

TASMANIA:

Avicennia eucalyptifolia Zipp. is to be deleted

Avicennia marina var. anomala Moldenke is to be deleted

Avicennia marina var. resinifera (Forst.) Bakh. is to be deleted

CULTIVATED:

Aloysia virgata var. elliptica (Briq.) Moldenke [Argentina]

Clerodendrum nutans Wall. [Réunion]

Clerodendrum pyrifolium J. G. Baker [Réunion]

Clerodendrum speciosissimum Van Geert [Comoro Islands]

Clerodendrum thomsonae Balf. f. [Chile & Madagascar]

Clerodendrum trichotomum Thunb. [Chile]

Clerodendrum trichotomum var. ferrugineum Nakai [Chile]

Clerodendrum umbellatum var. speciosum (Dombroin) Moldenke [Chile]

Duranta repens L. [Chile]

Laetana tiliaefolia Cham. [Chile]

Teijsmanniodendron ahernianum (Merr.) Bakh. [Java]

Verbena canadensis (L.) Britton [Georgia]

Vitex agnus-castus L. [Brazil]

Vitex bogoriensis H. J. Lam is to be deleted

Vitex triflora Vahl [Brazil & France]

ADDITIONAL NOTES ON THE ERIOCAULACEAE. V

Harold N. Moldenke

Explanation of the abbreviations used for the names of herbaria in which material hereinafter cited is deposited will be found in the previous installments of this series of notes in *Phytologia* 1: 309--336 (1939), 1: 343--364 (1939), 3: 178--192 (1949), and 3: 321--344 (1950). Additional abbreviations used in the present installment are Cn = University of Cincinnati, Cincinnati, Ohio; Cr = J. Carabia Herbarium, Havana, Cuba; Fn = Facultad Nacional de Agronomía, Universidad Nacional, Medellín, Colombia; Ll = Lloyd Library, Cincinnati, Ohio; and Wl = William Lucian Herbarium, Waterbury, Connecticut.

ERIOCAULON Gronov.

J. T. Mackay in his "Flora Hibernica", p. 288 (1836) places this genus in the Restiaceae (Restionaceae) and gives the etymology of the generic name as ερίον, wool, and καυλος, stem, in

allusion to the "downy stems of the species first known."

ERIOCAULON DECANGULARE L.

Literature references: Fernald, Rhodora 23: 92. 1921; Rouleau, Contrib. Inst. Bot. Univ. Montreal 54: 161 & 313. 1944.

The species is reported from Nova Scotia by A. W. H. Lindsay in Proc. & Trans. N. S. Inst. Nat. Sci. 4 (2): 184--222 (1877), but perhaps in error. Some two dozen Coastal Plain species are recorded by Lindsay from Nova Scotia. Some of these are backed by herbarium specimen vouchers, others have been collected there more recently, so it is a possibility that Eriocaulon decangulare may actually have been there in his time, too.

Additional citations: SOUTH CAROLINA: Greenville Co.: J. D. Smith s.n. [July 21, 1881] (Al). Sumter Co.: Holdaway 15 (H--42661). Williamsburg Co.: Godfrey & Tryon 509 (N). County undetermined: Herb. Butler Univ. 29923 (Bt). GEORGIA: Bacon Co.: W. H. Duncan 3987 (N). Brantley Co.: Pyron & McVaugh 307 (Gu--11083). Brooks Co.: McKellar s.n. [July 3, 1937] (Gu--15665). Bryan Co.: McKay s.n. [14 Aug. 1930] (N). Candler Co.: Pyron & McVaugh 728 (Gu--13144). Colquitt Co.: Kirkpatrick s.n. [Doe Run, 8-14-30] (Ga, Ga). Douglas Co.: Cronquist 5425 (Gu--30630). Early Co.: W. H. Duncan 4034 (N). Glynn Co.: W. H. Duncan 3721 (N). Johnson Co.: Pyron & McVaugh 3078 (Gu--18834). Lanier Co.: McKellar plant. no. 28 (Gu--15444). Lee Co.: W. F. Turner 65 (Mg). Liberty Co.: Grimm s.n. [7-20-43] (Cm). Lowndes Co.: Quarterman 1284 (Va). Miller Co.: W. H. Duncan 6758 (N). Richmond Co.: Cuthbert s.n. [May 1904] (Fl--5408). Screven Co.: W. H. Duncan 5545 (Gu). Spalding Co.: Bissell s.n. [Griffin, 9-9-40] (Ga, Ga); Riegel 203 (Ga, Ga, Ka). Turner Co.: W. H. Welch 1431 (Dp--2932). Ware Co.: J. S. Harper 66 (H--25564); McKellar plant. no. 38 (Gu--15477). Wilcox Co.: W. H. Rhoades s.n. [Abbeville, August 1925] (Or--23885, Ur), s.n. [Abbeville, August 1927] (N). County undetermined: Feay & Pond s.n. [Georgia] (Pa); B. B. Harris s.n. [South Georgia, 9-5-30] (Nt, Nt). FLORIDA: Alachua Co.: Arnold s.n. [Gainesville, 7/18/31] (Fl--5415). Brevard Co.: H. N. Moldenke 233 (Go, H--3036, Ur). Collier Co.: C. C. Deam 65444 (Dm, N), 66061 (N). Columbia Co.: Rolfs 893 (Fl--5412). De Soto Co.: E. West s.n. [Lacy, 23 Sept. 1938] (Fl--494). Duval Co.: Curtiss 3016 (Cm, Pa), 5060 (Es), 5690 [June 24, 1896] (Al, Fl--5416, Ka, Po--185871, Ur), 5690 [Aug. 21, 1896] (Al, Fl--5416, Ka, Po--185871, Ur); Rolfs 877 (Fl--5444); C. Skottsberg s.n. [12/5/1935] (Go). Escambia Co.: M. Morgan s.n. [Pensacola, August 8, 1941] (I). Franklin Co.:

Saurman s.n. [Apalachicola, 1867] (Pa). Hendry Co.: C. C. Deam 60694 (Dm, Dm, N). Lake Co.: A. S. Hitchcock s.n. [Eustis, June & July 1894] (Fl--5413, Ka); Nash 535 (Es), 847 (Es), 1722 (Es). Lee Co.: C. C. Deam 65699 (Dm); A. S. Hitchcock s.n. [Myers, July--Aug. 1900] (Ka). Liberty Co.: West & Arnold s.n. [Bristol, 22 July 1940] (N). Manatee Co.: Tracy 7587 (Cm, Es). Marion Co.: O'Neill s.n. [Ocala National Forest, Sept. 12, 1929] (Fl--5405). Okeechobee Co.: Fennell & Jones 933 (H--68628); W. S. Phillips s.n. [July 7, 1940] (Bu). Osceola Co.: Singletary 162 (H--46213). Palm Beach Co.: Muenschner & Muenschner 14031 (N). Pinellas Co.: S. M. Deam 2846 (Dm); B. H. Patterson s.n. [Jan. 8, 1918] (Cm); M. H. Williams s.n. [St. Petersburg, Feb. 24, 1926] (H--25660). Polk Co.: McFarlin 3311 (Gg--242791), 5652 (Du--254112), 6216 (Au); P. O. Schallert s.n. [7/27/40] (Bt--53894, Gg--316195, Or--43095). County undetermined: Burger & West 76 [Richloam] (Fl--5410, Fl--5411); A. W. Chapman s.n. [S. Fla.] (Du--91848). ALABAMA: Baldwin Co.: Tracy 8043 (Au). Mobile Co.: C. F. Baker s.n. [Mobile, 7/20/1897] (Ka); Mackenzie 4051 (Dm). Washington Co.: Munz 1481 (Po--121650). MISSISSIPPI: Hancock Co.: Correll & Correll 9111 (H--71756); Degener & Park 5190 (Ms). Harrison Co.: Tracy 3428 (Dm). Jackson Co.: A. B. Seymour 16 (H--65761), 9199 [Seymour & Earle 16] (Gg--188743, Ur); Skehan 22467 (Ur). LOUISIANA: Natchitoches Par.: Correll & Correll 9788 (H--71736), 9960 (H--71752); E. J. Palmer 7981 (Gg--183014, Mg). Saint Tammany Par.: Langlois s.n. [near Covington, April 1879] (Ba). Tangipahoa Par.: Correll & Correll 9316 (H--71757). TEXAS: Anderson Co.: LeSueur & Smith s.n. [7/7/35] (Au, N), s.n. [7/7/38] (Au). Austin Co.: Tharp 44347 (N), 44348a (N), s.n. [6/28/42] (Al, Au, Gg--316994, N, N, Va). Freestone Co.: G. W. Goldsmith s.n. [6/15/41] (Au, Au). Hardin Co.: Parks & Cory 19720 (Tr); Tharp s.n. [Sourlake, July 20, 1929] (Au, Au), s.n. [Kountze, 7-21-42] (Au, N). Henderson Co.: B. B. Harris s.n. [8-6-27] (Nt, Nt); Tharp 2880 (Au). Houston Co.: Warner s.n. [Grapeland] (Hu). Jasper Co.: G. L. Fisher 32101 (Au, Au). Jefferson Co.: Mrs. Smith s.n. [Beaumont, July '15] (Au). Newton Co.: Tharp 44342 (Au, N). Robertson Co.: F. A. Barkley 13034 (Al, N, N). Rusk Co.: Vinzent 47 (Br). Smith Co.: J. Reverchon 2766 (Po--186009), 4359a (Po--186010). Tyler Co.: Tharp 44345 (Au, N). Waller Co.: E. Hall 675 (Pa, Po--119240, Pr, Ur). County undetermined: Warner s.n. (Hu). LOCALITY OF COLLECTION UNDETERMINED: A. W. Chapman s.n. [Southern Flora] (Pr); Herb. Chapman s.n. [Southern Flora] (Ms); Oyster s.n. [North Am., July

19, 1881] (Gg--105478); J. Torrey s.n. (Br).

ERIOCAULON SCLEROCEPHALUM Ruhl.

The species is mentioned by Alain, Contrib. Ocas. Mus. Hist. Nat. Coleg. La Salle 7: 47 & 114 (1946) and described as being endemic to Pinar del Río and Isla de Pinos. A cheironymous synonym is Eriocaulon scleriocephalum Ruhl. The plant grows in white siliceous sand of savannas, blooming in February.

Additional citations: ISLA DE PINOS: Carabia 1152 (Cr, N); León 17485 (N); León & Seifriz 17485 (Ha).

ERIOCAULON SEEMANNII Moldenke

This rare species has been found recently in a marsh in the vicinity of Juan Franco racetrack near Panamá, where it is described as being scarce. It ascends to 1500 m. altitude in Honduras. It blooms in November and December, and has been confused with E. schiedeanum Körn.

Additional citations: HONDURAS: Morazán: Molina R. 1740 (N). PANAMA: Panamá: P. C. Standley 27821 (W--1153947); Woodson, Allen, & Seibert 1650 (N).

ERIOCAULON SELLOWIANUM Kunth

Literature references: Ruhl. in Engler, Das Pflanzenr. 4 (30): 51. 1902; Chodat & Hassler, Bull. Herb. Boiss., ser. 2, 3: 1033--1034 [Plant. Parag. 2: 256]. 1903; Malme, Arkiv Bot. 26A (9): 7. 1935; Castellanos in Descole, Gen. & Sp. Pl. Argent. 3: 85--86. 1945.

Illustration: Descole, Gen. & Sp. Pl. Argent. 3: pl. 16. 1945.

Additional citations: PARAGUAY: Fiebrig 5696 (W--1312946).

ERIOCAULON SEPTANGULARE With.

Additional literature references: J. T. Mackay, Fl. Hibernica 288. 1836; Robinson & Fernald, Rhodora 11: 40, 41, & 240. 1909; Eames, Rhodora 11: 91. 1909; Collins, Rhodora 11: 129. 1909; Fernald, Rhodora 13: 117, 135, & 260. 1911; Fernald, Rhodora 23: 102. 1921; Peattie, Rhodora 24: 61 & 248. 1922; Fernald, Rhodora 24: 186. 1922; Louis-Arsene, Rhodora 29: 209 & 259. 1927; Svenson, Rhodora 29: 113. 1927; Taylor & Fogg, Rhodora 29: 163. 1927; Arsene, Rhodora 29: 131. 1927; Fogg, Rhodora 32: 149, 150, 172, 213, 242, & 289. 1930; H. S. Pepoon, Chicago Acad. Sci. Bull. 8: 1--554. 1927; Perry, Rhodora 33: 113, 118, & 251. 1931; Fernald, Rhodora 33: 39. 1931; Fassett, Rhodora 33: 73. 1931; Fassett, Rhodora 35: 387 & 414. 1933; Fernald, Rhodora 35: 5. 1933; Fassett, Rhodora 36: 350. 1934; Fassett, Man. Aquat. Pl. 13, 16, 17, 169, & 170. 1940; J. O. Swift, New York World Telegram Sept. 27, 1941; Fernald, Rho-

dora 43: 209 & 211. 1941; Fernald, Rhodora 44: 244, 245, & 496. 1942; E. V. Wulff [trans. Brissendero], Introd. Hist. Pl. Geog. 82, 84, & 211. 1943; Potzger, Trans. Wisc. Acad. Sci. 35: 142. 1943; Rouleau, Contrib. Inst. Bot. Univ. Montréal 54: 129, 135, 148, 161, 178, 182, 191, 196, 207, 222, 233, 235, 265, & 313. 1944; G. N. Jones, Fl. Illinois 88. 1945; A. C. Martin, Am. Midl. Nat. 36: 533, pl. 4. 1946; Tatnall, Fl. Del. 75. 1947; Ogden, Steinmetz, & Hyland, Bull. Josselyn Bot. Soc. 8: 20. 1948; E. J. Alexander, Journ. N. Y. Bot. Gard. 50: 56. 1949.

Additional synonyms: Eriocaulon articulatum var. submersum Haberer, E. decangulare Lightf., E. septangulare Amer. auct., E. septangulare (Huds.) Morong, E. septangulare Kunth, E. septangulare Wiss., and E. 7-angulare With.

Illustrations: N. C. Fassett, Man. Aquat. Pl. 13, 17, & 170, fig. 24. 1940; A. C. Martin, Am. Midl. Nat. 36: 533, pl. 4. 1946.

The common name "seven-angled pipewort" is recorded by J. Torrey and "jointed pipewort" by Mackay, while "pipewort" is recorded by Alexander, G. B. Grant, B. H. Patterson, and J. Dwyer on herbarium labels. Some Minnesota and New York specimens of this plant have been mis-identified in herbaria as E. decangulare L., some New Jersey specimens as E. compressum Lam., some New York and New Jersey specimens as E. gnaphalodes Michx., and a New Hampshire specimen as Lachnocaulon sp. It has been collected at 830 feet altitude in New Hampshire and at 2016 feet in Guilder Pond in the Mount Everett Reservation, Berkshire County, Massachusetts. The specimens cited below were collected in anthesis in May and from July to October, inclusive. The collectors describe the habitat of the plant as follows: shallow water, in mud at edge of pond, ponds, boggy shores, bogs, peaty shores, in soft muck along shore, sandy swamps and sloughs, shallow water in sand, lakelet, shallow ponds, sandy borders of lakes, deadwaters of streams, dry ditch, sandy swamp, wet sandy ground, moist shore, shallow pools, lake shores, in muddy soil associated with buttonbush and swamp milkweed, on cement blocks jutting out of water, in sphagnum beds, river borders, mud flats of rivers, damp mud of wet shores, water holes in open peatbogs, and pond shores.

Swift, in the reference cited above, describes the plant very quaintly "under the pickerelweed and Labrador tea, fly honeysuckle and pitcher plants, grows the delicate, queer little water-bog dweller, pipewort, Eriocaulon articulatum, like tiny lead-white golf balls on the ends of sticks. They look like little war clubs, three inches to a foot tall." Ogden, Steinmetz, and Hyland, in the reference also cited above, record the species from Androscoggin, Aroostock, Cumberland, Franklin, Hancock, Kennebec, Knox, Lincoln, Oxford, Penobscot, Piscata-

quis, Somerset, Waldo, Washington, and York Counties, Maine.

Lakela 3092 at New York is very immature; Jansson s.n. [July 5, 1930] at the Bailey Hortorium is also very immature and resembles E. parkeri, but its heads appear as if they were going to become more white-hairy. Blake 10964 in the Dudley Herbarium was identified as E. parkeri, but seems to be far too white-pubescent to be that species; Long & Bartram 1387 at the Philadelphia Academy seems almost like an especially hairy form of E. parkeri. For a discussion of many other specimens intermediate between this species and E. parkeri see my discussion of the latter species in *Phytologia* 3: 337--338 (1950). Additional intermediate specimens annotated as E. septangulare by me are W. M. Canby s.n. [near Holly Oak, Sept. 1862] in the New York College of Pharmacy herbarium, Haught 1088 at Morgantown, H. L. Stewart s.n. [Sylvan Beach, Aug. 16, 1888] at Pomona College, and F. M. Hexamer s.n. [17 Aug. 1855] at Brussels. It is worth noting that in almost all cases these intermediate specimens have been collected with or in close proximity to typical material of E. septangulare and of E. parkeri and therefore a hybrid origin is not precluded.

I am indebted to the late Brother Marie-Victorin and his associates for the following additional list of Quebec specimens of E. septangulare, presumably deposited in his own herbarium: Brome Co.: Cléonique-Joseph s.n. [Lac Brome], s.n. [Lac St. Louis]. Labelle Co.: Adrien 3308 [Lac Montjoie, août 1930]; M. Raymond s.n. [Lac Tibériade, août 1932]. Lévis Co.: Rouleau 1294 [Nouveau-Liverpool, 9 août 1936]. Portneuf Co.: Marie-Victorin, Rolland-Germain, & Meilleur s.n. [Lac Upica, 27 juillet 1935]. Maskinonge Co.: M. Raymond s.n. [Lac Long, août 1941], s.n. [Lac Traverse], s.n. [Lac Sassisinagog]. Missisquoi Co.: M. Raymond s.n. [Philipsburg on Lake Champlain, July 1941]. Papineau Co.: Cléonique-Joseph s.n. [Lac St. Pierre], s.n. [Lac des Deux Montagnes], s.n. [Lac Pike], s.n. [Lac Bigelow], s.n. [Lac Riopel], s.n. [Lac Clay]. Saint Jean Co.: M. Raymond s.n. [St.-Blaise on Richelieu River, July 1934]. Saint Maurice Co.: Cléonique-Joseph s.n. [Lac des Iles], s.n. [Lac Chrétien], s.n. [Lac Perchaude].

Wulff, in the reference cited above, lists 13 chief types of discontinuous areas of plant distribution, and in his second or "North Atlantic" type he places plants distributed in North America and Europe (including the British Isles) and divided into two sections by the northern part of the Atlantic Ocean. Some of the species in this group, he says, are found also in isolated spots in Asia, including eastern Asia. Exceptionally inter-

esting examples of this type, he says, are the areas of species found only in Ireland and North America, such as E. septangulare and Spiranthes romanzoffiana. On page 84 he gives a line map of the distribution of our species. He cites Troll who in 1920, in his study of the 6 types of oceanic elements in the European flora (groups of species adapted to conditions of a humid maritime climate), places our species in his first or "Eu-oceanic Atlantic" or "hyper-oceanic" type along with Asplenium marinum and Spiranthes romanzoffiana. Wulff, of course, is not quite correct in saying that our species is limited to Ireland and North America, for it occurs also in Scotland and on the Isle of Skye.

Potzger, in the reference cited above, records the species from the primeval forest around Trout Lake, Vilas County, Wisconsin (Potzger 9112). The Brewer & Chickering s.n. from Island Pond, Vermont, at Pomona College, has a specimen of Syngonanthus flavidulus (Michx.) Ruhl. mounted with it, but this apparent belongs on the previous sheet (no. 186011), collected by Ellis at Alexander, Georgia, on which there is mounted a piece of the E. septangulare collection of Brewer & Chickering.

The illustration cited at the end of the list of herbarium specimens below, made by Mrs. Chase, consists of 14 figures in drawing, excellently done, and bears this note "I doubted (do yet) that our 'septangulare' is the same as that of Brit. Isles, but I never got around to working it out." There is also a drawing by Mrs. Chase attached to Praeger s.n. [near Roundstone, W. Galway, 17.7.95] at Oregon State College.

E. J. Hill reports for his no. 146.1875 and s.n. [Laporte, July 22, 1875] that the scapes are 6- to 8-striate, while Dwyer on his no. 2443 says they are apparently 7-angled; Leggett s.n. [Ridgefield, July 31, 1880] has a note on its label stating "scape six-striate". W. S. Moffatt placed an interesting comment on his no. 162.1899 from Schoolcraft County, Michigan, taken from his collector's notebook: "Fits description of E. compressum Lam. much better than E. septangulare, but range of former is given as Southern N. J. to Fla. and Tex."

M. McKee reports on the label of her no. 1792 that E. septangulare is a "local pest" in Lake Chargoggagoggamanchauggagoggchaubunagungamaugg at Webster, Worcester County, Massachusetts. It would seem to me that no plant could be a greater nuisance at this locality than the name of the lake! Mackay in the reference cited above states that it grows abundantly in lakes at Cunnamara, Ireland, "where it was first observed by Doctor Wade", flowering in August, the "roots creeping and throwing out innumerable, white curiously articulated fibres, which penetrate deep into the mud."

Bassler 3017 and H. L. Stewart s.n. [Sylvan Beach, Aug. 16, 1888] have specimens of this species mixed with E. compressum, and S. F. Blake 10964 with E. parkeri, while Adrien 3308 and B. H. Patterson s.n. [N. E. Harbor, July 28, 1894] has it mixed with Lobelia dortmanna L. F. C. Gates 11119a is the deep-water form.

G. N. Jones, in the reference cited above, lists the species as a member of the Illinois flora on the basis of the statement by Pepon, who says ".....from East Chicago eastward". Jones, however, admits that he has seen no Illinois specimens to substantiate this. Fassett, in his Manual of Aquatic Plants, page 169, says that it grows on "sandy shores of soft water lakes with stems erect and seldom more than 10 cm. tall, or in water up to 2 m., the rosettes forming green patches on the bottom and the stalks elongating so that the heads are at the surface."

The Nichols s.n. [Sept. 14, 1911] at Montreal has a very anomalous detached head which is not compressed and only very slightly villous. Carson s.n. [Quaker Bridge, 183-] at the Lloyd Library is also anomalous, being a rather large, gray-headed, rather thick form. Muenschner & Curtis 6809 looks much like E. compressum, as does also W. Stone s.n. [Aug. 7, 1901] at Stillwater. Grout s.n. [Hollis, Aug. 4, 1892] has peduncles 78 cm. long.

The specific part of the binomial is sometimes written with a capital initial letter, for no good reason. Canby s.n. at the Dudley Herbarium is mixed with E. parkeri, as is also A. P. Garber s.n. [Mogothy River, Aug. '67] at Philadelphia, which is only a bit more hairy. The endosperm morphology of E. septangulare is described by Martin in the reference cited above. Tatnall, also in the reference given above, lists the species from New Castle Co., Delaware. The Anselm 435 cited previously by me as from an undetermined county in Quebec is actually from Brome County.

Additional citations: NEWFOUNDLAND: B. W. Brooks s.n. [Whitbourne, 8/9/37] (Cm); Fernald, Wiegand, & Kittredge 2971 (Du--80986); Jansson s.n. [July 5, 1930] (Ba), s.n. [July 15, 1930] (Mg); C. S. Williamson 461 (Cm, D--824257, in part). PRINCE EDWARD ISLAND: Fernald, Long, & Saint John 7128 (Pl--57783, Vi). NOVA SCOTIA: Cape Breton Co.: Macoun 20763 (Po--185878); Rousseau 35599 (Mg). Guysboro Co.: Faribault 1908 (Mg). Halifax Co.: Prince & Atwood 510 (Du--222529); Rousseau 35295 (Mg), 35296 (Mg). Pictou Co.: H. Saint John 1403 [Herb. Marie-Victorin 12956] (Du--121125, Gg--105738, Vi). Richmond Co.: Rousseau 35579 (Mg). Saint Paul Islands: Perry & Roscoe

127 (Mg). Shelburne Co.: Macoun 22639 (Cm, Ob--23881). Victoria Co.: Senn 1550 (N). NEW BRUNSWICK: Kent Co.: J. Fowler s.n. [Aug. 12, 1869] (Pa). Saint John Co.: J. Fowler s.n. [St. John, Aug. 4, 1877] (Cm). Westmoreland Co.: Marie-Victorin, Rolland-Germain, & Jacques 44821 (Mg). QUEBEC: Bellchasse Co.: Rousseau 22073 (Mg, Mg, Vi). Gaspé Co.: Marie-Victorin, Rolland-Germain, & Jacques 44547 (Mg, Ob--89434), 44903 (Mg); Proulx 68 (N). Gatineau Co.: G. H. M. Lawrence 572 (Ba); Rolland-Germain 15737 (Mg, Mg, Pl--91625); Senn 1860 (N). Iberville Co.: Marie-Victorin & Rolland-Germain 45679 (Mg). Joliette Co.: Gauthier 544 (Mg). Labelle Co.: Adrien 3308 (Mg); Marie-Victorin, Rolland-Germain, & Brunel 45601 (Mg). Lac Saint-Jean Co.: Marie-Victorin 15736 (Po--127329). Megantic Co.: Fernald & Jackson 12048 (Vi); Marie-Victorin 11324 (Mg, Vi). Mistassini Region: Dutilly & Lepage 11341 (I). Montcalm Co.: Marie-Jean-Eudes 645 (Mg), 646 (Mg); F. W. Pennell 16704 (Mg); Roy 123 (Mg), 521 (Mg). Montmorency Co.: Marie-Victorin, Rolland-Germain, & Meilleur 43069 (Mg). Pontiac Co.: Dansereau & Desmarais 4,408010261 (Al). Portneuf Co.: Marie-Victorin 615 [Herb. Marie-Victorin 6516] (Vi), 11259 [Herb. Univ. Montréal 429; Herb. Marie-Victorin 25207] (Al, Mg, Pl--91897, Ur, Vi). Quebec Co.: Marie-Victorin 15735 (Vi), 15746 (Mg). Rimouski Co.: C. S. Williamson 1106 [1] (D--824257, in part). Roberval Co.: Marie-Victorin 15736 (Mg, Mg). Saguenay Co.: H. Saint John s.n. [Herb. Geol. Surv. Canada 90285; Herb. Marie-Victorin 55543] (Vi). Terrebonne Co.: Boardman 36 (Cm), 281 (Cm), 321 (Cm); Marie-Victorin 707 (Vi), s.n. [août 1907] (Go), s.n. [Lacs de Laurentides, Août 1912] (Mg). Yamaska Co.: Marie-Victorin, Rolland-Germain, & Meilleur 45208 (Mg). ONTARIO: Algoma Co.: Fassett 14699 (Mg); Taylor, Hosie, Fitzpatrick, Losee, & Leslie 1339 (Mg). Hastings Co.: Macoun s.n. [Belleville, July 14th, 1865] (Pa), s.n. [Belleville, July 12th, 1865] (Ms). Muskoka Co.: P. Cook s.n. [Arma Is., Lake Joseph, 8/2/31] (Cm); G. L. Fisher s.n. [Dorset & St. Thomas, Aug. 5th, 1898] (Ob--23911); W. R. Hamilton s.n. [Sparrow Lake, Aug. 1900] (Cm); B. H. Patterson s.n. [Lake Muskoka, Aug. 24, 1902] (Cm), s.n. [Lake Muskoka, Aug. 28, '02] (Cm); Topping s.n. [Mortimer's Point, Lake Muskoka, August 1899] (Mg). Sunbury Co.: Grassl 2082 (N). County undetermined: R. F. Cain 539 [Spawning Lake, L. Temagami] (Bt--16687). ISLE ST. IGNACE [Thunder Bay Co., Ontario]: O. B. Wheeler s.n. [August 1866] (Pr). MAINE: Androscoggin Co.: Carpenter s.n. [Turner, 12 July 1938] (Vt). Franklin Co.: L. O. Eaton s.n. [South

Chesterville, Aug. 1899] (Ur), s.n. [S. Ches., Aug. 1901] (Ur). Hancock Co.: Friesner 3399 (Bt--7502, Du--291759, Ka--84715); B. H. Patterson s.n. [N. E. Harbor, July 28, 1894] (Cm, Cm). Lincoln Co.: Grover s.n. [July 20, 1921] (Ob--82553). Oxford Co.: F. W. Johnson 125 (Ur); Parlin s.n. [Hartford, Aug. 1893] (Ob--23906), s.n. [Hartford, Sep. 1, 1893] (Ob--23903); J. F. Reed 488 (H--29054); L. A. Wheeler s.n. [8/5/29] (St--3290). Penobscot Co.: Briggs s.n. [Chemo Pond, Aug. 1891] (Ur). Somerset Co.: G. B. Grant 753 [899; 2630] (Po--267397). Waldo Co.: Fernald & Long 13162 [Herb. Marie-Victorin 31996] (Ur, Vi); Friesner 4840 (Bt--9752), 9094 (Bt--28844), 10224 (Bt--32896, Cm, Gg--276703, Gu--14860, H--41002, Pl--83509, St--3291, Ur, We), 14054 (Fn--318, Gg--276707). Washington Co.: C. H. Knowlton s.n. [Aug. 6, 1936] (Bt--33725). County undetermined: R. Campbell 5035 (H--9656); Towle s.n. [Maine] (Pa). NEW HAMPSHIRE: Belknap Co.: L. A. Carter 181 (Ur, Ur), s.n. [East Lilton, July 20, 1899] (Ur, Ur), s.n. [Gilford, July 17, 1902] (Ur); F. C. Seymour 3617 (H--65749). Carroll Co.: W. V. Brown s.n. [Lake Ossipee, July 21, 1938] (H--64214), s.n. [Lake Ossipee, July 22, 1938] (H--63357); Bumstead s.n. [North Conway, Aug. 18/15] (Ms), s.n. [Aug. 1865] (Gg); Grover s.n. [Ossipee, July 8, 1891] (H--9660, Ob--23904), s.n. [Aug. 1891] (Ob--23905); Kenneth Wagner 1072 (Dp--38203). Cheshire Co.: Deane s.n. [Frost Pond, East Jaffrey, July 18, 1889] (Ur), s.n. [border of Jaffrey Pond, July 2, 1891] (Ur), s.n. [Jaffrey, Aug. 7, 1891] (Ur), s.n. [muddy border of brook, Jaffrey, July 28, 1898] (Ur); C. S. Plumb s.n. [Chesterfield, August 10, 1880] (Ms). Grafton Co.: H. S. Adams s.n. [edge of Squam Lake, Aug. 14, 1896] (Ur); J. F. Reed s.n. [Oct. 2, 1931] (H--27443). Hillsboro Co.: F. S. Beattie s.n. [Pelham, July 14, 1927] (Or--21032); Grout s.n. [Hollis, Aug. 4, 1892] (Vt). Merrimack Co.: Cowie s.n. [H. N. Moldenke 19505] (N); Day s.n. [Aug. 15, 1903] (Gg--105739). Rockingham Co.: Sanborn 1729 [East Epping] (Ur). County undetermined: H. C. Beardslee s.n. [New Hampshire] (Ob--77962). VERMONT: Addison Co.: Boyce 3018 (H--65748); C. N. Brainerd s.n. [Aug. 16, 1878] (Vt), s.n. [Sept. 26, 1895] (Vt), s.n. [Sept. 19, 1896] (Vt); Dutton s.n. [Salisbury, 8/21/06] (Vt), s.n. [Sept. 5, 1927] (Va, Vt, Vt, Vt); E. J. Hill s.n. [Salisbury, 8-12-1880] (Se--4194); M. Hitchcock s.n. [Salisbury, August 15, '79] (Cm). Chittenden Co.: Hinsdale s.n. [28 July 1893] (Cb--23917). Essex Co.: Brewer & Chickering s.n. [Island Pond, Aug. 1859] (Po--186012). Grand Isle Co.: Dike s.n. [shore of Grand

Isle, August 28] (Vt); Flynn s.n. [So. Hero, Aug. 6, 1919] (Vt). Rutland Co.: Kent s.n. [Wallingford, 1895] (Vt). Windham Co.: Dobbin 1304 (Al); Dole s.n. [Marlboro, June 28, 1939] (Vt); Grout s.n. [Marlboro Pond, July 14, 1894] (Vt); Miss Steward s.n. [Londonderry] (Vt). Windsor Co.: Miss Steward s.n. [Tyson, 8/6/16] (Vt). County undetermined: C. C. Frost s.n. (Ms); Oyster 3018 (Gg--105733, in part). MASSACHUSETTS: Barnstable Co.: Bacigalupi 2113 (Du--208975, Po--267596); C. N. Brainerd s.n. [July 16, 1878] (Cm, Vt); Churchill s.n. [Hyannis, July 4, 1896] (Ur); M. T. Cook s.n. [Falmouth, 7-15-99] (Dp--2935, in part); Degener 463 (N), 464 (N, N); T. W. Edmondson 2216 (N); Laird 24.1.3 (Ms); Nye s.n. [Sandwich, July 1876] (Ms); E. J. Wheeler s.n. [Falmouth, Aug. 1907] (Al); Wiggins 8842 (Du--283032). Berkshire Co.: Ericson s.n. [Moldenke & Moldenke 11708] (Go, N); H. N. Moldenke 13510 (Ec); W. A. Weber 1529 (Bl--48770). Bristol Co.: W. R. Dudley s.n. [New Bedford, 1874] (Du--71433). Dukes Co.: F. C. Seymour 1139 (Gg--105736, H--65753, Se--4004). Essex Co.: Collector undesignated s.n. [Salem] (D--824261, in part). Franklin Co.: H. C. Beardslee, Jr., 21117, in part [Leverett] (Ob--94490), 21117, in part [Shutesbury] (Ob--94490); Ewer s.n. [July 4, 1928] (Ms, Ms); Goodale, Markert, & Piper 55835 (H--65755); F. C. Seymour 2468 (H--65752); R. E. Torrey s.n. [Leverett Pond] (Ms), s.n. [Leverett, Sept. 1920] (Ms); L. S. Woodworth s.n. [July 18, 1921] (Ms). Hampden Co.: Bliss & Seymour G.832 (H--65756, in part), G.832a (H--65756, in part); F. C. Seymour 268 (H--65757, Ms), G.1042a (H--65756, in part); R. E. Torrey s.n. [7-8-1911] (Ms). Middlesex Co.: W. E. Andrews s.n. [Melrose, 7/11/91] (Ur, Ur), s.n. [Spot Pond, 7/8/92] (Ur); Beattie s.n. [Tyngsboro, July 25, 1927] (Nt), s.n. [Tyngsboro, 1927] (Nt), s.n. [Willowdale, Tyngsboro] (Po--146337); Morong s.n. [Ashland, Aug. 13, 1878] (Ur); H. Saint John 812 (Pl--63975); F. C. Seymour s.n. [Waltham, June 25, 1908] (H--65751, in part), s.n. [Pepperell, July 11, 1908] (H--65751, in part); E. S. Steele s.n. [Concord, Aug. '83] (Ob--23913); Underwood & Seymour s.n. [Oct. 4, 1890] (H--65750). Nantucket Co.: Deane s.n. [Washing Pond, Sept. 7, 1885] (Ur), s.n. [Reed Pond, Sept. 7, 1885] (Ur); Jennison s.n. [Nantucket, 8/16/09] (Ms); F. W. Pennell 11153 (Mg). Norfolk Co.: Churchill s.n. [S. Weymouth, July 4, 1899] (Ba); Dascomb s.n. [W. Brooklyn, Aug.] (Ob--23916); Herb. Mass. Agr. Coll. s.n. [Milton, Aug. 10, 1909] (Ms). Plymouth Co.: S. F. Blake 10964, in part (Du--193859, Po--196391, in part); F. C. Seymour 4134

(H--65754, in part), 4341 (H--65754, in part). Suffolk Co.: L. H. Bailey s.n. [near Boston, Aug. 1, 1883] (Ba, Ur); Collector undesignated s.n. [Boston, 1830] (Du); F. F. Forbes s.n. [West Roxbury, Sept. 2, 1900] (Ur). Worcester Co.: M. McKee 1792 (Dp); Stephens s.n. [July 1888] (Ob--23915). County undetermined: Morong s.n. [eastern Mass., July 1879] (Du--90823); Plumb s.n. (Vt); Ravenel s.n. [Mass.] (Pr); R. E. Torrey s.n. [Locks Pond, Jul. 16, 1910] (Ms), s.n. [Lake Wyola, Sept. 13, 1916] (Ms). RHODE ISLAND: Washington Co.: Carpenter s.n. [Hope Valley, Aug. '06] (Vt). County undetermined: W. W. Bailey 25 [1878, 3018] (Cm); Calber s.n. [1846] (Du--54391). CONNECTICUT: Litchfield Co.: Dwyer 2443 (N), 2663 (N, N); L. S. Slater s.n. [Sept. 15, 1923] (Al). New London Co.: Enequist 306 (N); Jansson s.n. [July 12, 1929] (Au); Lumsden s.n. [July 29, 1883] (Ob--23907); Nichols s.n. [Sept. 14, '91] (Mg); W. A. Setchell s.n. [Norwich, July 11, 1885] (Ka), s.n. [Preston, July 11, 1885] (Pr). Tolland Co.: G. S. Torrey 1018 (Bt--30781). Windham Co.: Enequist 222 (N). NEW YORK: Albany Co.: H. D. House 21977 (Al). Cayuga Co.: E. Cannon s.n. [Aug. 10, 1888] (Gg--105753). Chautauqua Co.: McVaugh & Curtis 7236 (Al); W. V. Metcalf s.n. [Aug. 16, 1887] (Ob--23914, We); B. H. Patterson s.n. [Chautauqua, Aug. 11, 1887] (Cm, Cm), s.n. [Chautauqua, Sept. 6, 1910] (Cm). Chenango Co.: H. L. Stewart s.n. [Sylvan Beach, Aug. 16, 1888] (Po--186013). Clinton Co.: Redfield s.n. [Upper Au Sable, July 19, 1870] (Pr). Columbia Co.: McVaugh 1324 (Al), 2011 (Al), 2063 (Al). Dutchess Co.: McVaugh 3875 (Al); F. W. Pennell 8400 (D--732386), 8431 (D--732361). Essex Co.: C. N. Brainerd s.n. [Bulwaga Bay, Sept. 19, 1899] (Vt); J. S. Harper 107 (Al, Mg); H. D. House 7249 (Al), 14921 (Al), 15170 (Al), 15192 (Al, Mg, Vi), 26854 (Al), 26913 (Gg--276706), s.n. [Sept. 7, 1917] (Al); C. H. Peck s.n. [Lake Placid] (Al); Whitney 2198 (Al). Franklin Co.: Rowlee, Wiegand, & Hastings s.n. [July 11, 1899] (N); Volz s.n. [July 19, 1936] (Al). Fulton Co.: Banker 1382 (N); Haught 1088 (We). Hamilton Co.: Haberer s.n. [July 1879] (Al); H. D. House s.n. [October 4, 1926] (Al); B. B. Lambert 2 (Mg). Herkimer Co.: Haberer 1011b (Al), s.n. [North Lake, July 1902] (Al); H. D. House 6708 (Al), 17998 (Al); Killip 958 (Cm), s.n. [Mountain Pond, Aug. 11, 1916] (Po--186032); Woolcott s.n. [North Lake, Aug. 1891] (Al). Nassau Co.: E. P. Bicknell 230 (D--735447); Muensch & Curtis 6809 (Al); P. Wilson s.n. [Merrick, Sept. 11, 1915] (Al). Oneida Co.: Haberer 1011 (Al), 2739 (Al), s.n. [Forestport, 7-25-1904] (Al); H. D. House s.n. [Aug.

9, 1917] (Al). Onondaga Co.: W. R. Dudley s.n. [1885] (Du--71425); K. M. Wiegand 6130 (Au). Orange Co.: J. H. Barnhart 1176 (N); Muensch & Curtis 5607 (Al); J. Torrey s.n. [West Point] (Br). Oswego Co.: Clausen & Hinkey 4382 (Al, Ba, N), 4383 (Al, N); W. R. Dudley s.n. [Aug. 4, 1891] (Du--75270); Hotchkiss 3397 (Al); H. D. House 5822 (Al); W. W. Rowlee s.n. [Aug. 4, 1891] (Pl--86408); C. S. Sheldon s.n. [Aug. 27, 1877] (Al), s.n. [4 Sept. 1882] (Ob--23910). Rensselaer Co.: W. E. A. Aiken s.n. [Troy] (D--781693); H. D. House 21951 (Al), 24239 (Al); C. H. Peck s.n. [Sand Lake] (Al); Puissant s.n. [Poestenkill] (Br); Rousseau s.n. [Troy] (Ob--23912). Rockland Co.: Muensch & Curtis 5608 (Al). Saint Lawrence Co.: M. C. Carter s.n. [Aug. 22, 1891] (Al); H. D. House 20701 (Al); W. A. Matthews 2964 (Gg--276704). Saratoga Co.: H. D. House 26043 (Al); McCombs 12a (Cm); O. P. Phelps s.n. [July 17, 1927] (Al). Schenectady Co.: H. D. House 5280 (Al). Schuyler Co.: Barbour 385 (Ka); McVaugh & Curtis 7465 (Al). Steuben Co.: Lucy 1159 (Al). Suffolk Co.: L. H. Bailey s.n. [Lake Ronkonkoma, Aug. 5, 1919] (Ba); S. A. Cain 325-4 (Bt--22754); Clute 116 (Bt--3854); Gershoy s.n. [July 13, 1919] (Ob--61421); H. W. Graham s.n. [Deer Pond, July 1926] (Cm); L. K. Henry s.n. [Deer Pond, July 1929] (Cm), s.n. [Lily Pond, July 1929] (Cm), s.n. [Long Pond, July 1929] (Cm); H. D. House 9665 (Al); Kirch s.n. [July 30, 1915] (Cm); Latham 1601 (Al), s.n. [July 29, 1929] (Al); Moldenke & Moldenke 11583 (N); Muensch & Curtis 6815 (Al), 6817 (Ba), 6818 (Al); Muensch, Winne, & Isely 20695 (Pl--131989); D. Parker 18 (N); C. H. Peck s.n. [Smithtown] (Al); H. Saint John 2622 (Al); Schrenk & Stewart s.n. [August 7, 1895] (Al); Whitney 3292 (Al). Sullivan Co.: Muensch & Curtis 5025 (Ba); Whitney 5214 (Al). Ulster Co.: Elting 2870 (Al). Warren Co.: H. D. House 20643 (Al), 28148 (Al). Washington Co.: S. H. Burnham s.n. [Aug. 16, 1899] (Al). Westchester Co.: H. T. Clark 94 (Br); Muensch & Curtis 5611 (Al); Puissant s.n. [Peekskill] (Br). County undetermined: Adduci 637 [Black Rock State Park] (Wl); Collector undesignated s.n. (Al); Leggett s.n. [Ridgefield, L. I., July 31, 1880] (Tc); J. Torrey 1166 (Al), s.n. [1833] (Br), s.n. [N. Y.] (D--824261, Pa.). NEW JERSEY: Atlantic Co.: Bartram s.n. [Sept. 9, 1906] (Mg); Heritage s.n. [Egg Harbor City, 9-15-1895] (Ur). Burlington Co.: Carson s.n. [Quaker Bridge, 183-] (Ll); W. Stone s.n. [Parkdale, Aug. 1906] (Cm). Camden Co.: O'Neill 8190 (Ms). Cumberland Co.: Dreisbach

1722 (Cm); Treat s.n. [Vineland, July 1871] (Al). Middlesex Co.: C. S. Williamson 2 (D--824258, in part). Monmouth Co.: T. W. Edmondson 5062 (N); B. H. Patterson s.n. [Ocean Grove, Aug. 1894] (Cm); C. S. Williamson 3, in part (D--824258, in part). Morris Co.: Clausen & Clausen 1819 (Ba); Herb. Brakeley s.n. [Greenpond] (Cc); U. C. Smith s.n. [Budd's Lake, Sept. 1, 1899] (Mg). Ocean Co.: E. J. Alexander s.n. [Oct. 5, 1941] (N); Gleason, Smith, & Alexander 173 (Go, Mg, Ur); G. B. Grant 6065 (Po-267595); K. K. Mackenzie 4850 (N); W. Stone s.n. [Aug. 7, 1901] (St--3293). Sussex Co.: Clausen & Edwards 2289 (Ba); J. K. Small 162 (Ob--23918), s.n. [Budd's Lake, August 12--14, 1890] (Au, Cm, Cn). County undetermined: H. R. Bassler 3017, in part (Ka); W. M. Canby s.n. [Spring Garden, Aug. 1858] (Pa); Collector undesignated s.n. [Spring Garden, 8/4/1858] (Cc); F. M. Hexamer s.n. [Nesochcaque River, 17 Aug. 1855] (Br); Scheidweiler s.n. (Br); Treat s.n. [July 1875] (Du--71445). PENNSYLVANIA: Bradford Co.: Westerfeld 811 (Cm). Carbon Co.: T. C. Porter s.n. [Aug. 7, 1867] (Pr). Crawford Co.: Van Dersal s.n. [Oct. 22, 1933] (Cm). Lackawanna Co.: Glowenke s.n. [July 30, 1936] (Cm); O. E. Jennings s.n. [8/26/20] (Cm). Luzerne Co.: Heller & Halbach 691 (Ur); J. K. Small s.n. [August 15--16, 1889] (Se--4175). Pike Co.: S. W. Knipe s.n. [12 Mile Pond, 1875] (Cm). Sullivan Co.: C. S. Williamson 1 (D--824258, in part), 3, in part (D--824258, in part). Susquehanna Co.: Fretz 199 (Cm). Wayne Co.: Clausen, Hinkey, & al. 4003 (Ba). County undetermined: C. F. Austin s.n. [Cobb Mt. Pond] (Pr); Schweinitz s.n. [1829] (Br). DELAWARE: New Castle Co.: W. M. Canby s.n. [near Holly Oak, Sept. 1862] (Pa). Sussex Co.: Long & Bart-ram 1387 (D--648775); McVaugh 6535 (N). MARYLAND: Wicomico Co.: W. M. Canby s.n. [Salisbury, Sept. 1863] (Pa). County undetermined: A. P. Garber s.n. [Mogothy River, Aug. '67] (D--568220). VIRGINIA: Augusta Co.: Killip 32582 (N). County undetermined: Canby s.n. (Du--11077, in part). OHIO: Portage Co.: Ashcraft 10869 (Ur); R. J. Webb s.n. [July 23, 1915] (Cm). Summit Co.: Sterki s.n. [Sept. 26, 1913] (Cm). INDIANA: Laporte Co.: E. J. Hill 146.1875 (Ur), s.n. [Laporte, July 22, 1875] (Dp--2935, in part). Porter Co.: M. A. Chase 557 (Ur, Ur), 616 (Ur), 903 (Ur, Ur), 1255 (Ur); E. J. Hill 170.1897 [Aug. 30] (Ur, Ur), 170.1897 [Sep. 6] (Ur, Ur, Ur), 170.1897 [Oct. 20] (Ur), 135.1898 [May 9] (Ur), 135.1898 [July 26] (Ur, Ur), 155.1898 [Aug. 4] (Ur, Ur), 228.1899 (Ur), 155.1906 (Ur). Steuben Co.: Friesner

14635 (Bt--50661). Wells Co.: C. C. Deam s.n. [9-2-1897] (Ur).
 County undetermined; C. C. Deam 7214 (Gg--276705). MICHIGAN:
 Alcona Co.: Potzger 4617 (Bt--24610). Allegan Co.: Gamon s.n.
 [Saugatuck, July 19, 1898] (Ur). Baraga Co.: Dreischbach 6926
 (Gg). Cass Co.: F. C. Gates s.n. [Cabel Lake, August 4, 1906]
 (Ur). Cheboygan Co.: Beardslee & Kofoed s.n. [Aug. 1, 1890]
 (Cm, Mg, Ob--23901, Ob--23902, Se--4014); M. Campbell 8230 (Bt
 --20808); J. H. Ehlers 6286 (Go); F. C. Gates 11119 (Du--
 166342, Ka--65022, Ob--23880, Se--4058), 11119a (Ka--65023),
14123 (Du--170631, Vt), 14899 (Au, St--21186), 16605 (Ka--
 80897); Gates & Gates 9435 (Ur); Gleason & Gleason 202 (Go, We),
2020 (Bt--30905); M. McKee 618 (Dp--2931); Miner 5153 (Du--
 266812); Potzger s.n. [8/7/31] (Bt--6768); Yunker 7063 (Dp--
 2934, H--1377). Delta Co.: E. J. Hill 32.1883 (Ur), s.n. [Es-
 canaba, July 10, 1883] (Ur). Isle Royale Co.: C. A. Brown 3626
 (Ob--23879). Manistee Co.: E. J. Hill 149.1880 (Ur, Ur), s.n.
 [Baer Lake, Aug. 19, 1880] (Ur). Menominee Co.: Manning s.n.
 [Lost Lake, 1923] (Cm). Presque Isle Co.: J. H. Ehlers 6150
 (Du--266811). Schoolcraft Co.: W. S. Moffatt 162.1899 (Ur). Van
 Buren Co.: Nieuwland s.n. [Bankson Lake, Sept. 2, 1914; Herb.
 Marie-Victorin 42109] (Vi). WISCONSIN: Ashland Co.: Fassett &
Wilson 7712 (H--65758). Douglas Co.: J. H. Steenis 1205 (Ob--
 69580). Oconto Co.: Hotchkiss & Koehler 4327 (Bl--43810). Onei-
 da Co.: C. Gross s.n. [Lake Hasbrook, 8/15/37] (Dp--2929);
Throne 2675 (Ka), 2677 (Ka). Polk Co.: Hotchkiss & Martin 4489
 (Po--209289). Vilas Co.: Fassett 8901 (Mg); Potzger 9112 (Bt--
 61162), 9119 (Bt--61239, Bt--61241); L. R. Wilson 3082 (Fl--
 5417, Fl--5418). Washburn Co.: Fassett 7714 (Mg). MINNESOTA:
 Cass Co.: Rosendahl & Butters 6836 (N). Chisago Co.: B. C. Tay-
lor s.n. [Aug. 1892] (Pl--5388). Crow Wing Co.: F. H. Burgle-
haus s.n. [Aug. 1891] (Po--185873, Se--4080). Dakota Co.: L. H.
Bailey B.459e (Ba). Lake Co.: Lakela 3092 (N). Morrison Co.:
Sandberg 887 (Ka). Ottertail Co.: F. F. Wood s.n. [Basswood
 Lake, July 27, 1891] (Du--54393). Saint Louis Co.: Moyle 2388
 (N). ISLE OF SKYE: J. H. Balfour s.n. (Pa); Greville s.n.
 [1829] (Br); Herb. Boettcher 2024 (Gg--105737); Herb. Prager
195 (Gg--106733, in part); Herb. Princeton Univ. s.n. (Pr);
J. D. Hooker s.n. (Br); Lemann s.n. (D--752354). IRELAND: J. H.
Balfour s.n. [Aug. 8, 1838] (Br); J. P. Brace s.n. (D--752353);
Colgan 3200 (Ob--1268); Farre s.n. [37.7.29] (Br); Groves &
Groves s.n. [Galway, 8.VIII.1892] (Gg--207024); Lomax s.n. [3

Augusti 1886] (Gg--105734); Mackay s.n. [Aug. 1838] (Br); Praeger s.n. [NW. end of L. Corrib, W. Galway, 16.7.95] (Ur, Ur), s. n. [near Roundstone, W. Galway, 17.7.95] (Ur, Ur, Ur); S. A. Stewart 5965 (Pr); Walker-Arnott s.n. [1837] (Br); W. West s.n. [T. W. Edmondson 2086] (N), s.n. [July 1901] (N); W. Wilson s. n. [Aug. 1825] (D--782364). SCOTLAND: Herb. Boettcher s.n. [Herb. Marie-Victorin 28003] (Vi); Herb. Winterbottom s.n. [west of Scotland, 1837--1842] (Ur, Ur); Macvicar s.n. [Island of Coll, July 1879] (Ur, Ur). LOCALITY OF COLLECTION UNDETERMINED: Abrams 13546 [Alford Lake] (Du--225910); H. C. Cowles s.n. [Wahob Lake, "Fla.", 1906] (Ur); Herb. Jard. Bot. Brux. s.n. (Br); Herb. Kansas State Agr. Coll. s.n. [Europe] (Ka); Jesup s.n. (Ka); H. L. Jones s.n. [Lake Minnipsseopie, July 31, '87] (Ob--23900); Moll s.n. (Br); Oakes s.n. (Ms). ILLUSTRATIONS: Agnes Chase drawing s.n. (Ur).

ERIOCAULON SETACEUM L.

The species is recorded from Mysore by B. A. Razi, Journ. Mysore Univ. 7 (4): 77 (1946), and is described as a hydrophyte and geophyte.

Additional citations: INDIA: Bombay: Stocks s.n. [Concan] (K); W. A. Talbot 633 (K). ANDAMAN ISLANDS: Helfer 5581 (C).

ERIOCAULON SEXANGULARE L.

Synonyms of this species are Eriocaulon quadrangulare Lour., E. quadriangulare Lour., E. wallichianum Mart.; it has been mis-identified in herbaria as E. wightianum Mart. and "E. 5-angulare L." and even as Burmanna sp. The Kanehira specimen cited below is mixed with a species of Fimbristylis. The Tsang collection cited below was originally identified as E. truncatum Ham., while the Gressitt specimen was first called E. australe R. Br. and then E. wallichianum Mart. The species is recorded from Mysore by B. A. Razi in Journ. Mysore Univ. 7 (4): 77 (1946) and described as a geophyte. It is said to grow in fields and paddies and along small streams beside forests. Gressitt collected it as 60 m. altitude. Tsang describes the flowers as yellow, and it has been collected in anthesis in May and August. The vernacular name "shui suen" is recorded for it by McClure. An additional synonym is Eriocaulon wallichianum var. tenellum Wight, and E. sinicum Miq. probably also belongs here.

Additional citations: INDIA: Royle s.n. [Peninsula of India] (D--824284); Stocks s.n. (K); R. Wight 2364 [Quilon, 1129] (C, N), 2364b (M, N). BURMA: W. Griffith 5592 (C). CHINA: Fukien:

H. H. Chung 7659 (N), 7662 (N), 7668 (N), 8325 (N). Kwangtung: N. K. Chun 44407 (N); Hom 6 [Herb. Lingnan Univ. 19315] (N), 62 [Herb. Lingnan Univ. 18479] (N); W. T. Tsang 21110 (N); Tsiang 2458 (N), 2458b (N, N). HONGKONG: N. K. Chun 40009 (N); W. Y. Chun 7487 (N); C. Ford s.n. [3-5-93] (N); Milford s.n. (T); G. R. Tate s.n. [Hongkong, 1862--3] (Pr); Tsui 282 (N); C. Wright s.n. (T). HAINAN ISLAND: How & Chun 70286 (N); Ko 52137 (N); Lei 58 (N); F. A. McClure 30828 [Herb. Canton Chr. Coll. 9827] (Gg--105740); W. T. Tsang 424 [Herb. Lingnan Univ. 17173] (N). FRENCH INDOCHINA: Annam: Clemens & Clemens 3301 (D--656769, Gg--156648). Cochinchina: Squires 235 (Gg--159564). Tonkin: Pételot 5251 (N); Poilane 7536 (N), 8068 (N), 8079 (N), 8080 (N), 8082 (N), 8084 (N), 8091 (N), 8092 (N), 8094 (N), 8097 (N), 8098 (N). STRAITS SETTLEMENTS: Singapore: Wilkes s.n. [Singapore, Note B.6.57] (T). LIUKIU ISLANDS: Iriomote: Gressitt 550 (N). CAROLINE ISLANDS: Pelew Islands: Kanehira 418, in part (N). LOCALITY OF COLLECTION UNDESIGNATED: Blackburn s.n. (T); Herb. Wight 2858 (T).

ERIOCAULON SIERRALEONENSE Moldenke

A synonym of this species is Eriocaulon pumilum Afzel. ex Körn., Linnaea 27: 621 (1856), not E. pumilum Raf., Atl. Journ. 121 (1832).

ERIOCAULON SIGMOIDEUM C. Wright

Additional citations: CUBA: Pinar del Río: Moldenke & Moldenke 19879 (N); Moldenke, Moldenke, León, Alain, & Acuña 15265 (Es); C. Wright 3737 (Pa--isotype).

ERIOCAULON SIKOKIANUM Maxim.

The species has been mis-identified as "E. miquelianum Koeck.", and the specific epithet is sometimes written with a capital initial letter. It has been collected in anthesis from August to October.

Additional citations: JAPAN: Hitachi: Herb. Sci. Coll. Imp. Univ. s.n. [Aug. 1903] (Vt). Hokkaido: Tokubuchi s.n. [Sept. 22, 1894] (D--824279). Hondo: Ohwi s.n. [Takaraga-ike, 26.X. 1930] (Ms). Kiushiu: Herb. Sci. Coll. Imp. Univ. s.n. [Sept.] (Vt).

ERIOCAULON SOLLYANUM Royle

The species is said to form dense mats locally in rice fields in Bombay.

Additional citations: INDIA: Assam: Collector undesignated s.n. [Silhet, 5/12/50] (F--photo, K, N--photo, Sg--photo, Z--

photo); Hooker & Thomson s.n. [Khasia] (F--photo, K, N--photo, Sg--photo, Z--photo). Bombay: Blatter, Hallberg, & McCann 27983 (N, Xa), 28009 (N, Xa), 28068 (N, Xa); Santapau 767 (N, Xa), 2184 (N, Xa), 2925 (N, Xa), 3127 (N, Xa), 4817 (N, Xa), 4844 (N, Xa), 4845, in part (Xa); Santapau & McCann 1290, in part (N, Xa); Stocks s.n. (F--photo, K, N, N--photo, Sg--photo, Z--photo). State undetermined: Collector undesignated 1583 [Nuntlow] (F--photo, K, N--photo, Sg--photo, Z--photo).

ERIOCAULON SONDERIANUM Körn.

According to Arwidsson in Bot. Notiser 1934: 83 the original description of this species is accurate and excellent, and the species is a valid one. It has acute leaves, light involucre bractlets, elongate heads, and flowers that are 1.5--2.5 mm. long. He cites Wilms 1575 and Zeyher 1731.

ERIOCAULON SPRUCEANUM Körn.

This species was collected by Killip in water of a small stream in a forest, at an altitude of 500 m., blooming in March.

Additional citations: COLOMBIA: Méta: Killip 34260 (N).

ERIOCAULON SPRUCEANUM f. **AMPHIBIUM** Herzog

Additional citations: BRAZIL: Amazonas: Luetzelburg 22796 [Herb. Mus. Nac. Rio 47735] (Ja), 23007 [Herb. Mus. Nac. Rio 47686] (Ja, N), 23017 [Herb. Mus. Nac. Rio 47685] (Ja--cotype), 23267 [Herb. Mus. Nac. Rio 47722] (Ja), 23870 [Herb. Mus. Nac. Rio 47732] (F--photo of cotype, Ja--cotype, N--cotype, N--photo of cotype, Sg--photo of cotype, Z--photo of cotype), 23822 [Herb. Mus. Nac. Rio 47684] (Ja--cotype, N--cotype).

ERIOCAULON SPRUCEANUM f. **FLUITANS** Herzog

The specimens cited by Herzog from Cururu and from Uauapes are both from the state of Pará, Brazil, while that from Cachoeira is from Bahia.

ERIOCAULON STEINBACHII (Moldenke) Moldenke

A synonym is Paepalanthus steinbachii Moldenke. According to Steinbach, the species grows on the banks of a small lake at Campos de Terebinto, where he collected it on August 22, 1916. He states that the inflorescence is dark-violet with white dots.

Additional citations: BOLIVIA: Santa Cruz: Steinbach 2669 [Herb. Inst. Miguel Lillo 50111] (N--type).

ERIOCAULON STELLULATUM Körn.

This species is recorded from Mysore by B. A. Razi in Journ. Mysore Univ. 7 (4): 77 (1946), and is described by him as a therophyte.

Additional citations: INDIA: Bengal: Herb. Hooker s.n. (K).

ERIOCAULON STEYERMARKII Moldenke

The Hering specimen cited below has the collector's name mis-spelled "Hering" in the label and was identified by someone as Eriocaulon septangulare With.

Additional citations: VENEZUELA: Bolívar: Steyermark 58868 (N--type). SURINAM: Hering s.n. (D--824278).

ERIOCAULON STRICTUM Milne-Redhead

This species is known thus far only from the original collection, Fitzgerald 5213/3, from Kilindoni, on Mafia Island, Tanganyika Territory, where it was collected on August 6, 1936, in wet-season lagoons which were then drying up. It is described by the collector as growing in association with bladderworts, milkworts, sedges, and grasses, forming a growth 15 cm. tall. Milne-Redhead states that it is probably related to E. buchani Ruhl., "from which it differs, not only in size and in width of leaf, but in possessing only two sepals in the female flowers, the third sepal being represented by a minute tooth-like rudiment.....The petals of the male flowers.....are variable in size and are often unequal." He supplements his description with an excellent illustration (pl. 3388).

ERIOCAULON SUBULATUM N. E. Br.

Additional citations: SOUTHERN RHODESIA: F. Eyles 125 (F--photo, N--photo, Rh, Sg--photo, Z--photo); Herb. Queen Victoria Memorial 8120 (Rh); Keay 21406 (Rh).

ERIOCAULON TENUIFOLIUM Klotzsch

The A. C. Smith 2280, previously regarded as this species, has been found to represent E. atabapense Moldenke instead.

Additional citations: VENEZUELA: Amazonas: Ll. Williams 14084 (W--1878419).

ERIOCAULON TEXENSE Körn.

The species is found in bogs, and has been collected in anthesis from April to June and in August. Warner records the common name "pipewort". Warnock 224 is anomalous in appearance, looking more like E. septangulare With. (as it was identified) or a small example of E. compressum Lam.

Additional citations: TEXAS: Anderson Co.: Lundell & Lundell 8463 (Mi, N). Austin Co.: Tharp s.n. [5/4/40] (Au); Warnock 224 [30] (N, N). Robertson Co.: F. A. Barkley 13543 (N, N).



Moldenke, Harold N. 1951. "Additional notes on the Eriocaulaceae. V." *Phytologia* 3(7), 382–400.

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