., Scrophulariaceae. Vice *S. hirsuta* Bentham in DC. Prod. x., 502. Cited Fl. Austral. iv., 576, 1869.

STROBILANTHES TETRASPERMUS (Champ. in Hook. Kew Journ. Bot. v., 132, 1853, as *Ruellia*): comb. nov., Acanthaceae. Vice *S. radicans* T. Anders in Benth. Fl. Hong Kong. 262, 1861, there cited.

STYLIDIUM MAJUS (Smith Exotic Bot. ii., 13, t. 66, 1805, as *Ventenatia*): comb. nov., Stylidiaceae. Vice *S. graminifolium* Swartz in Ges. Nat. Fr. Berl. Mag. i., 49, 1807. Cited I.K. and Fl. Austral. iv., 10, 1869, Hook. f. Fl. Tasm. i., 235.

STYPHELIA PULCHELLA (Stschégl. in Bull. Soc. Nat. Mosc. xxxii., i., 3, 1859, as *Soleniscia*): comb. nov., Epacridaceae. Vice *S. leucopogon* F. v. Muell. Fragm. iv., 97, 1864, and vi., 31. Cited I.K. and Fl. Austral. iv., 149, 1869. *Styphelia pulchellum* F. v. Muell. Fragm. vi., 34, 1867-8, is *Leucopogon pulchellus* Sonder, teste I.K.

SUTERA FASTIGIATA (Drege Zwei Pflanz. Doc. 120, 172, 1843, as *Chaenostoma*, and Benth. in Hook. Comp. Bot. Mag. i., 376, as *Chaenostoma fastigiatum*): comb. nov., Scrophulariaceae, teste Hiern in Fl. Cap. iv., 286, 1904. Vice *S. Cephalotes* O. Kuntze Rev. Gen. Pl. ii., 467, exc. Syn. Thunb.

SUTERA HISPIDA (Thunb. Prod. Fl. Cap. 102, 1794-1800, as *Manulea*, teste Hiern Fl. Cap. iv., 273, 1904): comb. nov., Scrophulariaceae. Vice *S. brachiata* Roth. Bot. Bemerke, 173, 1807.

SYMPIEZA LABIALIS (Salisb. in Trans. Linn. Soc. vi., 340, 1802, as *Erica*): comb. nov., Ericaceae. Vice *S. brachyphylla* Benth. in DC. Prod. vii., 706, 1839. Cited Fl. Cap. iv (i.), 395, 1909.

SYMPLOCOS CHINENSIS (Lour. Fl. Cochinchin. 313, 1790, as *Myrtus*): comb. nov., *Styraceae*. Vice *S. sinica* Ker-Gawl Bot. Reg. t. 710, 1823. See Journ. Linn. Soc. xvii., 297, 1880, *chinensis* is cited under *Palura*.

SYNAPHEA RETICULATA (Smith in Rees Cycl. vol. 9, as *Conospermum*): comb. nov., *Proteaceae*. Vice *S. dilatata* R. Brown in Trans. Linn. Soc. x., 156, 1810, Prod. 370, 1810. Cited Fl. Austral. v., 360, 1870. It is also the *S. Drummondii* Meissn.

SYNDESMANTHUS FLOSCULOSUS (Salisb. in Trans. Linn. Soc. vi., 340, 1802, as *Erica*): comb. nov., *Ericaceae*. Vice *S. paucifolius* Benth. in DC. Prod. vii., 707, 1839, based on *Blaeria paucifolia* Wendl. Coll. ii., 17, t. 13, inter 1808-19. Cited Fl. Cap. iv. (i.), 376, 1909, and I.K. See *Simocheilus*.

TAVERNIERA SPARTIUM (Burm. f. Fl. Ind. 166, 1768, as *Hedysarum*): comb. nov., *Leguminosae*. Vice *T. nummularia* DC. Mem. Legum. 340, 1825.

TAXODIUM LINEATUM (Poir. Enc. Meth. Suppl. v., 305, 1810, as *Thuya*): comb. nov., *Coniferae*. Vice *T. heterophylla* Brong. in Ann. Sc. Nat. prém. sér. xxx., 184, 1833.

TELIPOGON NERVOSUS (L. Mant. ii., 223, 1771, as *Tradescantia*): comb. nov., *Orchidaceae*. Vice *T. augustifolius* H.B. and K. Nov. Gen. and Sp. i., 336, 1815.

TETRAGONIA PERFOLIATA (L. f. Suppl. 261, 1781, as *Aizoon perfoliatum*): comb. nov., *Ficoideae*. Vice *T. Zeyheri* Fenzl. ex H. and S. Fl. Cap. ii., 465, 1862. Cited Fl. Cap. and I.K.

TIPULARIA TIPULOIDES (L. f. Suppl. 401, 1781, as *Orchis*): comb. nov. Vice *T. camtschatica* Spreng. Syst. iii., 734.

TRACHYMENE ORNATA (Endlicher in Ann. Wien. Mus. ii., 200, 1838, as *Cesatia*): comb. nov., *Umbelliferae*. Vice *T. eriocarpa* Benth. Fl. Austral. iii., 348, 1866. Cited there and I.K.

TRACHYMENE SETULOSA (F. v. Muell. in Proc. Roy. Soc. Tasm. iii., 238, 1855, as *Didiscus*): comb. nov., *Umbelliferae*. Vice *T. hemicarpa* Benth. Fl. Austral. iii., 351, 1866, based on *Didiscus hemicarpus* F. v. Muell. in Trans. Bot. Soc. Edin. vii., 490, 1857. Cited by Bentham l. c. and I.K. It is the *Hemicarpus didiscoides* F. v. Muell. in Hook. Kew Journ. Bot. vi., 1857.

TRICHINIUM LANATUM (A. Cunn. Moq. in DC. Prod. xiii., ii., 281, 1849, as *Ptilotus*): comb. nov., Amarantaceae. Vice *T. Cunninghamii* Benth. Fl. Austral. v., 238, 1870. Cited I.K. and Fl. Austral. l. c. *Trichinium lanatum* Lindley in Three Exped. ii., 123, is *T. obovatum* Gaudich.

TRICHOCAULON CLAVATUM (Willd. Sp. Pl. i., 1295, 1799, as *Stapelia*): comb. nov., Asclepiadaceae. Vice *T. cactiforme* N.E. Br. in Hook. Ic. Pl. sub. t. 1905. Cited Fl. Cap. iv. (i.), 895, 1909. *Stapelia cactiformis* Hook. Bot. Mag. t. 4127.

TRIGLOCHIN TRIGLOCHINOIDES (F. v. Muell. Fragm. i., 23, 1858-9, as *Maundia*): comb. nov., Naiadaceae. Vice *T. Maundii* F. v. Muell. Fragm. vi., 83, 1867-8. Cited Fl. Austral. vii., 169, 1878, and I.K.

TYLOPHORA CORDATA (Thunb. Prod. Pl. Cap. 47, 1794-1800, as *Apocynum*): comb. nov., Asclepiadaceae. Vice *T. syringaefolia* E. Meyer Comm. Afr. 198, 1835. Cited Fl. Cap. iv. (i.), 769.

VENIDIUM PLANTAGINEUM (L. Sp. Pl. 1302, 1762, as *Arctotis*): confer, Less Syn. 30, Compositae. Vice *V. semipapposum* DC. vi., 491, 1837. Cited in I.K. and Fl. Cap. iii., 460, 1865. Harvey there says he chooses to adopt the Candollian name 'for the composite species since it expresses the character by which this differs from other *Venidia*,' an insufficient reason for ignoring the earlier trivial.

VERNONIA AFRICANA (Sonder in Linnaea, xxiii., 62, 1850, as *Vernonella*): comb. nov., Compositae. Vice *V. Vernonella* Harvey in Fl. Cap. iii., 53, 1864-5. Cited there and I.K.

VERNONIA CAPENSIS (Houtt. Handl. x., 629, 1773, as *Erigeron*): comb. nov., Compositae. Vice *V. pinifolia* Less. in Linnaea, iv., 257, 1829, which is based on *Conyza pinifolia* Lam. Enc. ii., 86, 1786 = *Conyza canescens* L. Suppl. 367. Cited I.K. and Fl. Cap. iii., 51, 1864-5.

VERNONIA ELAEAGNOIDES (DC. Prod. v., 73, 1836, as *Webbia*): comb. nov., Compositae. Vice *V. Kraussii* Sch. Bip. in Walp. Rep. ii., 947, 1843. Cited in I.K. and Fl. Cap. iii., 51, 1864-5.

VERTICORDIA PLUMOSA (Desf. in Mém. Mus. Par. v., 42, t. 4, 1819, as *Chamaelaucium*): comb. nov., Myrtaceae. Vice *V. Fontanesii* DC. Prod. iii., 209, 1828. Cited I.K. and Fl. Austral. iii., 21, 1860.

VISMIA GUINEENSE (L. f. Suppl. 344, 1781, as *Hypericum*): comb. nov., Hypericaceae. Vice *V. leonensis* Hook. f. Niger Fl. 243. See L. Am. Ac. viii., 321.

VITEX QUINATA (Lour. Fl. Cochinchin. 387, 1790, as *Cornutia*): comb. nov., Verbenaceae. Vice *V. heterophylla* Roxb. Fl. Ind. iii., 75, 1832.

VITIS THUNBERGII (Sieb. and Zucc. in Abl. Acad. Muench. 195, 1846, as *Cissus*): comb. nov., Ampelidaceae. Vice *V. inconstans* Miq. in Ann. Mus. Bot. Lug. Bat. i., 91, 1863. This is the *Ampelopsis Veitchii* of our gardens. It is not the *V. Thunbergii* Sieb. and Zucc. l. c. iv., ii., 198, 1843, which is *V. Labrusca* L.

WAITZIA SUAVEOLENS (Bentham in Enum. Pl. Hueg. 64, 1837, as *Leptorrhynchus*): comb. nov., Compositae. Vice *W. nivea* Benth. Fl. Austral. iii., 636, 1866. Cited there and I.K. *Waitzia nivea* is based on *Morna nivea* Lindley Bot. Register, t. 9, 1838. It is also the *Waitzia odontolepis* Turczan. in Bull. Soc. Nat. Mosc. 77, 1851.

WENDLANDIA LONGIDENS (Hance in Journ. Bot. 289, 1882, as *Hedyotis*): comb. nov., Rubiaceae. Vice *W. Henryii* Oliv. in Hook. Ic. t. 1712, 1887-8.

WESTRINGIA FRUTICOSA (Willdenow Sp. Pl. i., 122, 1797, as *Cynila*—*C. frutescens* Donn Hort. Cant. 5): comb. nov., Lamiceae. Vice *W. rosmarinifolia* Smith, Tracts 282, t. 3, 1798. Cited in I.K. and Fl. Austral. v., 128, 1870.

WIBORGIA MUCRONATA (L. f. Suppl. 320, 1781, as *Aspalathus*): comb. nov., Leguminosae. Vice *W. spinescens* Eckl. and Zey. Enum. 194, and *W. armata* Harvey in Fl. Cap. ii., 91.

WIKSTROEMIA PURPURATA (L. Mant. ii., 225, 1871, as *Capura*): comb. nov., Thymeleceae. Vice *W. viridiflora* Meissner in Denksch. Bot. Ges. Regens. iii., 289, 1841, and *W. indica* C. A. Mey. in Bull. Phys. Math. Acad. Petersb. i., 357, 1843.

XEROTES OBLIQUA (Thunberg Diss. Dracaenae, 6, f. 2, 1808, as *Dracaena*): comb. nov., Juncaceae. Vice *X. flexifolia* R. FLOWN Prod. 260, 1810. Cited Fl. Austral. vii., 105, 1878, and I.K.

ZANTHOXYLUM ARMATUM (Thunb. Prod. Pl. Cap. 28, 1794-1800, as *Fagara armata*): comb. nov., Zanthoxylaceae. Vice *Z.*

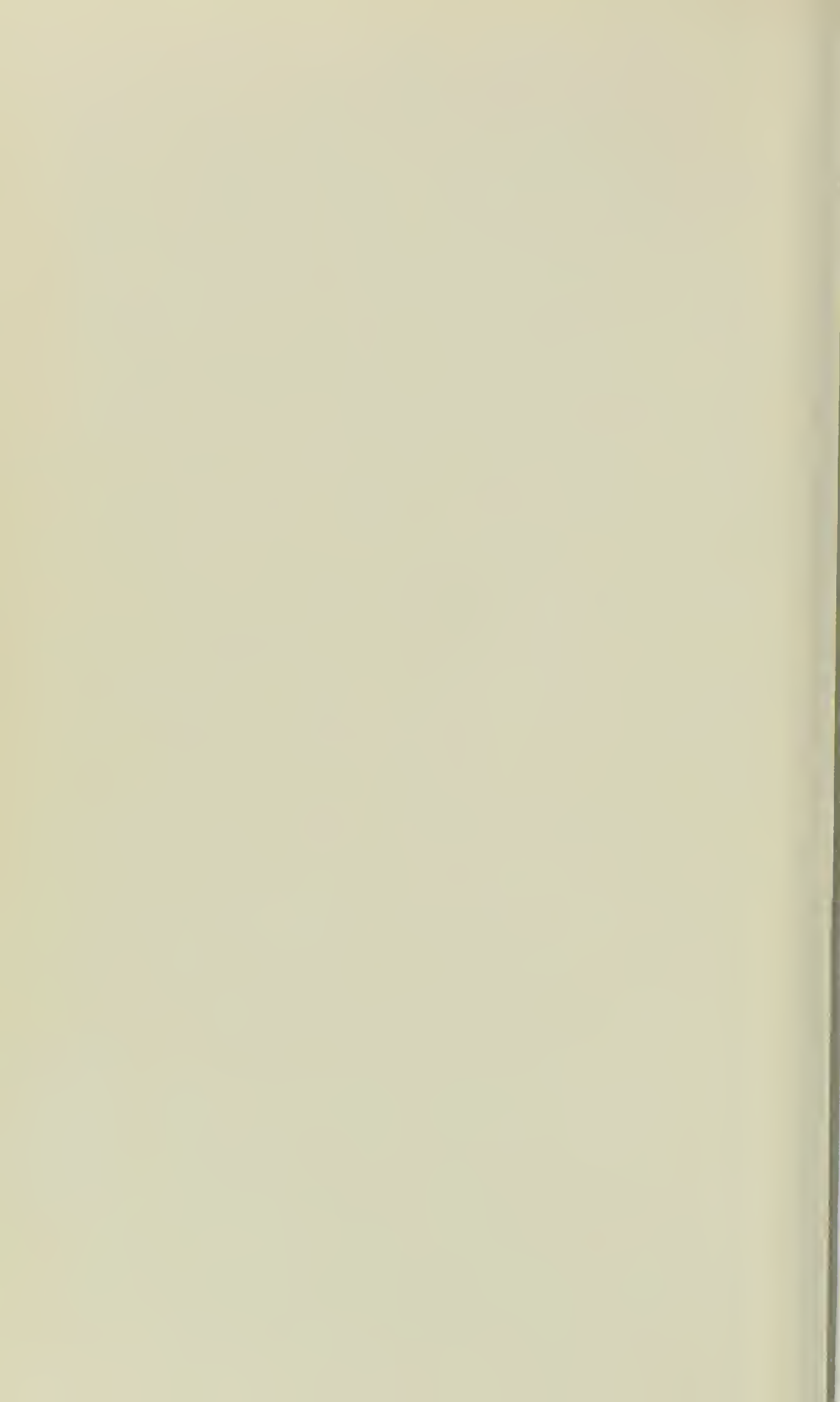
Thunbergii DC. Prod. i., 726, 1825. Cited I.K. and as *Nanthoxylum Thunbergii* in Fl. Cap. i., 446, 186.

ZANTHOXYLUM PINNATUM (Forster as *Blackburnia* in Char. Gen. t. 6, 1776): Rutaceae. Vice *Z. Blackburnia* Benth. Fl. Austral. i., 363, 1863. Cited there and I.K. It is the *Ptelea pinnata* of Linn. f. Suppl. 126, 1781.

ZEHNERIA HETEROPHYLLA (Lour. Fl. Cochinchin. 114, 1790, as *Solena*): comb. nov., Cucurbitaceae. Vice *Z. umbellata* Thwaites Enum. Pl. Ceyl. 125, 1864. In I.K. this is under *Melothria*.

ZOYSIA MATRELLA (L. Mant. ii., 185, 1771, as *Agrostis*): comb. nov., Graminaceae. Africa, &c. Vice *Z. pungens* Willd. in Ges. Nat. Fr. Neue Schr. iii., 441, 1801. Cited in Hook. f. Fl. N. Z. 312, 1853.







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