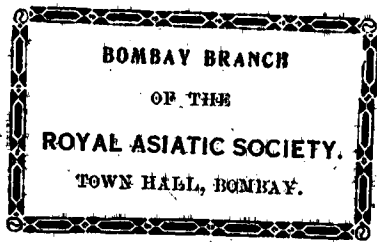


JUGONNATH SUNKERSETT
PRESENTATION.



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ENGLISH BOTANY;

OR,

COLOURED FIGURES

OF

BRITISH PLANTS,

WITH THEIR

ESSENTIAL CHARACTERS, SYNONYMS,
AND PLACES OF GROWTH:

TO WHICH WILL BE ADDED,
OCCASIONAL REMARKS.

55383
C4

BY

JAMES EDWARD SMITH, M.D. F.R.S.

MEMBER OF THE IMP. ACAD. NATURÆ CURIOSORUM, THE
ACADEMIES OF STOCKHOLM, UPSAL, TURIN,
LISBON, LUND, BERLIN, PHILADELPHIA, AND
THE NAT. HIST. SOCIETY OF PARIS;
PRESIDENT OF THE LINNÆAN SOCIETY.

THE FIGURES BY
JAMES SOWERBY, F.L.S.

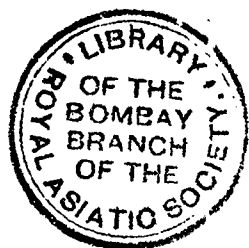
“VIRESCQUE ACQUIRIT EUNDO.” *Virg.*

VOL. XXIV.

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MDCCCVII.



OMA

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A L L I U M *Ampeloprasum*,
Great Round-headed Garlick.

HEXANDRIA Monogynia.

GEN. CHAR. *Cor.* inferior, of 6 spreading petals.
Spatha cloven, containing many flowers. *Umbel*
dense. *Stigma* simple.

SPEC. CHAR. *Umbel* globose, without bulbs. Leaves
flat. *Stamina* three-pointed. Petals rough on the
keel.

SYN. *Allium Ampeloprasum.* *Linn. Sp. Pl.* 423. *Sm.*
Fl. Brit. 355. *Huds.* 138. *With.* 332. *Hull.* 72.

A. *Holmense*, *sphærico capite.* *Raii Syn.* 370.

MR. WRIGHT, who in 1803 ascertained the *Pæonia corallina*, t. 1513, to be a British plant, favoured us at the same time with wild bulbs of this very rare species of *Allium* from the island called Flat Holmes, in the Severn, where only, in the British dominions, it has hitherto been observed to grow. These bulbs, cultivated in a garden, have, for the last 2 years, flowered well in the month of August. Each of them is about the size and form of a common garden tulip-bulb.

The stem is solitary, 4 or 5 feet high, upright, simple, round, smooth, leafy in the lower part. Leaves clasping the stem with their long sheaths, 18 inches or 2 feet long, flaccid, flat, near an inch broad, tapering, acute; their margin, and top of the keel, rough with minute teeth. *Umbel* solitary, erect, large, globose, composed of innumerable flowers, on longish, smooth, pale purple stalks, without any accompanying bulbs, but intermixed with small narrow scales. *Spatha* scarcely so long as the *umbel*. Petals ovate, acute, pale purple, the 3 larger especially very rough on the keel. *Stamina* broad, 3 of them strongly 3-pointed, the intermediate ones simple. *Antheræ* terminal, erect. *Germen* brownish, ovate, furrowed, with 3 transverse prominences. *Style* white, as long as the *germen*. The whole plant has a strong disagreeable garlick smell. It is nearly allied to the Leek, *A. Porrum*.

1658

475



Allium carinatum.

ALLIUM carinatum.

Mountain Garlick.

HEXANDRIA Monogynia.

GEN. CHAR. *Cor.* inferior, of 6 spreading petals. *Spatha* cloven, containing many flowers. *Umbel* dense. *Stigma* simple.

SPEC. CHAR. *Umbel* bearing bulbs. Leaves flat. All the stamina awlshaped. *Spatha* acute.

SYN. *Allium carinatum.* *Linn. Sp. Pl.* 426. *Sm. Fl. Brit.* 357. *Huds.* 139. *With.* 333. *Hull.* 72.

A. montanum bicorne purpureum proliferum. *Raii Syn.* 369.

BULBS of this *Allium* were brought from Westmoreland many years ago by Mr. Crowe, in whose garden the plant has ever since been preserved without requiring any particular attention, flowering in July, and we are obliged to that gentleman for a specimen.

Bulb ovate, whitish, perennial. Stem about 3 feet high, simple, round, smooth, its lower half leafy. Leaves not a quarter of an inch broad, bluntish, rather succulent, solid, thicker and roughish at the edge; concave above; convex and somewhat keeled at the back; with very long ribbed sheaths. *Umbel* rather loose and spreading, the flowerstalks being elongated as the flowers expand, and they are accompanied at their base by numerous elliptical blackish bulbs, which fall off and vegetate. *Spatha* of 2 principal very long leaves, much divaricated and acute, one of which is fallen off in our specimen. Flowers dull brownish yellow, the keels of the petals darker, or greenish, smooth. Stamina all simple, awlshaped, connected at their base, 3 earlier than the rest. Germen with 6 furrows. Style short, with a blunt simple stigma. The seeds seldom ripen.

1659
897.



Thlaspi arvense

Occ. April, Dublin, by J. Sowerby, London.

THLASPI arvense.

*Smooth Mithridate Mustard, or Penny-cress.*TETRADYNAMIA *Siliculosa.*

GEN. CHAR. *Pouch* notched, inversely heart-shaped, with several seeds: valves boat-like, their keels forming the border: partition contrary to the valves.

SPEC. CHAR. *Pouch* orbicular, compressed, smooth. Leaves smooth, oblong, toothed.

SYN. *Thlaspi arvense.* *Linn. Sp. Pl.* 901. *Sm. Fl. Brit.* 683. *Huds.* 281. *With.* 568. *Hull.* 145. *Relh.* 252. *Sibth.* 199. *Curt. Lond. fasc.* 6. t. 43.

T. Dioscoridis. *Raii-Syn.* 305.

RECENT specimens of this *Thlaspi* were sent us from Norfolk, in August last, by the Rev. G. R. Leathes. It occurs now and then in cultivated fields, but is not frequent; and, like all annual plants so situated, frequently changes its residence, according to the change of crops.

Root small, tapering, annual. Whole plant destitute of hairs. Stem erect, about a foot high, leafy; branched and angular in the upper part. Leaves alternate, oblong, acute, toothed; arrow-shaped and clasping the stem at their base. Flowers numerous, small, white. Petals undivided. *Pouch* large, erect, quite smooth, furnished with a very broad border, making an almost perfectly circular figure. In a notch at the top stands the very short style.

No medical virtues are now expected from this plant, except what it possesses in common with the true Mustard, *Sinapis*. Its warm pungent taste is combined with a disagreeable garlick flavour. The seeds make an ingredient in that nauseous opprobrium of Pharmacy, the Mithridate Confection, the receipt for which may be found, with many excellent critical remarks, in Lewis's Dispensatory. It is now expunged from our classical Pharmacopeias.

1660

893.



Coronopus Ruellii.

Des. et del. F. R. S. J. Sowerby, London.

CORONOPUS Ruellii.

*Common Wart-cress, or Swine's-cress.*TETRADYNAMIA *Siliculosa.*

GEN. CHAR. *Pouch* kidneyshaped, compressed, rugged, not separating into valves. *Seeds* 1 in each cell.

SPEC. CHAR. *Pouch* undivided, crested with little sharp points. *Style* prominent. *Flowers* not many in a cluster.

SYN. *Coronopus Ruellii.* *Gaertn. v. 2. 293. t. 142. f. 5. Sm. Fl. Brit. 690. Relh. 254. Ger. em. 427.*

Cochlearia Coronopus. *Linn. Sp. Pl. 904. Huds. 284. With. 574. Hull. 144. Sibth. 200. Abbot. 141. Mart. Rust. t. 92.*

Nasturtium supinum, capsulis verrucosis. *Raii Syn. 304.*

COMMON in waste places by road sides, on banks, and among rubbish, flowering from June to September.

Root annual. Stems quite prostrate, depressed, branched, leafy, round, smooth. Leaves alternate pinnatifid, the segments for the most part half pinnatifid, or pectinate, at their fore side. Clusters of flowers opposite to the leaves, corymbose, sessile, short, elongated as the fruit swells. Flower-very small, white. *Pouch* kidney shaped, compressed, transversely rugged, its plaits extended into little marginal teeth, which form a sort of crest, its summit not divided, but crowned with the little short pyramidal style. Each cell contains a rather large brown seed. The cells are leathery, and never split into valves. The whole herb is somewhat glaucous slightly succulent, with an unpleasant mustard-like acrid flavour.

No doubt can arise as to the certainty of this genus. We have some exotic species. The only remaining British one is represented in *v. 4. t. 248*, under its Linnæan name of *Lepidium didymum*, and is the *Coronopus didyma*, *Fl. Brit. 691.*

1661



Det. Herb. Published by J. T. Sowerby, London.

DICRANUM cerviculatum.

Red-necked Fork-moss.

CRYPTOGAMIA Musci.

GEN. CHAR. Caps. oblong. Fringe of 16 flat, cloven teeth, a little inflexed.

SPEC. CHAR. Stem simple. Leaves capillary, without ribs, loosely spreading. Capsule elliptical, turgid, nearly upright, with a spur on one side at its base.

SYN. Dicranum cerviculatum. *Hedw. Sp. Musc.* 149.
Crypt. v. 3. 89. t. 37, A. Sm. Fl. Brit. 1220.
Turn. Musc. Hib. 64.

Bryum cerviculatum. *Dicks. Crypt. fasc. 3. 7. With.*
813. *Hull. 257. Abbot. 237.*

A NATIVE of dry turfy places, especially the borders of pits where peat is cut, in Ireland, Wales, and even the midland counties of England. The capsules are perfected copiously in July, and the roots are perennial.

The stems are simple, erect, 2 or 3 lines high, leafy, forming broad close patches, which are rendered conspicuous by the light shining yellowish green of the leaves and fruit-stalks. Leaves dense, long and taper, loosely spreading, entire, destitute of nerves or keel, a little dilated and concave at the base. Fruitstalks about 3 quarters of an inch in height, solitary, terminal, slender, pellucid, a little zigzag. Capsule inclining, scarcely quite upright, elliptical, turgid, smooth, pale shining brown, contracted at the mouth, furnished at the base with a spur on one side, which is more or less red. Lid as long as the capsule, taper, incurved. Fringe crimson.

Our specimens were communicated by John Templeton, Esq. of Orange Grove near Belfast, a correspondent by whom we have frequently been favoured.



1662
1689



Dicranum
osmundioides.



1768. Published by J. G. Smith, London.

· DICRANUM osmundioides.

Close-leaved Fern Fork-moss.

CRYPTOGAMIA Musci.

GEN. CHAR. *Caps.* oblong. *Fringe* of 16 flat, cloven teeth, a little inflexed.

SPEC. CHAR. Stem erect. Leaves imbricated in two ranks, sheathing, elliptic-lanceolate, flattened laterally. Fruitstalk terminal.

SYN. *Dicranum osmundioides.* Swartz. *Act. Holm. ann.* 1795. 240. *Sm. Fl. Brit.* 1233. *Turn. Musc. Hib.* 55.

Fissidens osmundioides. Hedw. *Sp. Musc.* 153. t. 40. f. 7—11.

Hypnum asplenioides. Dicks. *Crypt. fasc.* 2. 10. t. 5. f. 5. *H. Sicc. fasc.* 1. 21. *With.* 843. *Hull.* 268.

But not of Swartz.

H. bryoides. Ehrh. *Crypt.* 124.

HOW different this is from the real *Dicranum bryoides*, *Hypnum bryoides* of Linnæus, may be seen by a reference to our 9th vol. t. 625.

D. osmundioides was sent by Mr. Templeton from various moist places on the mountains of Down and Wicklow counties in Ireland. Mr. R. Brown observed it in the county of Derry; Mr. Dickson in Scotland, and Mr. Turner at Nant Francon in Carnarvonshire. It produces fruit in the spring, and is perennial.

The stems grow in tufts, upright, an inch or two high, leafy, and are either simple, or branched in a somewhat prolific manner. Leaves dull brownish green, numerous, closely imbricated in 2 ranks, vertical, compressed, elliptic-lanceolate, single-ribbed, bluntish, rarely pointed, clasping the stem at their base; the lower ones smallest. Fruitstalk terminal, mostly (but not always) solitary, half an inch long, wavy, dark red. Capsule nearly upright, obovate, dark reddish brown, smooth, wide-mouthed. Lid, which we have seen only in Ehrhart's specimens, as long as the capsule, awlshaped, straight.

Mr. Turner esteems this plant to be Dillenius's *tab.* 34. *f.* 4, on which alone depends the *Hypnum acacioides* of Linnæus; but if so, the figure is very bad.

1663.

1656.



Tortula humilis.

Nov. 2286. Publish'd by J. A. Sowerby London.

TORTULA humilis.

*Dwarf Screw-moss.**CRYPTOGAMIA Musci.*

GEN. CHAR. *Fringe* simple, of numerous capillary teeth, spirally and repeatedly twisted together.

SPEC. CHAR. Stem simple, or divided at the base. Leaves oblong, somewhat spatulate, crowded, keeled, with one rib and a small point. Capsule nearly cylindrical. Lid awl-shaped, curved.

SYN. *Tortula humilis.* *Turn. Musc. Hib.* 45.

Barbula humilis. *Hedw. Sp. Musc.* 116. *t.* 25. *f.* 1—4.

AMERICA afforded the celebrated Hedwig many new mosses which have appeared in his posthumous work, the *Species Muscorum*, and which we have also received from the same liberal correspondent, the Rev. Dr. Muhlenberg of Lancaster in Pennsylvania. This is one of them, which since the publication of the 3d vol. of *Fl. Brit.* has also been found in Ireland, and is mentioned in Mr. Turner's work above quoted. Our specimens were gathered on rocks in Kerr's Glen, near Belfast, by Mr. Templeton.

The stems form perennial tufts, and are erect, from a little above a line in height to nearly half an inch. They are mostly simple, and if divided, only at the base. Leaves thickly clothing the stem, of a light bright green, or sometimes reddish, pale at the base; their form is oblong and obtuse; their margin entire. The strong midrib ends in a little blunt point. When dry the leaves are much twisted. Fruitstalks from the upper (not lower) part of the stem, palish red, not half an inch high. Capsule almost always erect, cylindrical, a little swelling, red-brown, smooth. Lid more than half as long as the capsule, awlshaped, curved; shorter and obtuse when young. Veil slender. Fringe long, red.

1664

1590.



*Hypnum
polyanthos.*

Novæ 1786. Publish'd by J. J. Sowerby, London.

HYPNUM polyanthos.
Thread-shaped Feather-moss.

CRYPTOGAMIA Musci.

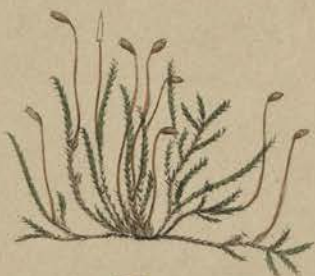
- GEN. CHAR. *Caps.* ovate-oblong, from a lateral scaly sheath. *Outer fringe* of 16 teeth, dilated at the base: *inner* a variously-toothed membrane. *Veil* smooth.
- SPEC. CHAR. Stem creeping, much branched, round. Leaves lanceolate, taper-pointed, imbricated, erect, without ribs. Capsule erect. Lid pointed.
- SYN. Hypnum polyanthos. *Schreb. Lips.* 97. *Sm. Fl. Brit.* 1278. *Turn. Musc. Hib.* 137.
- H. filiforme. *Huds.* 497.
- H. filicifolium. *Linn. Mant.* 2. 310.
- H. filifolium. *With.* 862. *Hull.* 273.
- H. sericeum ramosius et tenuius, capsulis acuminatis. *Dill. Musc.* 327. *t.* 42. *f.* 62. *Herb. Dill.*
- H. repens trichoides terrestre viridius minus, capitulis cernuis, minùs tumidis. *Raii Syn.* 84.
- Leskea polyantha. *Hedw. Sp. Musc.* 229. *Crypt. v. 4. 4. t. 2.*
- L. filiformis. *Sibth.* 303.

A FREQUENT species about rotten wood and old trees, bearing capsules in the early spring.

Stems creeping, entangled, in dense patches, throwing up many slender, cylindrical, leafy, often pinnated, branches. Leaves with a silky gloss, light yellowish green, small, imbricated every way, rarely inclined a little to one side, lanceolate, broad, entire, ending in a long taper point, but without any rib or vein. Their reticulations are oblong and linear. Sheaths numerous, long, pale; their leaves long-pointed. Fruitstalk half an inch or more in length, erect, red, spiral when dry. Capsule upright, cylindrical inclining to an elliptical figure, rather narrow mouthed, red-brown, smooth. Lid convex, with a longish beak, as figured by Dillenius; Mr. Turner justly observes that German specimens have a shorter lid, as represented by Hedwig, and we find it so in Swiss ones, yet there seems no other difference. Its length varies with us.

In the first edition of Hudson *filiciforme* was printed by mistake for *filiforme*; hence arose the above confusion of names.

1665
1579



Hypnum
palustre.

Novisima Tabulae a Jo. L. Sowerby, London.

HYPNUM palustre.
Creeping Marsh Feather-moss.

CRYPTOGAMIA Musci.

GEN. CHAR. *Caps.* ovate-oblong, from a lateral scaly sheath. *Outer fringe* of 16 teeth, dilated at the base: *inner* a variously-toothed membrane. *Veil* smooth.

SPEC. CHAR. Stem creeping. Branches erect. Leaves lanceolate, concave, nerveless, curved to one side, some of them spreading. Capsule drooping. Lid conical.

SYN. Hypnum palustre. *Linn. Sp. Pl.* 1593. *Sm. Fl. Brit.* 1329. *Huds.* 502. *With.* 857. *Hull.* 272. *Turn. Musc. Hib.* 191.

H. luridum. *Hedw. Sp. Musc.* 291. *Crypt. v.* 4. 99. *t.* 38. *Dicks. Crypt. fasc.* 4. 18.

H. heterophyllum aquaticum polycephalum repens. *Dill. Musc.* 293. *t.* 37. *f.* 27, A, not B. *Herb. Dill.*

FOUND in marshy or watery places, generally growing on stones, or rotten wood, and bearing fruit in June and July. Our specimens were gathered near Arundel by Mr. Turner and Mr. W. Borrer.

The stems are perennial, creeping, entangled, an inch or two long, leafy or naked. Branches rather distant, erect, mostly simple, half an inch, or an inch in height, leafy, cylindrical. Leaves loosely imbricated, for the most part curved or curled to one side (except on some branches which Hedwig says bear male flowers), ovate, concave, entire, more or less acute, beardless, without any rib, of a rather dull or brownish green. Sheaths pale brown, their leaves long and narrow, each marked, as Mr. Turner observes, with 2 parallel brown furrows from the base to the tip. Fruitstalks orange red, shining, about an inch long. Capsule drooping, curved, of a short, ovate, somewhat cylindrical figure, and tawny brown colour. Lid short, conical, with a little short point.

1666.

2099.



Lecanora varia?

Nov. 1. 1806. Published by J. & Sowerby, London.

LICHEN varius.

Variable-shielded Lichen.

CRYPTOGAMIA Algæ.

GEN. CHAR. Male, scattered warts.

Female, smooth shields or tubercles, in which the seeds are imbedded.

SPEC. CHAR. Crust thin, granulated, scattered, pale yellowish green. Shields crowded, flattish, buff or brown; their border waved, irregular, inflexed, coloured like the crust.

SYN. Lichen varius. *Ach. Prod.* 40. *Ehrh. Crypt.* 68.

Dicks. Crypt. fasc. 4. 22.

Parmelia varia. *Ach. Meth.* 178.

Patellaria varia. *Hoffm. Pl. Lich. v.* 1. 102. *t.* 23. *f.* 4.

FOUND a few years since by Mr. Turner at Burgh Castle near Yarmouth. We are obliged to that gentleman for specimens, and also to Mr. Dickson for others. The plant grows on old posts and pales, and is perhaps not very uncommon; but its colour and appearance are variable, and there are several species which resemble it.

The crust is of an uniform pale sulphur-colour, smooth, not mealy, when young even and uninterrupted, but soon becoming cracked, scattered, and sometimes granulated. The shields are small, numerous, and generally so crowded as to become angular and deformed. Their disk is nearly flat, generally pale brown or inclining to buff, but they are often red brown or blackish. Their margin is of the colour of the crust, thick, smooth and even when young; waved, zigzag and notched when old.

In some states this species may hastily be confounded with *L. orostheus*, in others with *sulfuscus*; but the texture of the former, and the white uninterrupted crust of the latter, will always distinguish them.

1667

2123.



Squamaria fulgens.

Newcomb. Published by J. & J. Fowkes, London.

LICHEN fulgens.
Yellow Ground Lichen.

CRYPTOGAMIA *Algæ.*

GEN. CHAR. Male, scattered warts.

Female, smooth shields or tubercles, in which the seeds are imbedded.

SPEC. CHAR. Crust rounded, lobed and waved, somewhat imbricated, lemon-coloured; whitish when dry. Shields deep orange, at length convex; their border coloured like the crust, obliterated by age.

SYN. Lichen fulgens. *Ach. Prod.* 102. *Swartz. Act. Nov. Ups.* v. 4. 246. *Dicks. Crypt. fasc.* 4. 24. *H. Sicc. fasc.* 18. 24.

L. citrinus. *Hedw. Crypt.* v. 2. 60. t. 20. f. C.

L. friabilis. *Villars Dauph.* v. 3. 979. t. 55.

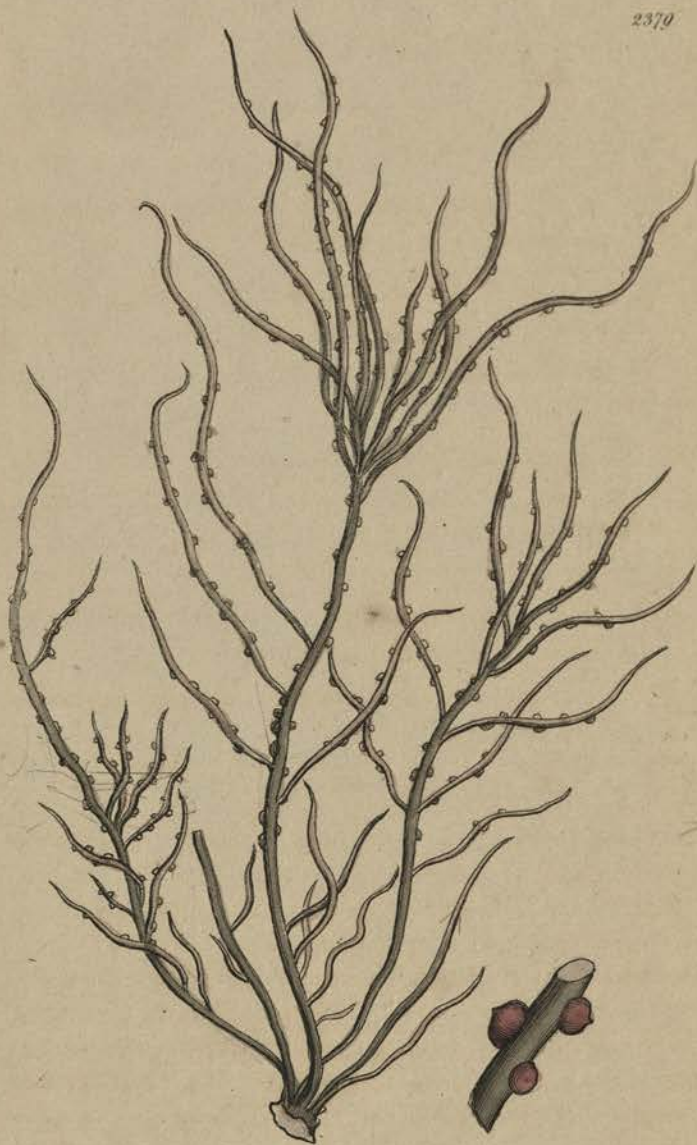
Parmelia fulgens. *Ach. Meth.* 192.

Psora citrina. *Hoffm. Pl. Lich.* v. 2. 77. t. 48. f. 2.

THE late J. Adams Esq. F. L. S., is recorded by Mr. Dickson as the discoverer of this elegant Lichen on rocks slightly covered with earth, near Stackpole-court, Pembrokeshire. It has been found in Germany, Switzerland, France and Sweden. Our specimens were gathered by Mr. Turner and Mr. W. Borrer on cliffs by Freshwater bay, Isle of Wight, and at New Haven, Sussex, in June last.

The fronds are closely attached to the soil by innumerable minute radicles, and are of a friable texture, spreading circularly, and composed of partly imbricated rounded lobes. The colour when wet is a beautiful bright lemon hue, which changes in almost every part of the frond when dry to a dead white; but moisture restores the original colour instantaneously at any distance of time. Shields about the centre of each frond or principal lobe, sessile, round, of a rich deep orange; their margin when young elevated, smooth, more permanently yellow than the crust. As the shields grow old and convex the margin is more or less obliterated.

This species is most akin to *L. lentigerus*, t. 871, with which it commonly grows.



Gigartina confervoides.

Nov. 1. 1806. Publish'd by J. Sowerby, London.

FUCUS confervoides.

Warty Fucus.

CRYPTOGAMIA *Algæ.*

GEN. CHAR. *Seeds* produced in clustered tubercles, which burst at their summits.

SPEC. CHAR. Frond thread-shaped, branched, purplish: branches unequal, mostly leaning one way, tapering at each end. Tubercles hemispherical, lateral, sessile, acute.

SYN. *Fucus confervoides.* *Linn. Sp. Pl.* 1629. *Turn. Syn.* 328. *With. v. 4.* 114. *Hull.* 325. *Gooden. and Woodw. Tr. of L. Soc. v. 3.* 208.

F. verrucosus. *Huds.* 588.

F. marinus purpurascens parvus, caule et ramulis seu foliolis teretibus. *Raii Syn.* 50.

β. *F. teres rubens minùs ramosus, in longum protensus.* *Dill. in Raii Syn.* 51.

SENT by Mr. W. Borrer from Brighthelmstone. It is not uncommon on the coasts of Britain in the autumn or winter.

Root a small flat callous substance, bearing several fronds, which are various in length, purplish with a brown tinge, round, of the size of common packthread, much branched. Branches irregularly situated, each parcel of them pointing all one way, or nearly so, tapering to a sharp zigzag point at their summit, and somewhat contracted towards their base: sometimes forked or compound. Tubercles numerous, scattered, sessile, hemispherical with a small prominent point.

Many botanists have confounded this with *F. flagelliformis*, *v. 17. t. 1222.*

1669

2325



Dichloria viridis.

Neohab. Oakes. in 1. 2. Journ. Jour. Jour.

FUCUS viridis.
Green Bushy Fucus.

CRYPTOGAMIA Algæ.

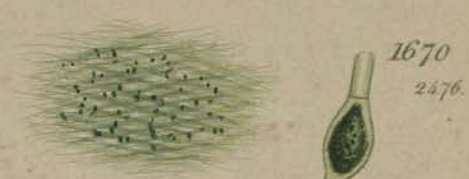
GEN. CHAR. *Seeds* produced in clustered tubercles, which burst at their summits.

SPEC. CHAR. Frond pinnate, repeatedly compound, thread-shaped. General and partial branches all opposite, crowded, capillary, acute.

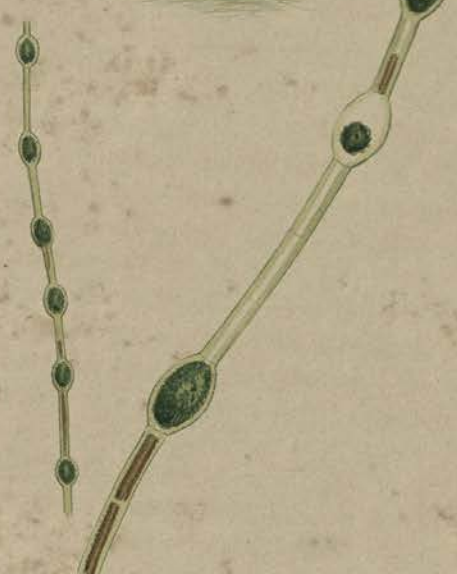
SYN. *Fucus viridis.* *Fl. Dan. t.* 886. *Turn. Syn.* 397.

WE have, at various times, been favoured with specimens of this rare *Fucus* from Yarmouth, by Mr. Turner and the Rev. G. R. Leathes. Sir T. Frankland has found it growing at Scarborough, from whence perhaps the plants occasionally cast up on the Norfolk coast may have been washed by the tides. This, according to Mr. Turner, happens in July and August, and it confirms his idea of its being an annual species.

Root a small callous knob. Frond 1 or 2 feet long, cylindrical, as thick as a small packthread, 3, 4 or 5 times compounded in an opposite pinnate manner; the branches all round, tapering, and the ultimate ones very fine. The fructification has not been detected. The colour is a fine tawny orange, which after a few minutes' exposure to the air turns to a pale verdigrise green. This is analogous to that of *F. ligulatus*, *t.* 1636, of which the original colour is, it seems, a bright orange, the green hue being assumed after it comes out of the water. Both species turn brownish by long keeping in fresh water.



1670
2476.



Conferva vesicata?

Novaezbor. Publ. Lond. by J. Sowerby, London.

C O N F E R V A inflata.

*Tumid-jointed Conferva.**CRYPTOGAMIA Algæ.*

GEN. CHAR. *Seeds* produced in round, solitary, closed tubercles, projecting from the frond, but united with it.

SPEC. CHAR. Green. Filaments unbranched. Joints three times as long as broad; when fertile swelling and elliptical.

SYN. *Conjugata inflata.* *Vaucher Conf.* 68. t. 5. f. 3.

FOUND by Mr. W. Borrer in fresh water at Henfield, Sussex, in March last.

The filaments are but the 700th part of an inch in diameter, simple, jointed, pellucid and almost colourless, consisting at first of exactly cylindrical joints about thrice as long as they are broad, marked (according to M. Vaucher's observations in all this tribe) with green colouring matter in spiral lines. The same acute investigator has seen the joints afterwards swell, becoming elliptical, and each protruding a lateral tube so as to unite with similar tubes of a neighbouring plant. The colouring matter of one joint passes into the other, its spiral appearance being entirely lost. At length each joint which has received it swells still more, growing quite elliptical, and filled with a solid green body, which M. Vaucher has proved to be a single seed, producing in due time a solitary young plant. Our specimens are in the state of ripening seed, and many of their joints are barren. We have little doubt of its being the very same species with his. At any rate they are nearly allied, and the subject is so curious that we are glad to give even an imperfect view of it, in order to excite the curiosity of those who have leisure for microscopical inquiries. They will be amply rewarded by perceiving how great is the Creator in these his least works.

1071
98.



Agrostis
vulgaris.

AGROSTIS vulgaris.

Fine Bent-grass.

TRIANDRIA Digynia.

GEN. CHAR. *Cal.* of 2 acute valves, single-flowered.
Cor. of 2 unequal membranous valves. *Sigmas*
 feathery.

SPEC. CHAR. Panicle spreading; with divaricated ca-
 pillary branches. Calyx-valves equal. Inner petal
 obtuse, half as long as the other.

SYN. *Agrostis vulgaris.* *With.* 132. *Sm. Fl. Brit.* 79.
Hull. 19. *Reth.* 27. *Knapp, t.* 26 and 115.

A. tenuis. *Sibth.* 36.

A. capillaris. *Abbot.* 14.

A. polymorpha α . *Huds.* 31.

Gramen miliaceum locustis minimis, paniculâ ferè
arundinacê. *Raii Syn.* 402.

THIS grass, common in July and August in pastures, fields, and on banks by road sides, was always taken for *A. capillaris* of Linnæus, till his Herbarium came amongst us. See *Pl. Ic. ex Herb. Linn. t.* 54, where the true plant of that name is figured, specimens of which from Portugal I have lately received from Sir Thomas Gage.

The root of *A. vulgaris* is perennial and somewhat creeping. Stem erect, smooth, slender, leafy. Leaves narrow, acute, roughish, with long sheaths. Stipula short and blunt. Panicle upright, purplish, well known by its very numerous, spreading, capillary, zigzag branches, variously forked and subdivided, and its little ovate shining flowers. Calyx-valves nearly equal, lanceolate, rather acute, concave, with a membranous edge. Petals very thin, greenish white; the outermost scarcely so long as the calyx, the other but half as long.

The larger petal has sometimes a dorsal awn, when the plant becomes *A. canina* of Withering, not Linnæus. When dwarf it is *A. pumila* of authors, and in that state varies with or without an awn. Sometimes the corolla is elongated after flowering, as in *A. alba, t.* 1189.

1672

171.



Elymus arenarius.

Ver. 2560. Published by J. S. Sowerby, London.

ELYMUS arenarius.
Upright Sea Lyme-grass.

TRIANDRIA Digynia.

GEN. CHAR. *Cal.* lateral, aggregate, of 2 valves, containing (mostly) several flowers.

SPEC. CHAR. Spike upright, close. Calyx lanceolate, the length of the spikelets. Leaves with a spinous point.

SYN. *Elymus arenarius.* *Linn. Sp. Pl.* 122. *Sm. Fl. Brit.* 152. *Huds.* 56. *With.* 170. *Hull.* 27. *Mart. Rust. t.* 31. *Knapp, t.* 108.

Spartum herba 4 *Batavicum.* *Clus. Hist.* 2. 221.

ONE of the most valuable creeping-rooted grasses for binding the loose sand on the sea shore, in which its roots run to a very great extent. See p. 520 and 928 for remarks on this subject.

Elymus arenarius is found on the sandy coasts of Britain in various places, but does not often produce spikes. On the north side of Norfolk, at Wells, Mundesley, &c. it is abundant. Roots brought from thence by Mr. Crowe many years ago, and planted on a gravelly bank at Lakenham, have greatly increased, and blossom more or less plentifully every year in July. From these our specimen was procured. The stem is 3 or 4 feet high, erect, strong, round, very smooth, striated, most leafy at the base. Leaves hard and rigid, long, involute, spinous-pointed, very glaucous; marked on the upper side with strong rough furrows; smooth beneath. Stipula very short, by which the plant may at any time be distinguished from *Arundo arenaria*. Spike erect, dense, glaucous, not half so long as that of *E. geniculatus*, *t.* 1586, from which it is also known by the greater proportionable breadth of its calyx-valves, which do not exceed the spikelets in length, and moreover, as Mr. Sowerby observes, by not having the common stalk of its spike bordered or winged as in that species.

1673

211



Galium Mollugo.

Non Labat. Published by the Society, London.

G A L I U M Mollugo.

Great Hedge Bedstraw.

• *TETRANDRIA Monogynia.*

GEN. CHAR. *Cor.* of one petal, flat, superior. *Seeds* 2, roundish.

SPEC. CHAR. Leaves eight in a whorl, elliptical, bluntish, pointed, rough-edged. Flowers in loose spreading panicles.

SYN. *Galium Mollugo.* *Linn. Sp. Pl.* 155. *Sm. Fl. Brit.* 178. *Huds.* 68. *With.* 189. *Hull.* 36. *Relh.* 57. *Sibth.* 59. *Abbot.* 34. *Fl. Dan. t.* 455.

Mollugo vulgator. *Raii Syn.* 223.

β *Galium scabrum.* *With.* 190, but not of Jacquin.

THE tallest of our native species of *Galium*. It grows, not unfrequently, among bushes or upon hedges, rising to 3 or 4 feet or more in height, supporting its weak stem among their branches, and in return decorating them with a profusion of flowers throughout July and August. On open chalky hills it is of more humble growth.

The root is perennial and creeping. Stems flaccid, branched, leafy, swelling and pale above the joints, generally smooth; often a little downy; sometimes (as well as the leaves) rather hairy, in which case it is Dr. Withering's *G. scabrum*. Leaves 8 in a whorl, elliptic-lanceolate, or obovate, tipped with a small point, their edges rough with teeth pointing forwards. Panicles terminal, numerous, spreading. Flowers abundant, pure white, the segments of their corolla tipped each with a little erect point. Fruit small, smooth, often abortive.



Rumex acetosella.

RUMEX *Acetosella*.

Sheep's Sorrel.

HEXANDRIA Trigynia.

GEN. CHAR. *Cal.* 3-leaved. *Petals* 3, closed. *Seed* 1, superior, naked, triangular. *Stigmas* many-cleft.

SPEC. CHAR. Flowers dioecious. Leaves lanceolate, hastate. Valves without grains.

SYN. *Rumex Acetosella*. *Linn. Sp. Pl.* 481. *Sm. Fl. Brit.* 396. *Huds.* 156. *With.* 358. *Hull.* 78. *Relh.* 145. *Sibth.* 119. *Abbot.* 82. *Curt. Lond. fasc. 5. t. 29.*

Lapathum acetosum repens lanceolatum. Raii Syn. 143.

VERY general on a gravelly soil, either in exposed pastures or cultivated fields, where it flowers in June and July. In the decline of the year its bright red leaves are conspicuous, and give a glow to the herbage on many a barren heath and common.

The whole plant is about half the size of *Rumex Acetosa*, *v. 2. t. 127*. The roots are perennial, creeping, long and slender, astringent. Herb acid, and likewise in some degree astringent. Leaves lanceolate; the lower ones with a pair of acute lobes at the base, spreading at nearly right angles. Flowers reddish, in long, whorled, slender spikes; each flower on a drooping capillary stalk, all barren on one root, fertile on another. The valves, or segments of the calyx, are entire, and all destitute of grains, in which last particular it essentially differs from *R. Acetosa*.

1675

840



*Stachys
palustris.*

STACHYS palustris.

Marsh Woundwort.

DIDYNAMIA Gymnospermia.

GEN. CHAR. *Cal.* 5-cleft, awned. Upper lip of the *corolla* vaulted; lower reflexed at the sides, the large middle segment notched. *Stamina* when old bent outwards.

SPEC. CHAR. Six flowers in a whorl. Leaves linear-lanceolate, half embracing the stem. Root tuberous.

SYN. *Stachys palustris.* *Linn. Sp. Pl.* 811. *Sm. Fl. Brit.* 633. *Huds.* 259. *With.* 532. *Hull.* 132. *Relh.* 234. *Sibth.* 186. *Abbot.* 130. *Curt. Lond. fasc. 3. t. 35.* *Dicks. H. Sicc. fasc. 15. 8.*

Sideritis anglica strumosâ radice. *Raii Syn.* 242.

Panax coloni. *Ger. em.* 1005.

IN reedy watery places about the banks of rivers, and in wet hedges, this species is common, flowering in August. Mr. Curtis mentions it as "very noxious in many cornfields," but they must be such as are low and moist.

Root perennial, creeping very much, fleshy, in the autumn throwing out many tuberous young shoots. It is best eradicated before these shoots form, which is also before the seeds are perfected. Stems 2 or 3 feet high, straight, square, rough with deflexed bristles. Leaves serrated, silky above, rather woolly beneath, lanceolate or somewhat linear, (at least the lower ones,) acute; the upper ones heartshaped at the base, and clasping the stem. Spike of many whorls, accompanied by small leaves; the upper ones crowded. Calyx hairy. *Corolla* purple; its lower lip prettily streaked with white.

The whole plant has a strong unpleasant scent. Gerarde gives a very amusing account of its virtues in healing most "grievous and mortal wounds," the knowledge of which he derived from a clown, who cured a wound with it in a week, that, says Gerarde, "would have required 40 daies with balsam itself." Hence he named the plant Clown's Woundwort.

1676

847.



Calamintha officinalis.

Dec. 1. 1806. Published by J. T. Jewerby, London.

THYMUS Calamintha.

Common Calamint.

DIDYNAMIA Gymnospermia.

GEN. CHAR. *Cal.* 2-lipped, its orifice closed with hairs.

Upper lip of the *corolla* flat, notched.

SPEC. CHAR. Whorls on footstalks, forked, many-flowered. Leaves with shallow serratures. Hairs in the mouth of the calyx not prominent.

SYN. Thymus Calamintha. *Sm. Fl. Brit.* 641. *Relh.* 238.

Melissa Calamintha. *Linn. Sp. Pl.* 827. *Huds.* 263.

With. 538. *Hull.* 135. *Sibth.* 189. *Abbot.* 133.

Calamintha vulgaris. *Raii Syn.* 243.

THIS kind of Calamint occurs here and there about the borders of fields, hedge banks and road sides, on a gravelly soil, but is seldom found in any quantity together. It flowers from August to the very end of Autumn, and is perennial.

Though evidently distinct from *T. Nepeta*, *t.* 1414, and remarkable for its peculiar sweet and fragrant scent, the specific difference is not easily defined. The leaves of this are larger, with smaller serratures. Stem more constantly erect and bushy. Lower flowerstalks shorter than the leaves, and not so repeatedly nor regularly dichotomous as in the other. The white hairs which close the orifice of the calyx are by far less prominent, as well as less dense and conspicuous, than in *T. Nepeta*. The upper lip of the corolla is slightly concave, with reflexed edges.

The flavour of this species is much less like Pennyroyal. Its infusion is of a wholesome stomachic quality, and may be used as tea, like mint, balm or sage.

1677

956.



Sinapis alba.

The Author, Published by J. G. Sawley London.

SINAPIS alba.

*White Mustard.**TETRADYNAMIA Siliquosa.*

GEN. CHAR. *Cal.* widely spreading. Claws of the petals straight. *Nectariferous glands* 4. *Pod* more or less cylindrical, the partition longer than the valves.

SPEC. CHAR. Pods bristly, rugged, shorter than their own two-edged beak. Leaves pinnatifid.

SYN. *Sinapis alba.* *Linn. Sp. Pl.* 933. *Sm. Fl. Brit.* 721. *Huds.* 298. *With.* 594. *Hull.* 148. *Relh.* 263. *Sibth.* 208. *Abbot.* 146. *Curt. Lond. fasc.* 5. t. 46. *Mart. Rust. t.* 70.

Sinapi album, siliquâ hirsutâ, semine albo vel ruffo.
Raii Syn. 295.

RATHER common in fields, waste ground, and by road sides, flowering from June to the end of Autumn, and ripening abundance of seed. In a young state the herb is an ingredient in salads; and the seeds are used for culinary and medicinal purposes as well as those of *S. nigra*, v. 14. t. 969.

Root annual, small, tapering. Stem branched, spreading, round, leafy, striated, more or less rough with deflexed hairs. Leaves rough, jagged and toothed; the lowest deeply pinnatifid; the uppermost more lyrate. Calyx-leaves linear, green, spreading horizontally. Petals yellow, obovate, entire, with long claws. Glands green. Pods on long spreading stalks, ascending, short, swelling or rugged, ribbed, bristly, containing about 4 large, globose, pale yellowish seeds, and terminating in a flat 2-edged green rough beak, longer than the pod itself, by which this species is well distinguished.



1678
1186.

Centaurea Jacea.

Dec. 1806. Published by J. Sowerby, London.

CENTAUREA Jacea.

*Brown or Radiated Knapweed.*SYNGENESIA *Polygamia frustranea.*

GEN. CHAR. *Recept.* bristly. *Seed-down* simple. *Corollæ* of the radius funnel-shaped, irregular, longer than those of the disk.

SPEC. CHAR. Scales of the calyx membranous, torn; the lower ones pinnatifid. Leaves linear-lanceolate; the radical ones broader and toothed. Branches angular.

SYN. *Centaurea Jacea.* *Linn. Sp. Pl.* 1293. *Fl. Suec.* 300. *Jacea.* *Tillands. Ic.* 111.

THE knowledge of our native plants is not yet so complete but that something new may still be expected to reward the curious inquirer, even exclusive of the class *Cryptogamia*. Mr. W. Borrer has found in Sussex the true *Centaurea Jacea* of Linnæus, of which we have already spoken, *v.* 4. 278, as distinct from *nigra*, but which we did not then know to be a native of Britain. On the continent it seems the more common of the two; and yet we can scarcely find a certain figure of it, except in the rare old Swedish work of Tillands. The figure in *Ger. em.* 727, under *Jacea nigra*, is the very same cut with that in Paullis *Fl. Dan.*, which Linnæus quotes for his *C. Jacea*; but it is surely more like *C. nigra*, to which also the *J. nigra pratensis latifolia* of Bauhin seems to belong rather than to *C. Jacea*. In all this uncertainty our plate cannot be unacceptable.

Mr. Borrer's specimens agree precisely with the Swedish ones of Linnæus, and differ from *C. nigra* in having much narrower and sharper leaves, (the radical ones being toothed, and sometimes lacinated,) and radiant flowers; more especially in the calyx-scales being pale brown, membranous and shining; the uppermost rounded at the top and almost entire; the rest with a thin whitish jagged pinnatifid margin, totally different from the black-fringed scales of *C. nigra*. The plant is perennial, and flowers in August and September.

1679

144



Pteris aquilina

De Pteride, Tabula III. p. 144. Sowerby Londini.

P T E R I S aquilina.

*Common Brakes.**CRYPTOGAMIA Filices:*

GEN. CHAR. *Fructif.* in a marginal continued line. *Invol.* formed of the reflexed margin of the leaf itself, uninterrupted and bursting inwards.

SPEC. CHAR. Frond thrice pinnate; its segments lanceolate, bluntish; the lowermost pinnatifid; the uppermost smallest.

SYN. *Pteris aquilina.* *Linn. Sp. Pl.* 1533. *Sm. Fl. Brit.* 1136. *Huds.* 451. *With.* 765. *Hull.* 242. *Relh.* 407. *Sibth.* 267. *Abbot.* 224. *Bolt. Fil.* 16. t. 10.

Filix fœmina. *Raii Syn.* 124.

β. *F. saxatilis ramosa maritima nostras.* *Raii Syn.* 125. *Pluk. Phyt. t.* 182. *f.* 1.

THE most common of European ferns, growing copiously on heaths and open hilly places, as well as in thickets and woods, in all parts of our island. The root is perennial, the herb annual, springing up about April, when its unrolling scaly shoots are remarkable. It is sometimes killed down to the root by frosts in the spring, as happened all over Thetford heath this year, 1806.

The frond is erect, from 1 to 6 feet high, elegantly spreading, repeatedly compound, pinnate, its greater subdivisions more opposite than the smaller; the ultimate ones alternate, sessile, close, lanceolate, entire, rather blunt; smooth and striated above; broad at the base; their margin inflexed, jagged, hairy, covering the fructification. The barren leaflets are pale and hairy beneath. Capsules pale brown, each bound with a ring, and supported by a taper stalk. The main stem is angular and sharp-edged, cutting the hands of those who gather it unwarily. A transverse section shows the pith of a branched figure, compared by some to a spread-eagle, by others to King Charles in the oak; but rustic lovers fancy they here see the initials of their future spouse, of which there is no doubt, for the figures in question express any thing at the pleasure of the imagination. The principal use of this plant besides is for firing;

“*Neglectis wenda filix innascitur agris.*” *Hor. Sat.*

The delicate variety β grows on damp walls or rocks near the sea, and has rounder more distant leaflets. By culture it assumes the proper appearance of the species.

1680



Des. & del. Publiat. by J. J. Goussier, London.

PHASCUM crispum.
Curled-leaved Earth-moss.

CRYPTOGAMIA Musci.

GEN. CHAR. Capsule ovate, without any separate lid, deciduous. Veil minute, deciduous.

SPEC. CHAR. Stem branched. Stem-leaves very small, alternate; the floral ones awlshaped, curled and twisted when dry. Capsules several.

SYN. Phascum crispum. *Hedw. Sp. Musc.* 21. *Crypt.* v. 1. 25. t. 9. *Sm. Fl. Brit.* 1151. *Dicks. Crypt. fasc.* 4. 2. *Turn. Musc. Hib.* 2.

GATHERED near Bedford by the Rev. Dr. Abbot, and communicated to Mr. Sowerby in January 1805. It is annual, bearing fruit in the winter or early spring.

The stems grow in tufts, and are mostly branched, spreading, leafy, about a quarter of an inch high. Leaves light green, often yellowish, entire; the lower ones extremely small, alternate, lanceolate, concave; the upper ones gradually larger and closer: the floral leaves much the largest, clustered, single-ribbed, long-pointed, much curled and twisted when dry; dilated and pale at the base. Capsules few, terminal, nearly sessile, erect, elliptical, with a little oblique point, brown when ripe. Veil with a longish summit.

This being now ascertained as the true *Phascum crispum*, it is necessary to apply the following synonyms and character to our *tab.* 618.

PHASCUM multicapsulare.

Many-fruited Earth-moss.

SPEC. CHAR. Stem branched. Stem-leaves alternate; the floral ones linear-lanceolate, straight. Capsules numerous.

SYN. Phascum multicapsulare. *Sm. Fl. Brit.* 1152.

Ph. sphærocarpon. *Abbot.* 230.

Ph. crispum. *Swartz. Musc. Suec.* 17.

THIS is commonly of a duller green, and has much more numerous capsules. The floral leaves are more lanceolate, not contracting suddenly, and do not curl in the same manner by drying.

1681

1949



Verrucaria epigaea

Dec. 1. 1806. Published by Jas. Sowerby, London.

LICHEN terrestris.

Ground Lichen.

CRYPTOGAMIA Algæ.

GEN. CHAR. Male, scattered warts.

Female, smooth shields or tubercles, in which the seeds are imbedded.

SPEC. CHAR. Crust pale greenish grey, slimy. Tubercles minute, black, sunk in the crust.

SYN. *Verrucaria epigea*. *Ach. Meth.* 123.

Sphæria epigæa. *Persoon Syn. Fung. append.* xxvii.

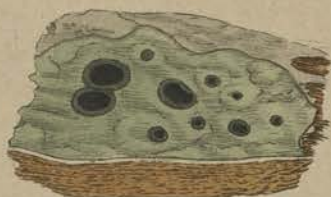
SENT to Mr. Sowerby from the neighbourhood of Norwich by the Rev. G. R. Leathes, who observes that it is common on dry barren banks, though but little known to botanists. Accordingly we find only the above synonyms applicable to it, and even Dr. Acharius has adopted the plant from Persoon without seeing it himself.

The crust spreads uniformly over the inequalities of the soil, and is of a yellowish or greenish grey, smooth (scarcely mealy) when dry; when wet soft and somewhat slimy. The little black tubercles are immersed in the crust, and scattered over the whole plant.

If on mature consideration the genus of *Verrucaria* should be retained, the original specific name *epigæa* must also remain; but that of *Lichen epigæus* is preoccupied, though perhaps not permanently. We have thought it best, for the present, to give a new specific name of the same meaning, in order to prevent confusion.

1682

2042



Lecidea abietina.
Duc. Labou. Publish'd by J. & S. Storer, London.

LICHIEN abietinus.

Pine-bark Lichen.

CRYPTOGAMIA *Algæ.*

GEN. CHAR. Male, scattered warts.

Female, smooth shields or tubercles, in which the seeds are imbedded.

SPEC. CHAR. Crust spreading, very thin, smooth, even, pale glaucous. Shields sessile, flattish, black clothed with grey powder; their margin black.

SYN. Lichen abietinus. *Ach. Prod.* 57. *Stockh. Trans.* for 1795. 139. t. 5. f. 7.

Lecidea abietina. *Ach. Meth.* 54.

THIS grows on the bark of different species of Fir, sometimes on the dead wood. It has been found in the north by Mr. Dickson and Rev. Mr. Harriman, and in Suffolk by the Rev. Mr. Leathes. Our British specimens agree with those sent by Dr. Acharius, who alone has described this species of Lichen.

The crust is extremely thin and uniform, spreading indefinitely over the wood and inseparable from it, of a very pale greenish grey, smooth, or slightly powdery, in which last case it is whiter. Shields scattered, sessile, black; when young minute, but perfectly formed, with a flat disk, which in time rises somewhat in the centre. The disk is more or less clothed with a fine grey mealiness, which easily rubs off, and leaves the disk black. The border is elevated, uniform in breadth, rounded, black, at length flexuose, and in some measure crenate.



1683

2032.



Lecidea incana?

Described & published by Jas. Sowerby, London.

LICHEN incanus.

Soft Mealy-crusted Lichen.

CRYPTOGAMIA Algæ.

GEN. CHAR. Male, scattered warts.

Female, smooth shields or tubercles, in which the seeds are imbedded.

SPEC. CHAR. Leprous, very mealy, soft, uneven, greenish grey. Shields scattered, sessile, brown, with a paler brown, even, smooth border.

SYN. Lichen incanus. *Ach. Prod.* 7. *With. v.* 4. 2. *Relh.* 444. *Sibth.* 316. *Hoffm. Enum.* 7. t. 1. f. 6.

Lepraria incana. *Ach. Meth.* 4.

Byssus incana. *Linn. Sp. Pl.* 1639? *Huds.* 609.

Hull. 308. *Abbot.* 278. *Lightf.* 1006.

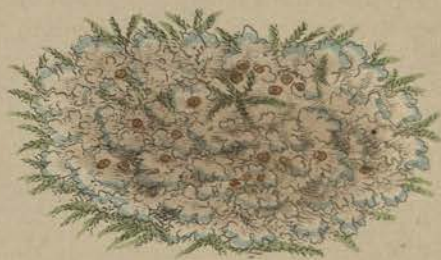
B. pulverulenta incana, farinæ instar strata. *Dill. in Raii Syn.* 56. *Musc.* 3. t. 1. f. 3.

THE crust of this Lichen is very common on trees, shady rocks, &c., often running loosely over mosses, and forming patches several inches broad, pale greyish or greenish white when dry, and of a very soft, loose, mealy, granulated texture; when wet it is still more tender and friable, and assumes a light glaucous green hue. This is the *Byssus incana* of authors, but we are doubtful whether Linnæus did not rather understand by that name the barren crust of *Lichen byssoides*, v. 6. t. 373. The shields were first discovered in January last by C. Lyell, Esq., on beeches in the New Forest, Hampshire. We have been also favoured with fine specimens from Mr. D. Turner, gathered by him in Sussex this spring. These shields are scattered, sometimes rather clustered, sessile, small, brown, of a horny or waxy appearance, nearly flat; the margin thick, smooth, elevated, of the same colour or rather paler, without any border from the substance of the crust itself. The internal substance of the shields is white.

The discovery of these shields proves the plant to be sufficiently distinct from *L. muscorum*, v. 9. t. 626, see *Ach. Prod.*, and moreover teaches us to mistrust the generic distinction between *Lichen* and *Lepraria*. May the *propagula* of the latter be analogous to the buds or bulbs of some other vegetables?

1684

2118



Squamaria muscorum.

Dec. 1780. Published by J. G. Sowerby, London.

LICHEN carnosus.

*Little Fleshy-shielded Lichen.**CRYPTOGAMIA Algæ.*

GEN. CHAR. Male, scattered warts.

Female, smooth shields or tubercles, in which the seeds are imbedded.

SPEC. CHAR. Imbricated, flat, light brown, smooth: its segments dilated, rounded, crenate; mealy and blueish at the extremities. Shields prominent, thick, with a flat orange-red disk, and border coloured like the frond.

SYN. Lichen carnosus. *Dicks. Crypt. fasc. 2. 21. t. 6. f. 7. With. v. 4. 33. Hull. 293.*

L: microphyllus. *Schrad. Spicil. 97. t. 1. f. 4.*

THIS pretty Lichen seems very little known. Mr. Dickson first found it on rocks in the mountainous part of Scotland. Our specimens were gathered in North Wales by J. W. Griffith, Esq., who sent others to Dr. Withering. Mr. Turner, on whose authority we depend for the synonym of Schrader, justly observes that the *L. microphyllus* of Acharius is not this, but our *L. escharoides*, *v. 18. t. 1247.*

The fronds spread horizontally over mosses, forming small irregular patches, attached by minute radicles. The segments are flat, sometimes ascending, oblong, wavy, smooth, somewhat imbricated, repeatedly subdivided, dilated, rounded and crenate towards the extremity; their colour is a light brown, very pale on the under side; the edges are tinged with blue, and slightly powdery; the inner substance of the frond is also blue or greenish. Shields solitary or clustered, small, prominent, with a flat orange-red disk, and a smooth slightly elevated border, of the colour and substance of the crust.—In natural affinity this species comes among the first *Imbricariæ* of Acharius's *Prodromus*, and according to his more recent arrangement is a *Parmelia*.

1685

2307



Fucus spiralis.

Dec 5, 1806. Published by J. Sowerby, London.

FUCUS spiralis.

Spiral Fucus.

CRYPTOGAMIA Algæ.

GEN. CHAR. *Seeds* produced in clustered tubercles, which burst at their summits.

SPEC. CHAR. Frond linear, dichotomous, spirally twisted, entire, with a central rib: the fructifying extremities cloven, rounded and obtuse.

SYN. *Fucus spiralis.* Linn. *Sp. Pl.* 1627. Gooden. and Woodw. *Tr. of Linn. Soc. v. 3.* 147. Huds. 577. *With. v. 4.* 92. *Hull.* 319. *Lightf.* 911. *Stackh. t. 5.*

F. vesiculosus ϵ . Turn. *Syn.* 119.

F. spiralis maritimus major. Raii *Syn.* 41.

IN *vol. 15. p.* 1066, we have assented to Mr. Turner's* opinion that this is a variety of *F. vesiculosus*, nor are we by any means determined to give up this point. Nevertheless, as many botanists think the two species distinct, and the excellent authors of the paper in the 3d vol. of the Linn. Society's Transactions, who unite many others to *vesiculosus*, have kept this separate, we are induced, by the persuasion of Mr. Turner himself, to publish the present figure.

Our specimens were found by Mr. W. Borrer on stones and planks in Shoreham harbour, Sussex, in September last, growing about high-water mark, and always in such situations as to be exposed to the air after every tide. Their colour and general appearance agree with *F. vesiculosus*, but the whole plant is lower and more bushy, and spirally twisted, though the last is not a very peculiar or constant character. The more remarkable distinctions are the almost total want of air-bladders, and the round blunt form of the yellow extremities where the seeds are lodged. In one of the Linnæan specimens indeed some of these extremities are more oblong, but they are still obtuse and rounded at the ends.

* We there erroneously included Dr. Goodenough and Mr. Woodward in this opinion, as far as regards *F. spiralis*.

1686

2436



Polysiphonia fruticulosa?

Dec. 1806. Publish'd by J. Sowerby, London.

F U C U S fruticosus.

*Little Shrubby Fucus.**CRYPTOGAMIA Algæ.*

GEN. CHAR. *Seeds* produced in clustered tubercles, which burst at their summits.

SPEC. CHAR. Frond capillary, brown, bushy, obscurely jointed, alternately and repeatedly branched; the ultimate divisions acute. Tubercles lateral, sessile, roundish.

SYN. *Fucus fruticosus.* *Wulf. in Jacq. Coll. v. 3 159. t. 16. f. 1. Turn. Syn. 394.*

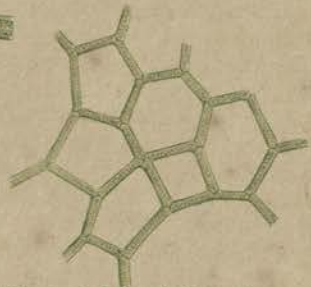
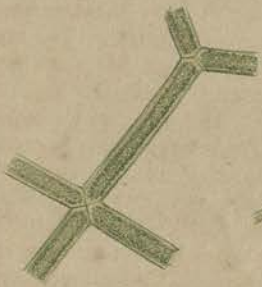
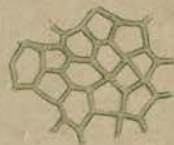
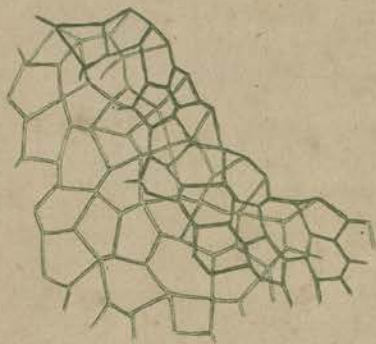
Conferva nigra. *Huds. 595? With. v. 4. 131? Hull. 331?*

GATHERED on the Cornish coast by Mr. Turner and Mr. Sowerby. Our specimen was communicated by Mr. Woodward. It is said to grow on the stems of the larger *Fuci*, and to be annual. Mr. Turner is the only British author who has described this species, except the above synonym of Hudson and his copiers be right, for which we have no further authority than the agreement of his short description with our plant, which in such cases is scarcely satisfactory without a comparison of specimens.

From one callous root arise many bushy fronds about 3 inches high, capillary, cylindrical, or slightly compressed, of a dark brown, alternately and repeatedly pinnate, transversely corrugated as if obscurely jointed; the ultimate segments awl-shaped, divaricated, acute, often tipped, as in our specimen, with tufts of pale woolly fibres, observed by Mr. Turner on some other species. See the Introduction to his Synopsis, p. 18. The seeds are lodged in roundish, sessile, lateral tubercles, coloured like the frond, and situated about the upper branches.

1687

2504



Hydrodictyon utriculatum?

Described by Sir J. Smith, London.

CONFERVA reticulata.

Netted Conferva.

CRYPTOGAMIA Algæ.

GEN. CHAR. *Seeds* produced within the substance of the capillary or jointed frond, or in closed tubercles united with it.

SPEC. CHAR. Filaments united into the form of a tubular net.

SYN. *Conferva reticulata*. *Linn. Sp. Pl.* 1635. *Huds.* 596. *With. v. 4.* 132. *Hull.* 331. *Relh.* 485. *Abbot.* 275. *Dichs. H. Sicc. fasc.* 14. 25. *Raii Syn.* 59. *Dill. Musc.* 20. t. 4. f. 14. *Hydrodictyum pentagonum.* *Vaucher Conf.* 88. t. 9.

WE were long ago favoured by the Rev. Mr. Relhan with specimens of this curious plant from Cambridge. In the pond of the Physic-garden there it abounds from June to September. Mr. Borrer has also sent the same from ditches at New Hall in the parish of Henfield, Sussex, and the late Mr. Pitchford found it at Heigham, near Norwich. It grows loosely floating in still fresh water, but is not a very general species.

Nothing can be more remarkable than its form, which is that of a green, tubular, very delicate net, open at both ends. The threads are cylindrical, tolerably even; the meshes have 4, 5 or 6 sides, but 5 is the most common number. No one has observed the mode of its propagation except M. Vaucher, who found the old plants in a stationary condition during winter, but in spring the joints swelled, and gave out simple cylindrical masses of green matter. Each mass soon became a reticulated tube, which in 2 or 3 months' time grew to the full size of the parent plant. This species is therefore annual. Perhaps Dr. Roth and M. Vaucher are justified in making a new genus of it, but no one is yet enough acquainted with its family to decide absolutely on this point. We only attempt for the present a correction of the generic character of *Conferva*.

1688



CONFERVA verrucosa.
Rough-warted Conferva.

CRYPTOGAMIA *Alge.*

GEN. CHAR. *Seeds* produced within the substance of the capillary or jointed frond, or in closed tubercles united with it.

SPEC. CHAR. Branches irregularly scattered and subdivided, scarcely jointed, studded with rough warts.

FOR this we are obliged to Miss Biddulph, who found it at Southampton in the summer of 1800. Mr. Turner informs us that he has had it for some years from the Cornish coast, and considering it as a new species allied to *C. villosa*, t. 546, has designated it by the above name. It grows on *Fuci* or other *Confervæ* in the sea, and belongs, with *C. villosa*, and *C. fluviatilis* of Linnæus, to a genus of M. Vaucher's called *Polyspermum*.

The frond is 3 or 4 inches high, pale reddish brown, capillary but uneven, much and very irregularly branched, somewhat twisted, not perceptibly jointed, except perhaps in the youngest shoots, where we can sometimes perceive at least an interruption of colour at intervals. The whole is beset with scattered warts, but slightly prominent, rough with little projecting bristles. These, according to Vaucher's account of *C. fluviatilis*, are jointed fibres in which the seeds are lodged. *Fucus pedunculatus* (see our t. 545) should seem to belong to the same genus with these plants.



CONFERVA setacea.

Crimson Setaceous Conferva.

CRYPTOGAMIA Algæ.

GEN. CHAR. *Seeds* produced within the substance of the capillary or jointed frond, or in closed tubercles united with it.

SPEC. CHAR. Crimson, alternately and repeatedly branched, taper-pointed. Joints a little swelling, four times as long as broad. Lateral shoots bearing tufts of filaments, containing many globular seeds.

SYN. *Conferva setacea.* *Huds.* 599. *With.* v. 4. 137. *Hull.* 333.

C. marina gelatinosa, corallinæ instar geniculata, tenuior. *Dill. Musc.* 33. t. 6. f. 37. *Turn. Tr. of L. Soc.* v. 7. 107.

Corallina confervoides gelatinosa rubens, ramulis et geniculis perangustis. *Dill. in Raii Syn.* 34.

A BEAUTIFUL species, cast up on the sea shore in various parts of our island in summer and autumn. Mr. Turner communicated it from Yarmouth. The fructification, said to be very rare, was sent us from Anglesea by our worthy friend the Rev. H. Davies.

The frond is very bushy, and repeatedly branched, the branches alternate, taper-pointed, but not acute. Joints cylindrical, very little swelling, about 4 times as long as broad, though many joints are found, here and there, much shorter. The colour is an uniform crimson, changing to orange as the plant lies on the beach. By drying the colouring matter contracts into the centre of each joint, as in other species, nor can its original position be restored by subsequent moistening. The short lateral branches of some specimens terminate in tufts of fine filaments, containing globular dark-crimson bodies, presumed to be the seeds.

1690

2702



Calothamnion tetragynum

CONFERVA tetragona.

Pink Square-branched Conferva.

CRYPTOGAMIA Algæ.

GEN. CHAR. *Seeds* produced within the substance of the capillary or jointed frond, or in closed tubercles united with it.

SPEC. CHAR. Red, repeatedly branched. Branches square. Joints twice as long as broad. Capsules lateral, sessile, globose.

SYN. *Conferva tetragona.* *With. v. 4. 405.* *Hull. 334.*
Dillw. Conf. t. 65.

THE late excellent Colonel Velley, whose valuable life was sacrificed at Reading last summer by the carelessness of a stage-coach driver, as many others have been, found this plant at the Bill of Portland, in company with Mr. Stackhouse. Mr. Dillwyn has gathered it near Swansea; and Mr. Turner at Weymouth and in Fresh-water bay. It grows parasitically on the larger *Fuci*, and is probably annual.

From one callous root arise many stems, 2 or 3 inches high, repeatedly and alternately branched, spreading in every direction. The branches are in 3 rows, the ultimate ones finely awlshaped. Joints of the stem twice as long as broad; those of the branches of much shorter proportion. According to Mr. Stackhouse's remark, both stem and branches are square with hollow sides. The capsules are globose, and sessile about the upper branches. The colour of the whole when fresh is an uniform light red or pink, but the colouring matter soon shrinks into the middle of each joint, and leaves the external part pellucid.

1697.

2.



Salicornia radicans.

SALICORNIA radicans.

Creeping-rooted Glasswort.

MONANDRIA Monogynia.

GEN. CHAR. *Calyx* swelling, undivided. *Pétals* none.*Stamens* 1 or 2. *Seed* 1, enclosed in the calyx.

SPEC. CHAR. Stem woody; procumbent and taking root at the base. Joints compressed, notched; interstices nearly cylindrical. Spikes oblong. Style deeply divided. Stamens two.

SYN. *Salicornia herbacea* β. *Sm. Fl. Brit.* 2.*S. erecta*, foliis brevibus, cupressiformis. *Dill. in Raii**Syn.* 137.*S. europæa* β. *Huds.* 1.

WE first received this plant in September 1798 from the Rev. Charles Sutton, D.D., who found it on the sea coast at Holm, Norfolk. Mr. W. Borrer has since sent it from the harbour at Shoreham, Sussex, and we have received information of it from Weymouth, and other places. I alluded to it as a distinct species in *v. 6. p. 415*, but in the *Fl. Brit.* was induced to refer it to the common annual kind as a variety. On mature consideration I now resume my first opinion.

It grows in mud, and appears to be a perennial plant, though Professor Afzelius thought it biennial, and it flowers in September. The stem is shrubby, erect or somewhat procumbent, but remarkable for creeping and taking frequent root at the base. The interstices of the stem are more slender and cylindrical than in *S. herbacea*, *Fl. Brit.* the spikes not so uniform in thickness throughout. We have always found 2 stamens to each germen. The style is deeply divided into 2 or 3 parts, in which last respect it differs from the real *S. fruticosa*, of which we have seen English specimens in Sherard's herbarium at Oxford, and the joints of whose spikes are moreover totally different from these, being longer and the flowers more distant.

1692
6.



Eravivus excelsior

FRAXINUS excelsior.

*Common Ash.**DIANDRIA Monogynia.*

GEN. CHAR. *Calyx* none, or in 4 deep segments. *Cor.* none, or in 4 deep segments. *Capsule* superior, of 2 cells, leaf-like and compressed at the summit. *Seeds* solitary, pendulous. Some flowers only female.

SPEC. CHAR. Leaflets serrated. Flowers without calyx or corolla.

SYN. *Fraxinus excelsior.* *Linn. Sp. Pl.* 1509. *Sm. Fl. Brit.* 13. *Huds.* 446. *With.* 57. *Hull.* 227. *Relh.* 5. *Sibth.* 18. *Abbot.* 220.

Fraxinus. Raii Syn. 469.

A COMMON tree, preferring a dry or limestone soil to a boggy one, and flowering in April. The leaves come out after the flowers are past, and the capsules ripen towards autumn.

The stem is tall, straight and handsome, clothed with a smooth grey bark. Branches spreading and rather drooping. Buds singularly black and somewhat downy. Leaves opposite, pinnate. Leaflets 5 or 6 pair, with an odd one, nearly sessile, ovate, acute, serrated, smooth, except that the main rib is fringed beneath. Common footstalk channelled and bordered on the upper side. Flowers from lateral buds below the leaf-buds, paniced, drooping, small, brown, consisting of an ovate germen and short style, with an obtuse stigma, with a small stamen on each side, no calyx nor petals. Sometimes the stamens, rarely the germen, are wanting. Capsules strikingly characteristic of the genus, oblong, flat, leaf-like, with 2 cells, and 1 seed in each, glittering with brown meal like an almond, but bitter and nauseous.

The wood is tough, valuable for many purposes. There is a variety with weeping or drooping branches, and another with simple leaves. Both are propagated by grafting only.

164
64



Scirpus setaceus.



Benj. Smeath, Publ. by W. & A. Gower, London.

SCIRPUS setaceus.

Least Club-rush.

TRIANDRIA Monogynia.

GEN. CHAR. *Glumes* chaffy, imbricated every way, all fertile. *Cor.* none. *Seed* 1.

SPEC. CHAR. Stem naked, bristle-shaped. Spikes lateral, generally in pairs, sessile, without bractees.

SYN. *Scirpus setaceus.* *Linn. Sp. Pl.* 73. *Sm. Fl. Brit.* 54. *Huds.* 20. *With.* 76. *Hull.* 14. *Retz.* 21. *Sibth.* 24. *Abbot.* 11. *Dicks. H. Sicc. fasc.* 12. 1.

S. foliaceus humilis. *Raii Syn.* 430.

FREQUENT in gravelly or sandy watery places, where it blossoms in July and August.

Root annual, fibrous. Stems numerous, tufted, various in luxuriance, from 2 to 5 inches high, slender, round, smooth, pointed, bearing one or two sheathing leaves at their base, which are much shorter than the stem, but of a similar form. There are also many short reddish imbricated scales on the outside of the base of the leaves. Near the top of each stem are placed 1 or 2, sometimes 3 or even 4, lateral, sessile, ovate, short spikes, formed of numerous broad reddish-brown glumes, each with a green margin and keel. Stamens and stigmas 3. Seed, as Leers justly observes, without any bristles at its base.

Linnæus in his 2d *Mantissa*, p. 321, confounded another species of *Scirpus* with this, which is perhaps his own *Cyperus minimus*.

1694

65.



Scirpus triquetrus

S C I R P U S triquetter.

*Triangular Club-rush.**TRIANDRIA Monogynia.*

GEN. CHAR. *Glumes* chaffy, imbricated every way, all fertile. *Cor.* none. *Seed* 1.

SPEC. CHAR. Stem triangular, straight, naked, sharp-pointed. Spikes lateral, sessile or pedunculated. Stigmas two.

SYN. *Scirpus triquetter.* *Linn. Mant.* 1. 29. *Sm. Fl. Brit.* 55. *With.* 76. *Hull.* 14.

S. mucronatus β . *Huds.* 20.

Juncus acutus maritimus, caule triquetro maximo molli, procerior nostras. *Raii Syn.* 428.

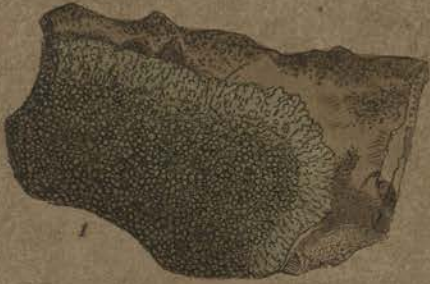
β . *Scirpus mucronatus.* *With. ed.* 2. 50. *Huds.* 20, α .

Juncus acutus maritimus, caule triquetro rigido, mucrone pungente. *Dill. in Raii Syn.* 429.

FOUND, though rarely, about the muddy banks of great rivers exposed to the tide, especially in the Thames, above and below London. Our specimens were gathered in August at Lambeth, Battersea, &c.

Root perennial, creeping, forming large entangled tufts. Stems a yard high, erect, naked, triangular, smooth, sharp-pointed, the angles more or less acute. Spikes near the top, lateral, generally, but not always, accompanied by a small sharp floral leaf. They vary much in number, as well as in the length of their stalks, being all sometimes quite sessile, in which state the plant has been taken, though very wrongly, for *S. mucronatus* of Linnæus. The spikes have a few scales between them, and are ovate, their glumes red-brown, keeled, pointed, with a pale, dilated, jagged margin. The stamens are accompanied by 2 or 3 short rough intermediate bristles, and the stigmas are 2*. The variety β , found near the sea, is said to be more hard and rigid in its stem.

* Which was justly observed by the late Mr. W. Brunton to be the case likewise with *S. palustris*, though in our *t.* 131 three are expressed. The error arose from *S. multicaulis* not being then well understood. See Mr. Turner's *Bot. Guide* 667. In the preceding page, indeed, my lamented correspondent has charged me with an error of his own respecting *Veronica Chamædryis*, as his specimens, now before me, prove.



LICHEN saxicola.

Radiated Wall Lichen.

CRYPTOGAMIA Algæ.

GEN. CHAR. Male, scattered warts.

Female, smooth shields or tubercles, in which the seeds are imbedded.

SPEC. CHAR. Crust circular, finely lobed, somewhat imbricated, pale sulphureous green; the lobes cut, crenate, zigzag and entangled. Shields central, crowded, flattish, tawny brown, with a pale uneven border.

SYN. Lichen saxicola. *Ach. Prod.* 104.

L. muralis. *Dicks. Crypt. fasc.* 1. 11. *With. v.* 4. 29.

Hull. 292. *Reth.* 460. *Sibth.* 417. *Abbot.* 264.

Psora muralis. *Hoffm. Pl. Lich. v.* 1. 77. *t.* 16. *f.* 1.

Parmelia saxicola. *Ach. Meth.* 191.

NOT very uncommon on sandstone rocks, brick walls, and loose flinty stones in open situations. On the broad flat stones with which houses are tiled in Yorkshire, it grows peculiarly luxuriant, spreading into a circular band a foot or more in diameter, the centre being entirely obliterated by time.

Most generally it occurs in round patches an inch or two broad, of a pale greenish sulphur-colour, closely attached, more or less neatly lobed and imbricated according to the hardness and smoothness of what it grows upon. The crust is cut into narrow linear segments, closely entangled and in some measure imbricated, dilated and crenate externally, smooth, scarcely separable from the stone. Shields small, crowded, central, sessile, almost flat, rather browner than the crust, but having a crenate or uneven border of the same substance and colour as that part. On moist mossy walls is found a more lax and dilated variety, of which we exhibit a specimen.

We do not see why Pollich's name *saxicola* has been preferred to the older and equally suitable one of Schreber, *muralis*.

1696

2160



Parmelia virella?

Det. & color. Publ. 1771 by A. L. L. in work by Lagaria.

LICHEN *virellus*.*Little Green Imbricated Lichen.*CRYPTOGAMIA *Algæ.*

GEN. CHAR. Male, scattered warts.

Female, smooth shields or tubercles, in which the seeds are imbedded.

SPEC. CHAR. Imbricated, flexible, stellated, greyish-green; its segments flat, short, lobed, obtuse; black and spongy beneath; sprinkled above with powdery warts and reddish lucid grains. Shields dark brown, with a green, smooth, inflexed border.

SYN. *Lichen virellus*. *Ach. Prod.* 108.

Parmelia virella. *Ach. Meth.* 201.

GATHERED by Mr. W. Borrer on trees and pales in Sussex, and ascertained by comparison with specimens from Dr. Acharius.

The fronds form small irregular patches, spreading in a radiant manner, but often running into each other, and may easily be separated, when moist, from the wood or bark. The segments are short, narrow, zigzag, obtusely lobed, somewhat imbricated, flat and smooth above, of a fine green when wet, changing to a pale dull grey when dry. Pale powdery warts are scattered over them, and towards the younger extremities are often found small smooth prominent little points or grains, when fresh and moist clear and reddish, but soon becoming black. The under side of the frond is clothed with dense black spongy hairs, which project like a fringe beyond the edges. The shields are scattered, nearly sessile, small, round, dark reddish brown or black, rather concave, with a thick smooth elevated entire margin, of the colour and substance of the frond. Sometimes a sort of fringe invests the shields underneath, supposed to be an exclusive character of *L. ulothrix* of Acharius, which however we think a distinct species from this. How far *L. cyclosetis* of the same eminent author, a very common plant, is distinct from *virellus*, we are by no means satisfied,

1697



Tom. 1697. Publiis. et. In. Societate. Londini.

LICHEN stellaris.

Black-shielded Stellated Lichen.

CRYPTOGAMIA Algæ.

GEN. CHAR. Male, scattered warts.

Female, smooth shields or tubercles, in which the seeds are imbedded.

SPEC. CHAR. Imbricated, flexible, stellated, pale unchangeable grey, at length rugged and granulated; its segments linear, convex, repeatedly subdivided; beneath whitish with black fibres. Shields greyish black, with a grey inflexed border.

SYN. Lichen stellaris. *Linn. Sp. Pl.* 1611. *Huds.* 534. *With. v. 4.* 31. *Hull.* 294. *Relh.* 460. *Sibth.* 325. *Abbot.* 264. *Lightf.* 824.

Lichenoides cinereum, segmentis argutis stellatis, scutellis nigris. *Dill. Musc.* 176. *t. 24. f. 70.*

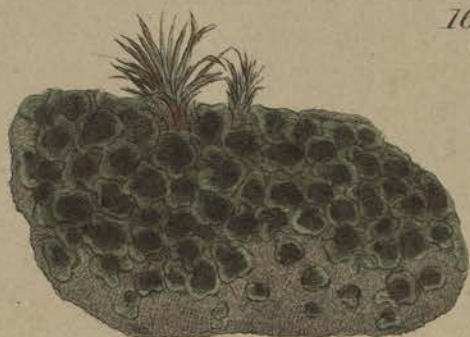
L. arboreum, crusta foliosa albo-cinerea, tenuiter et eleganter dissecta, scutellis nigris. *Raii Syn.* 74.

Parmelia stellaris. *Ach. Meth.* 209.

A VERY common species on the bark of trees, where it forms roundish patches, conspicuous for their neat radiating figure and their bright silver-grey hue, which is nearly the same whether wet or dry, and never assumes any tinge of green. The frond is easily separable from the bark, to which it adheres by numerous black or brown fibres, springing from its whitish under surface. The upper surface is smooth when young, but in process of time becomes finely rugged or almost granulated. Segments linear, convex, imbricated, much and repeatedly subdivided; their extremities obtuse. Shields very numerous, small, round, black or greyish-black, with a neat grey inflexed border, commonly smooth and entire, until it becomes old.—How far *L. anthelinus* and *ai-polius* of Acharius are really distinct from this, we are not fully satisfied. His *pulverulentus* is widely so, though made a variety by Hudson, Lightfoot, &c. When the last-named author mentions a variety of *L. stellaris* with central warts, and no shields, we believe he means *L. cæsius*, *v. 15. t. 1052*, for we scarcely find warts on our *stellaris*. The figure of Dillenius *t. 24. f. 70.* is truly miserable, but has not been disputed.

1698

1954



Endocarpus lachucum?

Sen. & Roy. Publish'd by J. J. Sowerby London.

LICHEN lachneus.

*Woolly-rooted Angular Lichen.**CRYPTOGAMIA Algæ.*

GEN. CHAR. Male, scattered warts.

. Female, smooth shields or tubercles, in which the seeds are imbedded.

SPEC. CHAR. Fronds simple, crowded and somewhat imbricated, thickish, rounded, waved and lobed; olive green and smooth above; black and spongy beneath. Tubercles in immersed black dots.

SYN. Lichen lachneus. *Ach. Prod.* 140.

Endocarpon lachneum. *Ach. Meth.* 127.

COMMON on the Sussex downs, as well as on the rocks at Cheddar and Bristol hot-wells, according to Mr. W. Borrer, from whom we received specimens which agree with what Dr. Acharius has sent. I gathered this species plentifully at Bristol in 1799, but was not satisfied of its being distinct from *L. trapeziformis*, v. 9. t. 595. It differs however from that species in having more oblong and dilated fronds, crowding, and lying over, each other, more irregularly sinuated and waved, and of a dull olive hue, which turns yellowish and pale with age. Their base is thick and spongy, very firmly rooted to the clods of earth from whence the plant derives nourishment. A few scattered dots are each the station of a little immersed tubercle or shield.

Whether Dillenius's *tab.* 30. *f.* 135. be intended for this plant, is a botanical enigma far beyond our power to solve. It has always been taken for Mr. Dickson's *squamatus*, a small variety of his and our *luridus*, v. 19. t. 1329. Mr. Turner found no specimen of this *f.* 135, in the Dillenian herbarium,

1699

2408



Conferva rupestris

Tabularia, DORVILLE, in de F. Generis, London.

CONFERVA rupestris.

Green Rock Conferva.

CRYPTOGAMIA Algæ.

GEN. CHAR. *Seeds* produced within the substance of the capillary or jointed frond, or in closed tubercles united with it.

SPEC. CHAR. Dull green. Filaments much branched, clustered, rigid, straight, obtuse. Joints elongated, even. Partitions colourless.

SYN. *Cónferva rupestris.* *Linn. Sp. Pl.* 1637. *Huds.* 601: *With. v.* 4. 140. *Hull.* 334. *Relh.* 485. *Dillw. Conf. t.* 23.

C. marina trichodes ramosior. *Dill. Musc.* 28. *t.* 5. *f.* 29.

C. marina trichoides, seu muscus marinus virens tenuifolius. *Dill. in Raii Syn.* 60.

THIS is a very common species, and familiar to most observers of marine plants. It occurs frequently on the sea shore, growing in dense tufts upon rocks, pebbles, or dead shells, and is known by its dull verdigrise (not olive) green, and a slight rigidity or harshness when handled.

The stems are from 3 to 6 inches long, very much and repeatedly branched, slender and even; the branches mostly alternate, erect and straight; sometimes opposite or clustered. Joints cylindrical, at least twice or thrice as long as they are broad, often much more. At each end they are pellucid and colourless. In drying the green matter often collects most at the upper end of each joint, which so becomes swelled. The fructification seems not to have been discovered.

What Hudson and his followers have made a variety of this, and which is figured by Dillenius, *t.* 5. *f.* 28, was judged by Mr. Turner when at Oxford to be a new species, which the account of it in Dillenius abundantly justifies.

1700



Fig. x. 1700; Published by J. T. Sowerby London.

CONFERRA comoides:

Hair-brown Tufted Conferva:

CRYPTOGAMIA Algæ.

GEN. CHAR. *Seeds* produced within the substance of the capillary or jointed frond, or in closed tubercles united with it.

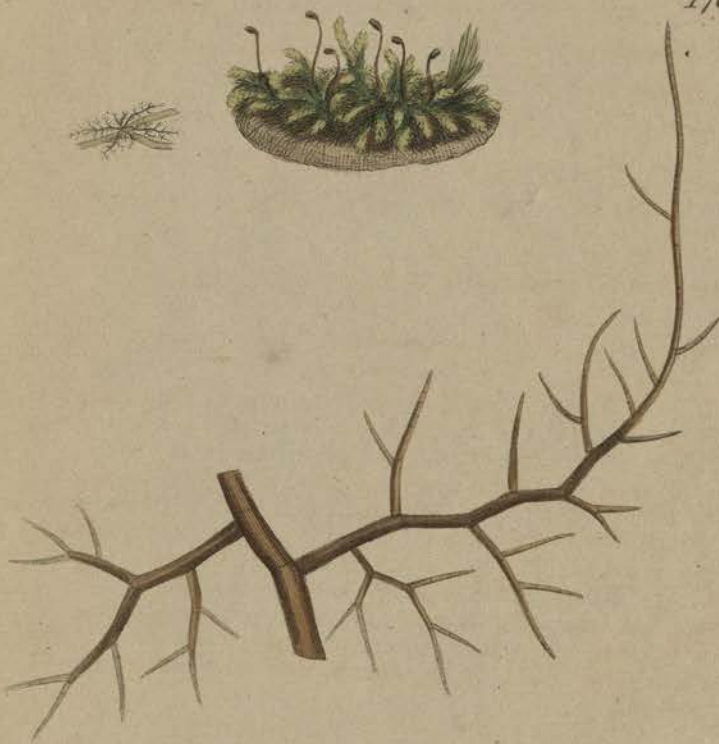
SPEC. CHAR. Purplish brown. Filaments capillary, branched, zigzag, very obscurely jointed. Branches scattered, sharp-pointed, but little spreading.

SYN. *Conferva comoides.* *Dillw. Conf. t. 27.*

SENT from Yarmouth by Mr. W. Borrer in October last. It is said by Mr. Dillwyn, the only writer who has given any account of it, to be common on our sea shores, growing on other sea-weeds, or on stones, " frequently so covering the " round pebbles which abound among the rocks with its " slender hair-like tufts, lying one over the other, as to give " them a striking resemblance to the head of an infant." The filaments are very uniform in thickness, always zigzag or undulated, not straight, their joints scarcely discernible. The branches are rather distant, scattered, coming off at very acute angles, and each terminating in a sharp point. No fructification has been detected. The colour of the whole plant is a fine hair-brown, inclining to purple, changing to a greenish grey in drying.

1701

2637.



Protonema castanea

Illustr. Publish'd by J. C. Smith, London.

CONFERVA castanea.
Creeping Chesnut-coloured Conferva.

CRYPTOGAMIA *Algae.*

GEN. CHAR. *Seeds* produced within the substance of the capillary or jointed frond, or in closed tubercles united with it.

SPEC. CHAR. Chesnut brown. Filaments creeping, branched, entangled, alternately bipinnate. Branches divaricated, tapering, acute. Joints elongated, even.

SYN. *Conferva castanea. Dillw. Conf. t. 72.*

MISS Biddulph, by whom we have at various times been favoured with many of those curious vegetable productions that escape the notice of vulgar eyes, discovered this *Conferva* in April 1806 near Southampton, growing among *Hypnum molluscum*. Mr. Dillwyn, who alone has made it known to the public, found the same species "on hedge banks in a lane on a high hill between the Gower and Lougher roads, about 4 miles from Swansea," and has illustrated it by an excellent figure. It may possibly be found in other places, for its resemblance to several other plants, and, above all, to the fibrous radicles of many mosses, may have caused it to be overlooked.

This species creeps in loose entangled patches, not only among mosses, but over dead stalks and sticks, and, as Mr. Dillwyn informs us, over stones and earth. Its colour is a clear chesnut brown, lightest in the young shoots. The creeping stem throws off many alternate procumbent curved branches, which are twice or thrice subdivided in a pinnate but alternate manner, their ultimate divisions being acute, and they all stand almost at right angles with the branch from which they spring. The joints are even; in the stem and main branches 3 or 4 times as long as they are broad, in the younger parts rather shorter in their proportion. No fructification is known.

1702

2109



Calithamnion Rothii

Edw. & J. G. Smith, London

CONFERVA Rothii.

Rothian Conferva.

CRYPTOGAMIA Algæ.

GEN. CHAR. *Seeds* produced within the substance of the capillary or jointed frond, or in closed tubercles united with it.

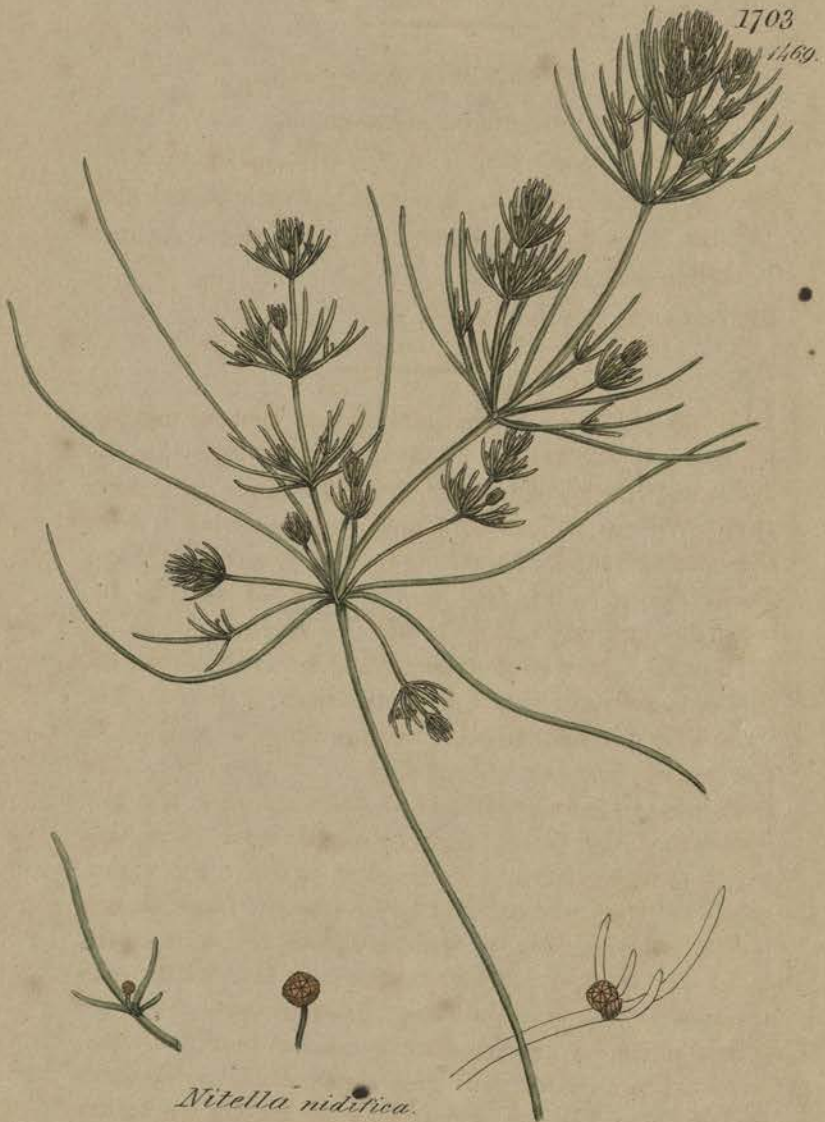
SPEC. CHAR. Bright red. Filaments erect, closely tufted, much branched. Branches alternate; the upper ones crowded. Joints twice as long as broad.

SYN. *Conferva Rothii.* Turton. *Syst. Nat.* v. 6. 1806. *Dillw. Conf.* t. 73.

C. violacea. Roth. *Catal.* v. 1. 190. t. 4. f. 1.

WE first received a specimen of this beautiful little *Conferva* from Mr. Robert Brown, Libr. L. Soc., who gathered it in a limestone cave on the northern coast of the county of Antrim, near Bally castle, in 1799, and who aptly named it *phænicea*. Dr. Turton however having published it by the name of its first finder, the celebrated Roth, we readily adopt that denomination, and the reference to Dr. Turton, from Mr. Dillwyn's work. The term *violacea* is preoccupied by Hudson. Mr. Sowerby obtained the specimen in his plate from the Rev. Hugh Davies, who gathered it on the north-east coast of Anglesea, and who is the original discoverer of the plant in Britain.

It grows in oblong patches, of a bright red, when dry assuming more of a crimson or purplish cast. The filaments are very fine, erect, crowded, half an inch or somewhat more in height, divided in their lower part into distant alternate branches, and in the upper into more crowded ones, all the terminations of which are acute. The joints are even, or but little swelling, about twice as long as broad. We know nothing of the fructification.



Nitella nidifica.

Feb. 11867. Published by Jas. Sowerby London.

C H A R A nidifica.

Proliferous Chara.

MONANDRIA Monogynia.

GEN. CHAR. *Cal.* none. *Cor.* none. *Anthera* tessellated. *Style* none. *Berry* with many seeds.

SPEC. CHAR. Smooth, transparent, without prickles. Leaves cylindrical, elongated, all simple. *Anthera* often stalked.

SYN. *Conferva nidifica.* *Fl. Dan. t.* 761.

DISCOVERED at Shoreham harbour, Sussex, by Mr. W. Borrer in the autumn of 1805, and by the same indefatigable and intelligent botanist at Cley, Norfolk, in October 1806. We are obliged to him for distinguishing it from *Chara flexilis*, and for suggesting that the synonym of *Flora Danica*, quoted in *Fl. Brit.* and our *v. 15. t. 1070* for the latter, more properly belongs to this new species.

The whole plant is of a stouter and firmer habit than *Ch. flexilis*, as well as of a more divaricated mode of growth. The leaves differ materially in being twice or thrice as long as in that species, and yet always simple and undivided. The small branches which surround the primary ones, and bear fructification, all spread at right angles from them, and are frequently compound or whorled in their upper part, giving the plant a dense and bushy aspect. Three or four small simple branches, or leaflets, accompany each flower, which consists of an anthera standing on a footstalk (various in length and occasionally wanting), and sometimes of a sessile germen adjoining. In the earlier specimens from Shoreham, whose antheras were most generally stalked, no germens could be found; in those from Cley the anthera was for the most part sessile.

1704
91.



Polypogon monspeliensis

Ed. Labey. Publish'd by J. T. Sowerby, London.

AGROSTIS panicea.
Bearded Bent-grass.

TRIANDRIA Digynia.

GEN. CHAR. Cal. of 2 acute valves, single-flowered.
Cor. of 2 unequal membranous valves. Stigmas feathery.

SPEC. CHAR. Panicle spiked, dense, lobed and subdivided. Calyx-valves linear-lanceolate, rough, with long capillary awns. Corolla with a terminal awn. Stem upright. Root fibrous.

SYN. *Agrostis panicea*. *Ait. Hort. Kew. v. 1. 94.*

A. triaristata. *Knapp. t. 23.*

Phleum crinitum. *Schreb. Gram. 151. t. 20. f. 3. Sm.*

Fl. Brit. 71. Sm. Prodr. Fl. Græc. Sibth. v. 1. 42.

Alopecurus aristatus. *Huds. 28.*

A. monspeliensis et paniceus. *Linn. Sp. Pl. 89, 90.*

With. 121. Hull. 16, 17.

A. maxima anglica. *Raii Syn. 396.*

IF any department of botany requires circumspection and frequent revision and correction, the genera of grasses are in that predicament. I submit to the opinion of Mr. Knapp, which was originally that of the great Solander, founded on the habit of this grass, and strengthened by the analogy of *Agrostis littoralis*, *v. 18. t. 1251*, in removing it from *Phleum* to that genus, and have hinted at the propriety of this measure in the *Prodromus Fl. Græcæ* just published. I cannot however adopt a new specific name, which applies equally well to *A. littoralis*, when a better is already in print in the *Hortus Kewensis*.

A. panicea occurs here and there in moist maritime situations. It was sent us from the northern coast of Norfolk by Mr. W. Borrer. It is annual, flowering late in the autumn, and varies much in size according to accidental circumstances. Hence Linnæus has described it twice over. The root is small and fibrous. Stems one or more, upright or ascending, very smooth, leafy. Leaves rough-edged, with long smooth sheaths. Stipula oblong, rough at the back. Panicle pale, dense, lobed and branched, of innumerable flowers, the long shining rough awns of whose calyx-valves give the whole a peculiar silky appearance. The awn of the corolla is much shorter. The calyx-valves, though acute, are cloven, owing to the insertion of the awns.

1705
764



Tilia parviflora.

Fig. 2287. PUBLISHED by J. Sowerby, London.

TILIA parvifolia.

*Small-leaved Lime or Linden-tree.**POLYANDRIA Monogynia.*

GEN. CHAR. *Cal.* in 5 divisions. *Petals* 5. *Capsule* superior, leathery, obovate, of 5 cells (seldom all perfected), and 5 valves. *Seeds* 1 or 2 in each cell.

SPEC. CHAR. Flowers without a nectary. Leaves heart-shaped, sharply serrated, somewhat lobed. Capsule roundish, very thin.

SYN. *Tilia parvifolia.* *Ehrh. Arb.* 36.

T. microphylla. *Ventenat in Annals of Botany, v. 1.* 209.

T. europæa β . *Sm. Fl. Brit.* 571.

T. folio minore. *Raii Syn.* 473.

RAY says this Lime-tree is common in Essex and Sussex, and found also in other places. The only tree we have seen near Norwich has certainly been planted, in an avenue among the common broad-leaved kind, described in *v. 9. t. 610*. Its aspect is peculiar. The leaves are much smaller than in that species, more glaucous beneath, rather more sharply serrated, and very frequently lobed towards the point. Their footstalks are also more slender, and of rather a longer proportion. The flowers appear about a month later, being scarcely in full perfection before August, when they are conspicuous, and very fragrant like those of the Honeysuckle. The capsule is small, roundish, scarcely angular, and rarely perfects more than one cell with a single seed. Its coat is remarkably thin and tender, on which circumstance the able M. Ventenat chiefly founds the specific character, for the fruit of the Broad-leaved Lime-tree is hard, thick and woody. The leaves of both are hairy at the branching of the veins beneath, and in this species often abound with hairy blotches as they grow old.

1706

1132.



Artemisia maritima.

Edwards's Bibliotheca by J. S. Smith London.

ARTEMISIA *maritima*.
Drooping-flowered Sea Wormwood.

SYNGENESIA *Polygamia-superflua*.

GEN. CHAR. *Recept.* naked or downy. *Seed-down* none. *Cal.* imbricated, the scales roundish and closed. *Florets* of the radius awlshaped, undivided.

SPEC. CHAR. Leaves downy, pinnated: the uppermost undivided. Clusters drooping. Receptacle naked. Flowers oblong, downy, sessile.

SYN. *Artemisia maritima*. *Linn. Sp. Pl.* 1186. *Willd. Sp. Pl. v. 3.* 1833. *Sm. Fl. Brit.* 864, α , β . *Huds.* 358. *With.* 709. *Hull.* 182. *Relh.* 321. *Woodv. Med. Bot. t.* 122.

Absinthium marinum album. *Raii Syn.* 188. *n.* 2. also 3, 4 and 6.

AT the persuasion of Mr. Turner and Professor Willdenow we have been induced to reconsider the Sea Wormwoods, and it appears that two distinct species are common on our muddy shores, distinguished by having drooping or upright flowers, which differences seem to be constant, and to be accompanied with differences in the general aspect of the plants.

This is the *A. maritima* of the Linnæan Herbarium, and of all authors, being the more common of the two. It is subject to varieties in the breadth and hoariness of its leaves, and when our *t.* 1001 was published, we thought we had found the posture of the flowers also variable. We take the first opportunity of correcting this mistake, and would substitute for what is given in *v.* 14, at *t.* 1001, the following character and synonyms.

ARTEMISIA *gallica*.
Upright-flowered Sea Wormwood.

SPEC. CHAR. Leaves downy, pinnated; the radical ones capillary: the uppermost undivided. Clusters erect: Receptacle naked. Flowers oblong, downy, partly sessile, of few florets.

SYN. *Artemisia gallica*. *Willd. Sp. Pl. v. 3.* 1834.

A. maritima γ . *Sm. Fl. Brit.* 864.

Absinthium seriphium tenuifolium marinum narbonense. *Dill. in Raii Syn.* 189.

1707

1669



Didymodon
trifarius.

Feb 1707. Published by J. J. Sowerby London.

TRICHOSTOMUM trifarium.

Three-ranked Fringe-moss.

CRYPTOGAMIA Musci.

GEN. CHAR. *Caps.* oblong. *Fringe* of 32 capillary, straightish teeth, approximated or united in pairs.

SPEC. CHAR. Leaves lanceolate or awlshaped, in three rows, keeled, entire. Capsule ovate. Stem branched, Stamens at the base of the fruitstalk.

SYN. *Trichostomum trifarium.* *Sm. Fl. Brit.* 1235.

Cynontodium trifarium. *Hedw. Sp. Musc.* 57.

Swartzia trifaria. *Hedw. Crypt. v. 2.* 76. *t.* 28. *Ehrh. Crypt.* 174.

Bryum trifarium. *Dicks. Crypt. fasc. 3.* 8. *With.* 827. *Hull.* 261. *Abbot.* 238.

OUR kind friend the Rev. Dr. Abbot has favoured us with specimens of this rare moss, discovered by himself at Clapham springs near Bedford. They perfectly agree with those of Mr. Dickson, and we think with Ehrhart's (which are the only authority for what Hedwig intended); but the last-mentioned having but very young capsules, we cannot ascertain whether Hedwig's figure of the fringe, certainly unlike ours, be exact. In the important and unfrequent circumstance of the stamens being in the same flower with the capsule both agree. This character Hedwig has described, but not delineated.

This moss is perennial, bearing fruit in March and April. The stems are branched, and form tufts scarcely half an inch high, of a dull and rather rusty hue. Leaves keeled, entire, with a strong rib, but no bristly point: the lower ones are lanceolate; the upper awlshaped, spreading in 3 directions. Flowers terminal. Stamens few, jointed, accompanied by a few brown pistills, of which 1 only comes to perfection. Fruitstalk red, twisted, at length lateral, bulbous at the base, surrounded by several abortive pistills. Capsule small, ovate, smooth, brown, erect. Lid conical, scarcely so long as the capsule, nearly straight. Fringe pale and long.

1708

1659



Tortula tortuosa.

Ed. 1707, Published by J. J. Smith, London.

TORTULA tortuosa,

*Frizzled Mountain Screw-moss.**CRYPTOGAMIA Musci.*

GEN. CHAR. *Fringe* simple, of numerous capillary teeth, spirally and repeatedly twisted together.

SPEC. CHAR. Stem branched, even-topped. Leaves linear inclining to lanceolate, keeled; twisted and undulated when dry. Capsule cylindrical, slightly ovate. *Fringe* lax.

SYN. *Tortula tortuosa*. *Hedw. Sp. Musc.* 124. *Sm. Fl. Brit.* 1258. *Turn. Musc. Hib.* 52.

Bryum tortuosum. *Linn. Sp. Pl.* 1583. *Huds.* 486. *With.* 830. *Hull.* 255. *Lightf.* 727. *Relh.* 423. *Dicks. Dr. Pl.* 48.

B. cirratum, *setis et capsulis longioribus*. *Dill. Musc.* 377. *t.* 48. *f.* 40.

B. trichoides longifolium, *crassiusculis cauliculis, capitulis erectis, aduncis, acutis*. *Dill in Raii Syn.* 98.

FOUND copiously on the mountains of Wales, Scotland and the north of England. On mossy limestone rocks behind Matlock bath it abounds, but does not always bear capsules. Its fructifying season is the summer.

The stems are branched, an inch or two, often more, in height, forming dense even-topped tufts, many inches broad. Leaves closely imbricated, permanent, of a beautiful bright green; rusty when old: their form is lanceolate, almost linear, with a rib, but no point; the margin for the most part entire, but here and there obtusely toothed, and every where so crisped and undulated, especially when dry, (in which state the whole leaf is incurved and curled), that some have thought it serrated. Fruitstalks an inch and half long, of a shining crimson, pale yellow at the summit. Capsule a little inclining, slender and cylindrical, but finally erect and more ovate, smooth, light reddish brown, with a crimson edge. Lid thin, tapering, a little curved, half as long as the capsule, *Fringe* long, crimson, rolled up under the lid as in others of the genus, but afterwards so lax as to approach the nature of a *Trichostomum*. The veil is long and slender,

1709

1571



Hypnum squarrulosum.

Flora Europ. Illustrat. by J. Sowerby London.

HYPNUM squarrosulum.

*Little Spreading-leaved Feather-moss.**CRYPTOGAMIA Musci.*

GEN. CHAR. *Caps.* ovate-oblong, from a lateral scaly sheath. *Outer fringe* of 16 teeth, dilated at the base: *inner* a variously-toothed membrane. *Veil* smooth.

SPEC. CHAR. Stem procumbent, branched; the branches irregularly pinnated. Leaves awlshaped, entire, without a nerve, broad at the base, spreading widely and somewhat reflexed. Capsule drooping. Lid conical, short.

SYN. *Hypnum squarrosulum.* *Bridel. Musc. v. 3. 149. t. 4. f. 2.*

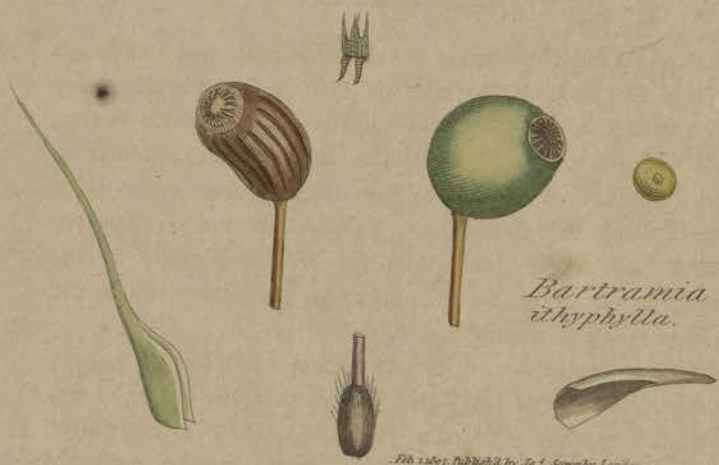
GATHERED in Mackershaw wood near Ripon by the late Mr. W. Brunton, and by no one else, to our knowledge, in Britain. It bears fruit in the early part of summer. The learned Bridel, who alone has published it, found it in Saxony and Switzerland.

The habit of the plant is somewhat like *H. serpens*, but it belongs to another section of the genus characterized by squarrose leaves, where it should stand near *H. squarrosulum*. The stems are perennial, creeping, green, producing many pinnated slender leafy branches. Leaves of a bright or yellowish green, small, spreading in every direction, at right angles with the branches, or a little reflexed. They are entire, with a broad base, destitute of any nerve or plait, and taper into a very fine point. Sheaths of rather broader and shorter leaves, also without nerves. Fruitstalks an inch long, red, smooth. Capsule drooping, ovate, somewhat curved. Lid, which Bridel never saw, short and conical. Mr. Brunton communicated at the same time a much smaller variety, but differing in no other respect.

In the progress of a long work like this we might expect to have occasion from time to time to lament the loss of many veterans in science, but we have more frequently deplored the ravages of death among our more youthful associates. Mr. William Brunton of Ripon, whose favours we have often acknowledged, is now added to the melancholy catalogue. He was born Oct. 21, 1775, and died June 23, 1806, of a decline, which had long threatened his life. Early devoted to Botany and Chemistry in particular, he ardently pursued those studies to the last. Very strong natural parts, an excellent memory, acuteness and patience of investigation, formed his scientific character; his private one, as we are assured by an excellent friend, was no less estimable, and his relations have sustained an irreparable loss.

1710

1599



*Bartramia
ithyphylla.*

Fig. 1. 2. 3. 4. 5. 6. 7. 8. 9. 10. 11. 12. 13. 14. 15. 16. 17. 18. 19. 20. 21. 22. 23. 24. 25. 26. 27. 28. 29. 30. 31. 32. 33. 34. 35. 36. 37. 38. 39. 40. 41. 42. 43. 44. 45. 46. 47. 48. 49. 50. 51. 52. 53. 54. 55. 56. 57. 58. 59. 60. 61. 62. 63. 64. 65. 66. 67. 68. 69. 70. 71. 72. 73. 74. 75. 76. 77. 78. 79. 80. 81. 82. 83. 84. 85. 86. 87. 88. 89. 90. 91. 92. 93. 94. 95. 96. 97. 98. 99. 100.

BARTRAMIA ithyphylla.
Straight-leaved Bartramia.

CRYPTOGAMIA Musci.

GEN. CHAR. *Capsule* spherical, at length furrowed.
Outer fringe of 16 tapering teeth; *inner* a plaited
 membrane.

SPEC. CHAR. Fruit-stalks erect, longer than the stems.
 Leaves capillary, with a very broad base, entire,
 very straight when dry.

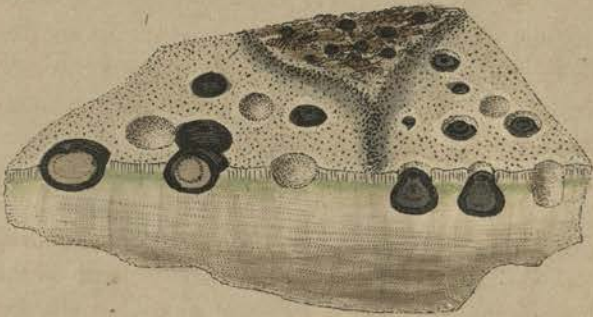
SYN. *Bartramia ithyphylla.* *Bridel. Musc. v. 4. 132.*
t. 1. f. 6. Turn. and Dillw. Bot. Guide, 730.
Winch. Bot. Guide, 113.

MR. SOWERBY informs me that this moss was first found in Great Britain by his 2d son Mr. George Sowerby, in May 1803, at Llyn-vach, near Pont-nedd-vechan, in South Wales, since which it has been sent him by the Rev. Mr. Dalton from Yorkshire, and Mr. Winch from Northumberland. It is probably, as Bridel observes, not uncommon in Europe, having been easily overlooked for *B. pomiformis*, v. 14. t. 998, and according to him, taken for the latter even by the excellent Professor Swartz.

It differs from the species just mentioned in having longer, narrower, quite capillary, and almost perfectly entire leaves, (though very much dilated at the base,) which in every state of the plant, whether dry or wet, always remain perfectly straight, and this is known by experience to be a good specific difference. The capsules grow on long, terminal, upright, though not quite straight, fruitstalks, and are larger than those of *B. pomiformis*. When ripe they are deeply and regularly marked with 16 furrows.

1711

1939



Verrucaria rupestris

Muscic. Publish'd by Jo:⁹ Seaverly London.

LICHEN Schraderi.

Schraderian Lichen.

CRYPTOGAMIA Algæ.

GEN. CHAR. Male, scattered warts.

Female, smooth shields or tubercles, in which the seeds are imbedded.

SPEC. CHAR. Crust hard, whitish, smooth. Tubercles black, globose, umbilicated, half sunk in the crust.

SYN. Lichen Schraderi. *Ach. Prod.* 13.

Verrucaria Schraderi. *Ach. Meth.* 114.

V. rupestris. *Schrad. Spicil.* 109. t. 2. f. 7.

FOUND on chalk or calcareous stones in various places, though from its minuteness often overlooked. Mr. Borrer sent our specimen from Sussex.

In the structure of its crust, the cavities of which contain the fructification, nothing can more nearly approach *L. immersus*, figured in *v. 3. t. 193*; but the fructification is smaller, and differs so essentially as to have caused Professor Acharius to refer it, very justly according to his system, to another genus, *Verrucaria*, while our *immersus* is truly a *Lecidea*. The tubercles of the plant before us are very minute, globular, when fully grown, but half sunk in the crust, marked at the top with a little puncture or depression, coal-black externally, grey within, when ripe lined with seeds.

We have compared our plant with an original specimen, sent by the liberal botanist whose name it bears, and whose admirable figure, indeed, leaves no room for doubt upon the subject.

1772
1045



Vermicaria acrotella?

Mar. 2. 1707. published by J. Sowerby London.

LICHEN acrotellus.

Little Sharp-tubercled Lichen.

CRYPTOGAMIA Algæ.

GEN. CHAR. Male, scattered warts.

Female, smooth shields or tubercles, in which the seeds are imbedded.

SPEC. CHAR. Crust scarcely any. Tubercles minute, scattered, somewhat confluent, black, unequal, convex, pointed, umbilicated.

SYN. *Verrucaria acrotella.* *Ach. Meth.* 123.

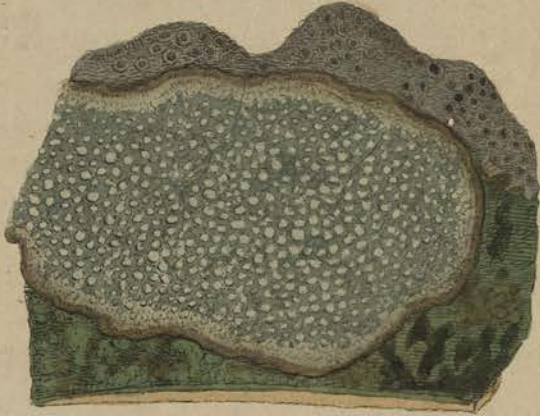
COMMUNICATED to Acharius by his celebrated friend Professor Swartz, from whom we also have received a specimen, which accords precisely with what Mr. Borrer has sent us on a flint from Sussex.

No crust is discernible, except certain minute black fragments intermixed with the tubercles are to be considered as such, but we are rather inclined to believe them young or abortive fructification. The perfect tubercles are about the size of those of *L. Schraderi*, scattered over the smooth broken face of the flint, sometimes crowded together, round, with a little prominence, on the summit of which is a dimple or orifice.

Acharius hints that it may be the first rudiments of his *Urceolaria fimbriata*. We should not have suspected any such thing; but however that may be decided by future observations, we have thought it worth while to publish a figure of what has no where been noticed but in the work above cited,

1713

1990



Variolaria faginea.

Abstr. tab. 1. Published by J. G. Goussier, London.

LICHEN fagineus.

Bitter Powdery-shielded Lichen.

CRYPTOGAMIA Algæ.

GEN. CHAR. Male, scattered warts.

Female, smooth shields or tubercles, in which the seeds are imbedded.

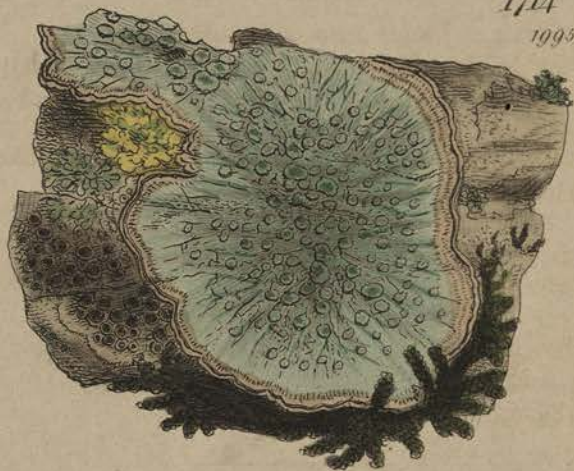
SPEC. CHAR. Crust rugged, bordered, greyish. Tubercles prominent, hemispherical, mealy, very white.

SYN. Lichen fagineus. *Linn. Sp. Pl.* 1608. *Ach. Prod.* 27. *Huds.* 526. *With. v.* 4. 4. *Hull.* 284. *Relh.* 446. *Sibth.* 318. *Abbot.* 257. *Lightf.* 807. *Hoffm. Enum.* 18. t. 2. f. 4.*Variolaria faginea.* *Ach. Meth.* 12.

A VERY common Lichen on the trunks of Beech, Sycamore, Oak, &c., about which no doubt nor difficulty has been supposed to exist; yet we cannot with certainty fix upon any synonym of Dillenius, and Professor Acharius has lately distinguished many species nearly allied to it, and all together constituting his *Variolaria*, a genus characterized by its mealy tubercles, (contrary indeed to our definition of *Lichen*), which probably will hereafter be firmly established.

The crust is circular, grey or greenish when young, rugged, polished, with a thin, smooth, elegant border, coloured with concentric shades of brown. Numerous prominent tubercles are scattered over the central part, which are very white, powdery and somewhat convex in their disks, with a clumsy imperfect kind of border. By age both crust and tubercles become of the same dirty white.

Mr. W. Borrer has helped us to a sure criterion of this species, which is its very bitter taste, not perceptible immediately, but, when perceived, very strong, disagreeable, and permanent on the palate for many hours, like that most abominable of all flavours the root of *Cyclamen europæum*.



Variolaria discoidea.

Mar. 25. 1707. Publ. et Lith. J. J. Storer. London.

LICHEN discoideus.

Inspid Powdery-shielded Lichen.

CRYPTOGAMIA Algæ.

GEN. CHAR. Male, scattered warts.

Female, smooth shields or tubercles, in which the seeds are imbedded.

SPEC. CHAR. Crust rugged, bordered, greyish. Tubercles mealy, white, flattish: at length concave, with a dilated, torn border.

SYN. Lichen discoideus. *Ach. Prod.* 28.L. fagineus. *Hoffm. Enum. t. 7. f. 5.*L. albescens. *Huds.* 529.L. carpineus. *Lightf.* 807.Lichenoides candidum et farinaceum, scutellis ferè planis. *Dill. Musc.* 131. t. 18. f. 11.Variolaria discoidea. *Ach. Meth.* 14.

THIS is probably as common as *L. fagineus*, with which it has been confounded. The synonym of Dillenius, generally applied to *fagineus* before Professor Acharius wrote, surely rather belongs to this, and we think we are right also in quoting Lightfoot, though the *carpineus* of Linnæus is a very different thing.

The present specimen was sent us from Yarmouth by Mr. W. Borrer, who observes that the bitter flavour of *L. fagineus* is not found in this species. Acharius describes it as most white when young, but his own specimen, though old, is as white as possible. The chief characteristic of *L. discoideus* seems to be the little elevation of the tubercles, which, after their powdery contents are discharged, become quite concave, to which may be added their dilated and expanded margin. On the trunks of old trees, particularly in wet weather, this Lichen is very conspicuous for its whiteness.

1715

2240



Borrera Atlanticae

Musc. 2. 807. Published by J. Sowerby London.

LICHEN atlanticus.

Downy Shrubby Lichen.

CRYPTOGAMIA Algæ.

GEN. CHAR. Male, scattered warts.

Female, smooth shields or tubercles, in which the seeds are imbedded.

SPEC. CHAR. Leafy, branched, tufted and entangled, grey, downy, linear, channelled underneath; branches rigid, divaricated. Shields lateral, flattish, black, with a smooth, entire, grey border.

SYN. Lichen intricatus. *Desfont. Atlant. 420. t. 258. f. 3.**Lichenoides subhirsutum teres, scutellis parvis nigris.**Dill. Musc. 157. t. 21. f. 51. Herb. Dill.**Parmelia atlantica. Ach. Meth. Suppl. 50.*

FIRST found in Britain by Mr. W. Borrer, on elms at Bracklesham in Selsey island, in April 1804, and by the same gentleman on cliffs near Hastings, bearing shields in August 1805. We should gladly have called it *L. Borreri* after its discoverer, who is so peculiarly conversant with Lichens, the name *intricatus* being preoccupied, and that which alludes to its growing on mount Atlas being contrary to the soundest rules of nomenclature. The synonym of Dillenius, which no one has suspected, we have ascertained by a specimen compared at Oxford. Indeed his figure and description are instantly recognised.

The fronds form dense entangled tufts on the branches of trees or on rocks, and are of a grey or whitish colour, clothed with fine short down. Their subdivisions are numerous, divaricated, linear, channelled beneath. Shields lateral, sessile, small, round, with a black disk, at length becoming convex, and an entire downy border, of the colour and substance of the frond.

It belongs to the same natural tribe as *L. prunastri*, *farinaceus*, *fuciformis*, &c. Micheli is its original discoverer, who sent it to Sherard, and whose indifferent figure (*Gen. Pl. t. 38. f. 3.*) Dillenius, as usual, takes delight in criticizing.

1716

2407



Conferva pellucida

Mac. & Libby. Publish'd by J. & S. Bowerby, London.

CONFERVA pellucida.

Pellucid Three-branched Conferva.

CRYPTOGAMIA Algæ.

GEN. CHAR. *Seeds* produced within the substance of the capillary or jointed frond, or in closed tubercles united with it.

SPEC. CHAR. Green, erect, much branched. Branches mostly ternate, cylindrical. Joints even, cylindrical, four times as long as broad.

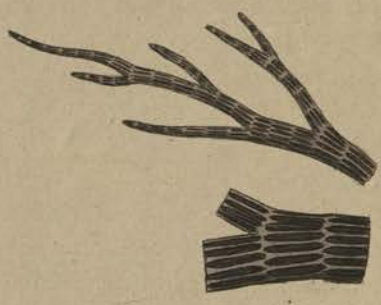
SYN. *Conferva pellucida*. *Huds.* 601. *With. v. 4.* 139. *Hull.* 334.

SENT from Yarmouth by Mr. Turner in August last.

It is cast up on the beach in large green shining pellucid tufts, about 6 inches tall, which are somewhat wiry and elastic to the touch. The lower part of the frond is naked and stem-like, of a brown or purplish cast; the upper much and repeatedly branched, the branches commonly three together, the ultimate ones opposite or alternate; all a little spreading, exactly thread-shaped, bluntish. Joints exactly cylindrical, about 4 times as long as broad, of an uniform pellucid green, with partitions somewhat of a darker hue. The fructification is unknown to us.

1717

2442



Polysiphonia migrescens.

Mon. zool. bot. t. 1. p. 10. fig. 10. 11.

CONFERVA nigrescens.
Blackish Compound-jointed Conferva.

CRYPTOGAMIA Algæ.

GEN. CHAR. *Seeds* produced within the substance of the capillary or jointed frond, or in closed tubercles united with it.

SPEC. CHAR. Blackish, much and alternately branched. Branches elongated; the ultimate ones short, crowded, awlshaped. Joints rather broader than long, compound.

SYN. *Conferva nigrescens. Huds. 602. With. v. 4. 141. Hull. 334.*

WE have received this from Mr. Turner of Yarmouth, and also from the Scottish coast by favour of Mr. Brodie, in September last. It appears by the authors above quoted to be common in Devonshire and Cornwall.

The fronds form dark blackish dense tufts, from 4 to 6 inches in length, consisting of long principal hard threads, very sparingly branched, but bearing innumerable crowded ultimate subdivisions all along their course, which are simple or divided, alternate, awlshaped and acute. The whole plant is jointed throughout, the joints rather contracted, scarcely so long as they are broad. Every joint is compound, consisting of a circular series of numerous parallel tubes, and a transverse section shows this series to be double. In these compound joints this species agrees with *C. byssoides*, described in our 8th volume, *tab. 547*. Mr. Stackhouse is said to have found the fructification in "small lateral nodules," which we have not seen, but the description accords with those of *C. byssoides*, and further confirms the affinity of the two species.

1778

2424



Cladostephus verticillatus.

Mar. 1. 1807. Publ. in the Journal of the Society of London.

CONFERVA verticillata.

Whorled Spongy Conferva.

CRYPTOGAMIA Algæ.

GEN. CHAR. *Seeds* produced within the substance of the capillary or jointed frond, or in closed tubercles united with it.

SPEC. CHAR. Brown. Frond cartilaginous, variously branched, beset with close whorls of slender, incurved, simple or forked filaments. Joints about as broad as long.

SYN. *Conferva verticillata*. *Lightf.* 984. *Huds.* 653. *With.* v. 4. 133. *Hull.* 332. *Dillw. Conf. t.* 55.

NOT at all unfrequent on the Scottish or English coasts, though overlooked by Hudson, or rather confounded by him with his *C. spongiosa*, the *Fucus hirsutus* of Linnæus, which agrees with our plant at first sight, but differs essentially in the irregular disposition and simple form of the little branches which clothe the main stem of both these *Confervæ* in so peculiar a manner.

The main stem of *C. verticillata* is round, wiry, black, irregularly branched, somewhat zigzag and spreading, obscurely jointed. The joints are a little contracted, scarcely longer than broad. Each part where they unite is beset with a dense whorl of fine, rigid, incurved, simple or forked, jointed, flattish filaments, which being much longer than their corresponding joints, lie imbricated over the whorl above them, and give the whole plant a spongy appearance, and a harshness to the touch. We are ignorant of the fructification.

1710

183.



Poa glauca L.

POA caesia.

*Sea-green Meadow-grass.**TRIANDRIA Digynia.*

G. N. CHAR. Cal. of 2 valves, containing many florets.

Spikelet rounded at the base. Cor. of 2 ovate, pointed, beardless valves. *

SILIC. CHAR. Panicle spreading. Spikelets ovate, five-flowered. Glumes lanceolate, silky-edged, unconnected by any web. Stipula very short and blunt.

SYN. *Poa caesia*. Sm. *Fl. Brit.* 103.

MY first knowledge of this plant was derived from specimens sent from Scotland to Mr. Fairbairn of Chelsea garden, and I have been obliged to have recourse to that collection for what appears in the annexed plate, having never seen a wild specimen. The late Mr. J. Mackay sent me others from his own garden, the roots of which he had brought from Ben Lawers and other Highland mountains.

This is a perennial grass, flowering in June and July, and remarkable for its glaucous hue. The spikelets are prettily varied with purple, white, green, and a silvery gloss, occasioned by a range of satin-like hairs near the edges of the outer glumes, as well as on the keel. It is one of those *Poa* whose florets are destitute of that complicated connecting web at the base, so remarkable in several others. The root is fibrous, tufted. Stems about a foot high, round, smoothish, with 2 joints near the bottom. Leaves linear-lanceolate, bluntish, flat, rough to the touch, except on the back near the base. Sheaths roughish, about as long as the leaves. Stipula variable in size and shape. Panicle upright, spreading, much branched, with rough stalks. Spikelets ovate, of about 5 florets, their calyx-valves nearly equal. Florets blunt, a little remote, on a zigzag hairy common stalk; their inner valves rough-edged.



Potamogeton glauca.

Her. tab. 7. Tabula 7. Pro. Ad. Seculo. Londini.

POA glauca.

Slender Glaucous Meadow-grass.

TRIANDRIA Digynia.

GEN. CHAR. *Cal.* of 2 valves, containing many florets. *Spikelet* rounded at the base. *Cor.* of 2 ovate, pointed, beardless valves.

SPEC. CHAR. Panicle glaucous, slender, erect. Spikelets ovate, of about three flowers. Glumes bluntish, silky-edged, unconnected by any web. Stipula very short.

SYN. *Poa glauca.* *Fl. Dan. t.* 964. *With.* 148. *Sm. Fl. Brit.* 1388. *Hull.* 23.

P. cæsia. *Knapp. t.* 56.

P. n. 1468. *Hall. Hist. v.* 2. 224. *Lachenal.*

Gramen paniculatum angustifolium montanum, paniculâ densâ, locustis parvis muticis. *Scheuchz. Agr.* 180.

THE *Poa glauca* of Withering has been communicated to me by Mr. Griffith, the original authority for it in Britain, who found it on Snowdon, and I have no doubt of the correctness of the above synonyms. The specimen in the plate grew in Chelsea garden, and came from Scotland. It is perennial, flowering in June.

The whole plant is very glaucous, the glumes variegated with purple and white, and marked with rows of silvery hairs, as in *P. cæsia*; but the florets are commonly only two, rarely three, in each calyx, and they are also more angular than those of that species. In this last respect they approach *P. nemoralis*, to which the slenderness of the whole plant is, in some degree, similar. The stipula is always small; leaves narrow, with somewhat inflated sheaths. Florets without any complicated web at their base.



Chenopodium rubrum



Walters, Fildes & Co. London.

CHENOPODIUM rubrum.

*Red Goosefoot.**PENTANDRIA Digynia.*

GEN. CHAR. *Cal.* 5-cleft, inferior. *Cor.* none. *Seed* 1, lenticular, invested with the closed five-sided calyx.

SPEC. CHAR. Leaves triangular approaching to rhomboid, deeply toothed and somewhat sinuated. Clusters upright, compound, leafy.

SYN. *Chenopodium rubrum.* *Linn. Sp. Pl.* 318. *Sm. Fl. Brit.* 274. *Huds.* 105. *With.* 271. *Hull.* 56. *Retz.* 100. *Sibth.* 88. *Abbot.* 54. *Curt. Lond. fasc.* 6. *t.* 21.

Blitum Pes anserinus dictum. *Raii Syn.* 154.

COMMON in waste ground among rubbish, especially in situations that are low and muddy, and in a rich soil, flowering from August to October.

Root annual. Herb smooth, varying much in luxuriance, as well as in colour, being often tinged with red, and in exposed situations very much so. When bruised it has a faint fœtid odour. Stem generally erect, from 1 to 3 feet high, branched, somewhat pyramidal, leafy, round, furrowed. Leaves alternate, on stalks, triangular but lengthened out at the base so as to be almost rhomboid, deeply toothed and more or less sinuated, scarcely shining. Clusters of flowers axillary, rather spreading, compound, interspersed with numerous little leaves, often red. Calyx mostly smooth. Seeds blackish, shining, smooth, smaller than in most others of the genus, being about the size of common sand, whereas those of *C. urbicum* are, as Mr. Curtis observed, much larger. Ray mentions a plant resembling this, *Syn.* 154. *n.* 4, whose seeds he says are extremely minute; which induces us to consider it as a variety of what is here described.

1722

358.



Chenopodium murale.

Mercurius Publicatus by J. G. Swartz, London.

CHENOPODIUM murale.

Nettle-leaved Goosefoot.

PENTANDRIA Digynia.

GEN. CHAR. *Cal.* 5-cleft, inferior. *Cor.* none. *Seed* 1, lenticular, invested with the closed five-sided calyx.

SPEC. CHAR. Leaves ovate, acute, toothed, shining. Clusters very much branched, cymose, leafless.

SYN. *Chenopodium murale.* *Linn. Sp. Pl.* 318. *Sm. Fl. Brit.* 274. *Huds.* 105. *With.* 272. *Hull.* 56. *Relh.* 100. *Sibth.* 88. *Abbot.* 54. *Curt. Lond. fasc.* 6. *t.* 20.

Blitum Pes anserinus dictum, acutiore folio. *Raii Syn.* 154.

VERY abundant on banks and under walls about towns and villages in the autumn, flowering in August and September, and ripening abundance of seed in the following months. The whole plant is foetid, known by its branched spreading stem, its dark shining leaves, which are ovate and sharply toothed, but especially by its cymose and very compound clusters or panicles, destitute of small leaves, springing from the stem a little above the insertion of each footstalk, being therefore not truly axillary. The clusters are most crowded about the summit of the stem, and one of them is terminal. The root is annual. Calyx more or less frosted or glandular. Seed larger than in *C. rubrum*, black, very minutely dotted. The stem is often tinged with dark purple rather than red.

The seeds of the various species of *Chenopodium* afford a large supply of food to small birds.

1723

367



Chenopodium album

Sp. 2. 4. 1. Published by the Author London.

CHENOPODIUM album.

White Goosefoot.

PENTANDRIA Digynia.

GEN. CHAR. *Cal.* 5-cleft, inferior. *Cor.* none. *Seed* 1, lenticular, invested with the closed five-sided calyx.

SPEC. CHAR. Leaves ovate, inclining to rhomboid, jagged, entire towards the base; upper ones oblong and perfectly entire. Seeds smooth.

SYN. *Chenopodium album.* *Linn. Sp. Pl.* 319. *Sm. Fl. Brit.* 275. *Huds.* 106. *With.* 271. *Hull.* 56. *Retz.* 101. *Silth.* 88. *Abbot.* 55. *Curt. Lond. fasc. 2. t. 15.*

Blitum Atriplex sylvestris dictum. *Raii Syn.* 154.

β. *Chenopodium viride.* *Linn. Sp. Pl.* 319. *With.* 272. *Hull.* 56.

C. album β. *Huds.* 106.

γ. *C. foliis integris racemosum.* *Dill. in Raii Syn.* 155.

THE most common of its genus in all kinds of cultivated ground, as well as about dunghills and waste places, flowering throughout the summer and autumn. It is known by its peculiar hoary or silvery aspect, which is caused, not by any hair or down, but by a mealiness, greasy to the touch, and becoming at length dry and chaffy.

Root annual. Stem branched, angular, rarely reddish. Leaves on longish stalks; the principal ones ovate inclining to deltoid, coarsely toothed, entire towards the base: the upper ones, about the flowering portion of the stem, more or less oblong, and perfectly entire. Bunches of flowers oblong, blunt, erect, compound, accompanied by small leaves, but those leaves are not intermixed with the flowers. Calyx frosted. Seeds brown, very smooth, not dotted.

Dillenius in Ray's *Synopsis*, 155, 156. *n.* 10 and 13, mentions what seem to us trivial varieties of this plant, which is a very variable species. Its most remarkable and frequent variety is *C. viride* of Linnæus, known by its greener hue, narrower and more entire leaves (sometimes quite entire), and more elongated clusters of flowers.

C. album is generally esteemed an useless weed, though cattle will feed upon it. We believe it is eatable when boiled, like *C. Bonus Henricus*.

1724

361.



*Chenopodium
ficifolium.*

CHENOPODIUM ficifolium.

*Fig-leaved Goosefoot.**PENTANDRIA Digynia.*

GEN. CHAR. *Cul.* 5-cleft, inferior. *Cor.* none. *Seed* 1, lenticular, invested with the closed five-sided calyx.

SPEC. CHAR. Leaves sinuated, somewhat hastate, jagged, entire towards the base; upper ones oblong and perfectly entire. Seeds dotted.

SYN. *Chenopodium ficifolium.* *Sm. Fl. Brit.* 276. *Relh.* 101.

C. viride. *Curt. Lond. fasc. 2. t. 16.*

C. serotinum. *Huds.* 106. *Sibth.* 88. *Abbot.* 55.

Blitum ficus folio. *Dill. in Raii Syn.* 155.

FOUND, like others of its genus, about dunghills and waste places, but much more rarely than the generality of them. It occurs in several spots near London. Our specimen was sent by Mr. Turner from Yarmouth.

This species is annual, flowering in August. Mr. Curtis first clearly ascertained its specific difference from *C. album* in the seeds being dotted or reticulated, which difference is confirmed by its much greener hue, the purple stain at the base of the foot-stalks, and the hastate, or fig-like, form of the leaves, their lobes being more round-pointed, and the middle one more elongated, than in *C. album*. Mr. Curtis erred only in taking it for the *viride* of Linnæus, which is a variety of *album*. *t.* 1723; whereas Hudson mistook it for the *serotinum* of the same author, a species not yet found in Britain. The plant before us, allied to *C. album* on the one hand, approaches on the other to *C. glaucum* in some respects, and is a sort of intermediate species, though very distinct from both.

1725
496.



Juncus maritimus.

J U N C U S maritimus.

Lesser Sharp Sea Rush.

HEXANDRIA Monogynia.

GEN. CHAR. *Cal* of 6 leaves, permanent. *Cor.* none.
Caps superior, of 3 valves, with 1 or 3 cells. *Seeds*
 several. *Stigmas* 3.

SPLC. CHAR. Stem round, naked. Panicle terminal,
 proliferous. General involucrem of two spinous
 upright leaves. Capsules oblong.

SYN. *Juncus maritimus.* *Sm. Fl. Brit.* 375. *Galp.*
Comp. 28.

J. acutus β . *Linn. Sp. Pl.* 464. *Huds.* 148. *With.* 346.
Hull. 75.

J. acutus maritimus anglicus. *Raii Syn.* 431.

NO person who has ever seen this and the *J. acutus*, *t.* 1614, alive together could long doubt of their being distinct species. The present is a lower and much more slender plant, of a more glaucous aspect. The capsule is much smaller, and of a linear-oblong triangular figure, quite distinct from the large round seed-vessel of the other, which caused the old botanists to compare its panicle to that of *Holcus Sorghum*. The panicle of our *J. maritimus* is erect, close and slender, compound, and, as it were, proliferous, its branches very unequal, partly cymose. Outer leaf of the involucrem straight, erect, pungent, longer than the panicle; inner very short, awlshaped. Calyx-leaves lanceolate, acute, jagged towards the point.

On the sea coast of Norfolk this is very common and abundant, especially in muddy places, flowering in August. It is found also in various other parts of the British coast, often along with *J. acutus*, which however is a much rarer plant on the whole with us. The root is perennial; the whole herb hard, tough and rigid.

1726

662.



Oxalis corniculata.

Apr. 23. 1807. Published by J. & S. Savoy, London.

OXALIS corniculata.

*Yellow Procumbent Wood-Sorrel.**DECANDRIA Pentagynia.*

GEN. CHAR. *Cal.* 5-leaved. *Petals* 5, connected by their claws. *Caps.* superior, of 5 cells, 5-sided, bursting at the angles. *Seeds* clothed with an elastic tunic.

SPEC. CHAR. Stem branched, spreading on the ground. Flowers in small umbels. Footstalks with stipulas at their base.

SYN. *Oxalis corniculata.* *Linn. Sp. Pl.* 623. *Berk. Syn. v. 2.* 141. *Sm. Fl. Brit.* 492. *With.* 430. *Hull.* 100. *Jacq. Oxal.* 10. *t. 5.*

Oxys lutea. *Ger. em.* 1202.

IT would be unjust to deprive Dr. Berkenhout of the honour of first making this known as a British plant. His specimens were gathered near Exeter by a Mr. John Turner. Ours were sent from the same county by the Rev. Dr. Becke, Rev. Mr. Neck, W. J. Hooker, Esq. and the Rev. J. Jervis. The celebrated authoress Mrs. Charlotte Smith has informed us of this species being found near Cuckfield, Sussex, by Mr. Fearon; and it was observed this autumn in Scotland, near Stirling, by our worthy friend Dr. Buchanan. All these authorities surely establish it as a native. It is annual, flowering from the beginning of summer to the end of autumn.

Root fibrous. Stems several, spreading widely on the ground and often taking root, somewhat branched, round, reddish, leafy, downy. Leaves alternate, though often nearly opposite, ternate, spreading; leaflets inversely heartshaped, rounded, downy. Stipulas united to the base of the footstalk. Flowerstalks axillary, each bearing 2 or 3 umbellate, declining pedicles. Flowers small, yellow. Fruit large, pyramidal. Stamens united at the base.

We have already, *p.* 762, pointed out the affinity of this genus to all the *Rutaceæ* of Jussieu, of which we have lately had further confirmation. The little white elastic *arillus* is conspicuous in this species, though of course much thinner in texture than the *arillus* of larger plants. Mr. de Jussieu himself has suggested the above affinity.

1727

1432



Lycopodium annotinum.

Spicae & Pub. 3d. by J. S. Smithy London

LYCOPODIUM annotinum.

Interrupted Club-moss.

CRYPTOGAMIA Filices.

GEN. CHAR. *Capsules* axillary, solitary, of 2 valves, naked, somewhat kidney-shaped, compressed.

SPEC. CHAR. Leaves scattered, slightly serrated, naked-pointed, spreading in five rows; the floral ones short and broad. Flowering-branches annually proliferous at the summit.

SYN. *Lycopodium annotinum.* Linn. *Sp. Pl.* 1566. *Su. P.* Brit. 1111. *Huds.* 464. *With.* 759. *Hull.* 236. *Lightf.* 689. *Ehrh. Crypt.* 62.

L. *clatius juniperinum, clavis singularibus, sine pediculis.* *Dill. Musc.* 455. *t.* 63. *f.* 9. *Raii Syn.* 107.

A NATIVE of the Scottish and Welch mountains, but it is the least general of our alpine species of *Lycopodium*.

The plant is perennial and evergreen, bearing fructification in the summer. Stems creeping, leafy, rigid and tough; their flowering branches erect, forked, a span high, extending themselves annually at the summit, being proliferous in the sense used by Linnæus in *Philosophia Botanica*, p. 40. A contraction in the size of the leaves at the base of each annual shoot, gives the whole branch a jointed appearance characteristic of the species. The leaves are irregularly placed, but crowded, spreading in 5 directions; their form lanceolate, flat, obscurely serrated, sharp, but without any hair at the point; the floral ones are dilated, shortened, membranous, undulated, yellowish, closely imbricated, forming an obtuse spike. Capsules kidney-shaped.—Whether the whole spike is deciduous, or whether its main stalk remains, and bears leaves the year after flowering, we have no means of determining without an inspection of the growing plant in autumn, but we are inclined to believe the latter.

1728

1723.



Grimmia pulvinata.

Specimen, Tab. 1723. de la C. de la Chapelle, London.

GRIMMIA pulvinata.

Grey Cushion Grimmia.

CRYPTOGAMIA Musci.

GEN. CHAR. *Fringe* simple, of 16 teeth, broadest at their base. *Flowers* terminal. *Veil* cylindrical.

SPEC. CHAR. Leaves lanceolate, hair-pointed. Capsule elliptical, angular, drooping. Lid convex, with a cylindrical, blunt, straight point.

SYN. *Dicranum pulvinatum*. Swartz. *Musc. Suec.* 32. *Sm. Fl. Brit.* 1214. *Turn. Musc. Hib.* 78.

Fissidens pulvinatus α . Hedw. *Sp. Musc.* 158. t. 40. f. 1—3.

Encalypta pulvinata. Sibth. 278.

Azelia pulvinata. Ehrh. *Crypt.* 163.

Bryum pulvinatum. Linn. *Sp. Pl.* 1586. *Huds.* 487. *With.* 840. *Hull.* 267. *Relh.* 422. *Abbot.* 243.

B. orbiculare pulvinatum, *hirsutie canescens*, *capsulis immersis*. Dill. *Musc.* 395. t. 50. f. 65.

B. trichoides hirsutie canescens, *capitulis subrotundis reflexis*, *in perbreuibus pediculis*. Raii *Syn.* 100.

ONE of the most common of Mosses, on walls, roofs, rocks and stones, forming little hoary convex tufts, laden with abundance of drooping capsules in the spring. The stems are short and branched. Leaves dark green, of a broad lanceolate form, entire, concave, somewhat revolute, each having a strong prominent midrib, ending in a white wavy hair about as long as the leaf. Fruitstalks terminal, twisted, very much curved at the summit, all generally in one direction. Capsule drooping, almost pendulous, elliptical, short, brown when ripe, with many prominent ribs. Lid convex, with a cylindrical blunt straight point, the whole about half as long as the capsule. Veil torn at the base into several segments. The teeth are sometimes jagged at the point, with 2 or 3 notches, which caused Hedwig, Swartz and others to consider the plant as a *Dicranum*; but as most of the teeth are acute and entire, we are induced to remove it to *Grimmia*, where it meets with as natural allies as in *Dicranum*. By the above synonyms it appears how much the best botanists have differed about its genus. Mr. Relhan, though he preserves the old genus of *Bryum*, has understood the structure of the fringe in this species as we do.

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<i>Agrostis panicata</i>	— 1704	<i>Tortula humilis</i>	— 1663
<i>vulgaris</i>	— 1671	<i>tortuosa</i>	— 1708
<i>Poa caesia</i>	— 1719	<i>Bartrania ichthyophylla</i>	— 1710
<i>clauca</i>	— 1720	<i>Hypnum polyanthos</i>	— 1664
<i>Llymus arenarius</i>	— 1672	<i>squarrosulum</i>	— 1709
<i>Tetrandria.</i>		<i>palustre</i>	— 1665
<i>Galium Mollugo</i>	— 1673	<i>Lichen terrestris</i>	— 1681
<i>Pentandria.</i>		<i>Schradleri</i>	— 1711
<i>Chenopodium rubrum</i>	— 1721	<i>acrotellus</i>	— 1712
<i>murale</i>	— 1722	<i>fagineus</i>	— 1713
<i>album</i>	— 1723	<i>discoideus</i>	— 1714
<i>ficifolium</i>	— 1724	<i>varius</i>	— 1666
<i>Hexandria.</i>		<i>abietinus</i>	— 1682
<i>Allium Ampeloprasum</i>	— 1657	<i>incanus</i>	— 1683
<i>carinatum</i>	— 1658	<i>carnosus</i>	— 1684
<i>Juncus maritimus</i>	— 1725	<i>fulgens</i>	— 1667
<i>Rumex Acetosella</i>	— 1674	<i>saxicola</i>	— 1695
<i>Decandria.</i>		<i>virellus</i>	— 1696
<i>Oxalis corniculata</i>	— 1726	<i>stellaris</i>	— 1697
<i>Polyandria.</i>		<i>lachneus</i>	— 1698
<i>Tilia parvifolia</i>	— 1705	<i>atlanticus</i>	— 1715
<i>Didynamia.</i>		<i>Fucus spiralis</i>	— 1685
<i>Stachys palustris</i>	— 1675	<i>confervoides</i>	— 1668
<i>Thymus Calamintha</i>	— 1676	<i>fruticosus</i>	— 1686
<i>Tetradynamia.</i>		<i>viridis</i>	— 1669
<i>Thlaspi arvense</i>	— 1659	<i>Conferva inflata</i>	— 1670
<i>Coronopus Ruellii</i>	— 1660	<i>reticulata</i>	— 1687
<i>Sinapis alba</i>	— 1677	<i>verrucosa</i>	— 1688
<i>Syngenesia.</i>		<i>setacea</i>	— 1689
<i>Centaurea Jacea</i>	— 1678	<i>pellucida</i>	— 1716
<i>Artemisia maritima</i>	— 1706	<i>rupestris</i>	— 1699
		<i>comoides</i>	— 1700
		<i>castanea</i>	— 1701
		<i>Rothii</i>	— 1702
		<i>nigrescens</i>	— 1717
		<i>tetragona</i>	— 1690
		<i>verticillata</i>	— 1718

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