

impressed above, sharply prominent beneath, ascending, slightly arcuate; veinlet reticulation rather obscure on both surfaces; inflorescence terminal, spicate; peduncles acutely tetragonal, 9--12 cm. long, rather abundantly spreading-pilose with stiff white hairs standing at right angles to the peduncle; spikes 5.5--8 cm. long, densely many-flowered; bractlets lanceolate-ovate, 5--7 mm. long, attenuate-acuminate, 1--1.5 mm. wide at the base, rather abundantly whitish-pubescent on the back and densely long-ciliate on the margins; calyx tubular, about 1 cm. long, 5-costate, abundantly white-pilose; corolla-tube bright-rose, about 12 mm. long, densely pubescent on the outside above the calyx, its limb about 6 mm. in diameter.

The type of this species was collected by A. G. Schulz (no. 284) -- in whose honor it is named -- in swampy ground on a low campo at Colonia Benitez, Chaco, Argentina, on December 7, 1933, and is deposited in the Osten Herbarium at the Museo de Historia Natural at Montevideo.

VERBENA THYMOIDES f. ALBIFLORA Moldenke, f. nov.

Hæc forma a forma typica speciei corollis albis recedit.

This form differs from the typical form of the species in having white corollas.

The type was collected by José Arechavaleta at Cerro de Nico Perez and Sierra de Tapambai, dept. Minas, Uruguay, in November or December, 1892, and is deposited in the Osten Herbarium at the Museo de Historia Natural at Montevideo.

VITEX TRIFOLIA var. **HETEROPHYLLA** (Mak.) Moldenke, comb. nov.

Vitex rotundifolia var. heterophylla Mak., Ill. Fl. Nipp. 186. 1940.

ADDITIONAL NOTES ON THE ERIOCAULACEAE. III

Harold N. Moldenke

The present notes are supplementary to the material contained in my booklets entitled "The known geographic distribution of the members of the Eriocaulaceae, together with a check-list of scientific names proposed in this group" (62 pp., 1942), "The known geographic distribution of the members of the Verbenaceae, Avicenniaceae, Stilbaceae, Symphoremaceae, and Eriocaulaceae" (215 pp., 1949), and "A list showing the location of the principal collections of Verbenaceae, Avicenniaceae, Stilbaceae, Symphoremaceae, and Eriocaulaceae. Supplement 1" (29 pp., 1947) and my publications on members of this family in N. Am. Fl. 19: 17--50 (1937); Brittonia 3: 157--159 (1939); Lloydia 2: 170 (1939); Carnegie Inst. Wash. Publ. 522: 137--223 (1940); Lundell, Fl. Texas 3: 1--89 (1942); Wrightia 1: 220--246 (1948); Ann. Mo. Bot. Gard. 27: 268--269 (1940), 28: 411

(1941), and 31: 65--71 (1944); Bull. Torrey Bot. Club 68: 67--70 (1940) and 75: 194--204 (1948), and Phytologia 1: 309--336 & 343--364 (1939), 2: 6--32 (1941), 123--128 (1945), 152--168 (1946), 349--352 and 372--381 (1947), 490--499 (1948), and 3: 79--80 & 141--144 (1949).

The abbreviations employed herein for the names of herbaria in which material is deposited are as follows: Al = New York State Museum, Albany; An = Institut Francais d'Afrique Noire, Dakar, Senegal; Au = University of Texas, Austin; Ba = L. H. Bailey Hortorium, Cornell University, Ithaca, New York; Bl = University of Colorado, Boulder; Br = Jardin Botanique de l'Etat, Brussels; Bt = Butler University, Indianapolis, Indiana; Bu = W. M. Buswell Herbarium, University of Miami, Coral Gables, Florida; C = Columbia University Herbarium, New York Botanical Garden; Co = Colorado College, Colorado Springs; Cm = Carnegie Museum, Pittsburgh; D = Academy of Natural Sciences, Philadelphia; Dm = C. C. Deam Herbarium, Bluffton, Indiana; Dp = DePauw University, Greencastle, Indiana; Du = Dudley Herbarium, Leland Stanford University, Stanford, California; E = Missouri Botanical Garden, St. Louis; Ec = Universidad Nacional de Loja, Ecuador; Es = Estacion Experimental Agronomica, Santiago de las Vegas, Cuba; F = Chicago Natural History Museum, Chicago; Fl = University of Florida, Gainesville; Ga = Georgia Agricultural Experiment Station, Experiment; Gg = California Academy of Sciences, San Francisco; Go = Botaniska Trädgård, Göteborg, Sweden; H = Duke University, Durham, North Carolina; Ha = Colegio de la Salle, Vedado, Havana; Hu = Sam Houston State Teachers College, Huntsville, Texas; I = Langlois Herbarium, Catholic University of America, Washington; Ja = Museu Nacional, Rio de Janeiro; Je = William Jewell College, Liberty, Missouri; K = Royal Botanic Gardens, Kew; Ka = Kansas State College, Manhattan; Lg = Fritz Lemperg Herbarium, Hatzendorf, Steiermark, Austria; M = Meisner Herbarium, New York Botanical Garden; Md = University of Maryland, College Park; Me = Instituto de Biologia, Universidad Nacional de México, Mexico City; Mg = Montreal Botanical Garden, Montreal; Ml = Instituto Miguel Lillo, Tucumán, Argentina; Mr = Morehead State College, Morehead, Kentucky; Ms = University of Massachusetts, Amherst; N = Britton Herbarium, New York Botanical Garden; No = North Carolina State College, Raleigh; Nt = North Texas State Teachers College, Denton; Ob = Oberlin College, Oberlin, Ohio; Or = Oregon State College, Corvallis; Ot = National Herbarium of Canada, Ottawa; Pa = College of Pharmacy Herbarium, New York Botanical Garden; Pl = State College of Washington, Pullman; Po = Pomona College, Claremont, California; Pr = Princeton University Herbarium, New York Botanical Garden; R = Trinidad & Tobago Botanical Garden, Port-of-Spain, Trinidad; Rh = Government Herbarium, Salisbury, Southern Rhodesia; Se = University of Washington, Seattle; Sg = Museo de Historia Natural, Santiago, Chile; Si = Instituto Darwinion, San Isidro, Argentina; Sm = Southern Methodist University, Dallas, Texas; St = Oklahoma Agricultural and Mechanical College, Stillwater; T = Torrey Herbarium, New York Botanical Garden; Tr = S. M. Tracy Herbar-

ium, Texas Agricultural Experiment Station, College Station; Ur = University of Illinois, Urbana; Va = Vanderbilt University, Nashville, Tennessee; Ve = Museo Comercial de Venezuela, Caracas; Vi = Marie-Victorin Herbarium, Montreal Botanical Garden, Montreal; Vt = University of Vermont, Burlington; W = United States National Herbarium, Smithsonian Institution, Washington; We = West Virginia University, Morgantown; Wh = Faculdade de Farmacia e Odontologia, Universidad de São Paulo, Brazil; Xa = Blatter Herbarium, St. Xavier's College, Fort, Bombay, India; and Z = H. N. Moldenke Herbarium, New York Botanical Garden, New York City.

ERIOCAULON Gronov.

Literature references: Gronovius ex L., Gen. Pl., ed. 2, no. 81. 1743; L., Sp. Pl., ed. 1, 87. 1753; L., Gen. Pl., ed. 5, 38. 1754; Penhallow, Brit. Assoc. Adv. Sci. Bradford Meeting 1900: 335. 1900; Massart & al., Mission Biol. Belge au Brésil 1922-1923, 1: fig. 371. 1929; op. cit., 2: fig. 645e. 1930; W. C. Muenscher, Cornell Univ. Agr. Exp. Sta. Bull. 652. 1936; H. Pittier, La Mesa de Guanipa, Ensayo de Fitografia 45. 1942; Niemeyer & Stellfeld, Arch. Mus. Parana. 3: 24. 1943; B. P. Reko, Bol. Soc. Bot. Mex. 4: 36. 1946; R. Espinosa, Estud. Bot. Sur Ecuad. 1: 73. 1948. -- Eriocaulon L. ex Britton & Br., Ill. Fl., ed. 2 rev., 1: 453. 1936; Hara, Bot. Mag. Tokyo 53: 406. 1938. -- Eriocaulon [Gronov.] L. ex B. L. Robinson & Fernald in Gray's New Man. Bot., ed. 7, 261. 1908; Eyles & Robertson, U. S. Pub. Health Bull. 286: 106. 1944.

I regard Lasiolepis Böck. as a generic synonym of Eriocaulon instead of placing it as synonymous "in part" with Eriocaulon and "in part" with Paepalanthus, as Ruhland does. In the original publication, Flora 56: 90--91 (1873), three species are described, but none is designated as the type species. These three species are: 1. L. brevifolia, 2. L. pilosa, and 3. L. aquatica. Of these L. brevifolia is conspecific and synonymous with Eriocaulon lasiolepis Ruhl., L. pilosa with Paepalanthus Lamarckii Kunth, and L. aquatica with Eriocaulon melanocephalum Kunth. In cases such as this it is the common practice to regard the first-mentioned species as the type species [lectotype]. Doing this here, Lasiolepis falls directly into the synonymy of Eriocaulon.

The G. Gardner 4387 distributed in some herbaria as an Eriocaulon is actually a species of Xyris.

Germination studies on Eriocaulon are reported on by Muenscher in the reference cited above. Pittier, in the reference also cited above, lists an unidentified species of this genus from Pariaguán, Venezuela, in the collection of Miss Alicia Hernández. I have not yet seen this specimen.

ERIOCAULON ACHITON Körn.

Additional citations: INDIA: Assam: W. Griffith s.n. (F--photo of isotype, K--isotype, N--photo of isotype, Sg--photo of isotype, Z--photo of isotype). Madras: C. B. Clarke 14423 (F--

photo, K, N--photo, Sg--photo, Z--photo), 15728 (F--photo, K, N--photo, Sg--photo, Z--photo), 15728b (F--photo, K, N--photo, Sg--photo, Z--photo).

ERIOCAULON ADAMESII Meikle

Literature references: Meikle, Kew Bull. 1948: 472--473. 1948 [original].

Additional citations: SIERRA LEONE: Adames 97 (N--isotype).

ERIOCAULON AEQUINOCTIALE Ruhl.

The type collection, cited by Ruhland from "Tiramuto", is actually from within the state of Bolívar, Venezuela.

ERIOCAULON AFRICANUM Hochst.

This species has been collected along the margins of streams and has been found flowering in November.

Additional citations: SOUTHERN RHODESIA: Corby 144 [Govt. Herb. Salisbury 22488] (F--photo, N, N--photo, Rh, Sg--photo, Z--photo); A. Newton 18 [Govt. Herb. Salisbury 21224] (Rh). UNION OF SOUTH AFRICA: Cape of Good Hope: Tyson s.n. [MacOwan & Bolus 1203] (N--photo, Vt, Z--photo).

ERIOCAULON AFZELIANUM Wikstr.

Additional citations: SENEGAL: Monod 2 (N).

ERIOCAULON ALATUM H. Lecomte

The collection cited below was previously confused with E. Merrillii Ruhl. It was collected in anthesis in January.

Additional citations: PHILIPPINE ISLANDS: Luzon: M. Ramos s. n. [Herb. Philipp. Bur. Sci. 1831] (N).

ERIOCAULON ALPESTRE Hook. f. & Thoms.

This species has been confused with E. sexangulare L. and "E. Sieboldianum Steud." It has been collected in anthesis in August.

Additional citations: INDIA: Sikkim: J. D. Hooker s.n. [Sikkim] (K). CHINA: Fukien: Chung 7326 (N), 7328 (N). JAPAN: Hokkaido: Tokubuchi s.n. [Aug. 22, 1894] (D--824282).

ERIOCAULON AMPHIBIUM Rendle

Literature references: Rendle, Journ. Linn. Soc. Lond. Bot. 37: 475. 1906 [original]; Arwidsson, Bot. Notiser 1934: 83. 1934.

The type of this species is Gibbs 210 from Southern Rhodesia. The species is related to E. lacteum Rendle, but "differing from all other African species in having the sepals of the female, as well as of the male, flowers connate." It was reduced to synonymy under E. lacteum by Ruhland, but reinstated as a valid species by Arwidsson.

ERIOCAULON ANNUM Milne-Redhead

Additional citations: SOUTHERN RHODESIA: Wild 2511 [Govt.

Herb. Salisbury 20028] (F--photo, N, N--photo, Rh, Sg--photo, Z--photo).

ERIOCAULON ARECHAVALETAE Herter

Literature references: Castellanos in Descole, Gen. Sp. Pl. Argent. Eriocaulac. 81, pl. 14 & 15. 1945.

Synonymy: Eriocaulon latifolium Arech., Anal. Mus. Montevid. 41: 21. 1902 [not E. latifolium J. Sm. in Rees, Cyclop. 13. 1809, nor E. latifolium Bong., Mém. Acad. Pétersb., sér. 6, 1: 631, pl. 64. 1831].

The T. Meyer 2003 and 3055 previously regarded by me as representing this species are now cited by me under E. magnum Abbiatti.

Additional citations: URUGUAY: Castellanos s.n. [Herb. Inst. Miguel Lillo 15167] (Lg, N), s.n. [Herb. Inst. Miguel Lillo 15181] (N); Lombardo 5015 (N); Moldenke & Moldenke 19694 (Es, Mg, Mr, N, N, N, No, Ot, Sm).

ERIOCAULON ARENICOLA Britton & Small

Literature references: Alain, Contrib. Ocas. Mus. Hist. Nat. Coleg. La Salle 7: 47, 105, & 114. 1946.

The species is said by Alain to be endemic in the white sand on the savannas at Sabana de los Indios on the Isla de Pinos. It has been collected in anthesis in February.

Additional citations: ISLA DE PINOS: León & Carabia 18842 (N); León & Victorin 18842 (Ha); Victorin & Alain 167, in part (Ha).

ERIOCAULON ARGENTINUM Castellanos

Literature references: Castellanos in Descole, Gen. Sp. Pl. Argent. Eriocaulac. 83, pl. 18B. 1945 [original].

ERIOCAULON ATABAPENSE Moldenke

The Williams 14084 specimen cited below has viviparous heads. The species has been confused with E. Humboldtii Kunth and E. tenuifolium Klotzsch.

Additional citations: VENEZUELA: Amazonas: Ll. Williams 13858 (N--isotype, N--isotype, N--photo of type, W--1832612--type), 14084 [Herb. Nac. Venez. 18466] (Ve). State undetermined: Herb. Nac. Venez. s.n. (N, Ve). BRITISH GUIANA: A. C. Smith 2280 (N).

ERIOCAULON ATRUM Nakai

Additional citations: JAPAN: Honshiu: Baker & Baker s.n. [9-2-14] (F--photo, Gg--105744, N, N--photo, Si--photo, Z--photo).

ERIOCAULON AUSTRALE R. Br.

The species has been collected in tea swamps and at stream margins. The Gressitt 550 from the Liukiu Islands, previously regarded by me as representing this species, is now cited by me under E. Wallichianum Mart. The true E. australe is not

known from the Liukiu Islands.

Additional citations: CHINA: Kwangtung: T. Sampson 168 [363] (D--824280), s.n. [Canton] (Pa). BRIBIE ISLAND: M. K. Clemens s.n. [April 20-30, 1944] (Or--49630). DOUBLE ISLAND: M. K. Clemens s.n. [Oct. 16, '46] (Or--56192).

ERIOCAULON BEAUVERDI Moldenke

Synonyms for this species are Eriocaulon helichrysoides var. giganteum Beauverd and E. giganteum (Beauverd) Beauverd.

Additional citations: BRAZIL: São Paulo: W. Hoehne 753 (N, Wh, Wh); Löfgren s.n. [Herv. Comm. Geogr. e Geol. 451; Herb. Inst. Biol. 10202] (N); Moldenke & Moldenke 19643 (Es, Lg, Mg, Mr, N, N, No, Ot, Sm); Pickel 5472 (N).

ERIOCAULON BENTHAMII Kunth

Literature references: Eriocaulon Benthamii Kunth, Enum. Pl. 3: 545. 1841; Jacks., Ind. Kew. 1: 877. 1895; W. C. Leavenworth, Am. Midl. Nat. 36: 164. 1946. -- Eriocaulon Benthamii Kunth apud Ruhl. in Engl., Das Pflanzenreich 432: 42, 48, 49, & 284. 1903.

The species inhabits the black muck of swamps at altitudes of about 5000 feet and has been collected in anthesis in August and November.

Additional citations: MEXICO: México: Hinton 627 (N), 3638 (N), 4549 (N). Michoacán: W. C. Leavenworth 659 (Ur). Veracruz: Pringle 11871 (Vt).

ERIOCAULON BIFISTULOSUM Van Heurck & Muell.-Arg.

This species is very similar to the American E. melanocephalum Kunth. The only differences that I can find between the two species are that in the American plant the heads are usually blacker, the receptacular and involucre bractlets blacker, and the petals of the staminate florets glandular. In the African species the heads are grayer, the involucre and receptacular bractlets much lighter or the latter may even be translucent, and the petals are eglandular. N. E. Brown in Fl. Trop. Afr. 8: 240 (1901) first suggested the reduction of the African to the American species, and E. Milne-Redhead, in a letter to me dated May 14, 1947, also suggested it. E. bifistulosum has been collected at 5000 feet elevations in Southern Rhodesia.

Additional citations: FRENCH WEST AFRICA: French Soudan: Monod s.n. [27-XI-1945] (N). SIERRA LEONE: Adames 94 (N). SOUTHERN RHODESIA: Brain 4475 [Govt. Herb. Salisbury 10737] (Rh); Dehn 769 [Govt. Herb. Salisbury 10360] (Rh); F. Eyles 65 (Rh), 321 (Rh); Herb. Queen Victoria Memorial 8184 (Rh); Wild 2523 [Govt. Herb. Salisbury 20051] (N, Rh).

ERIOCAULON BILOBATUM Morong

The species has been found in wet places, wet hollows in rocky slopes, and wet mud bordering swamps, at altitudes of from 2860 to 5000 feet. It has been confused with "E. jalisca-num S. Wats.", a name which applies in part to E. Schiedeannum

Körn., and has been collected in anthesis in October.

Additional citations: MEXICO: Jalisco: Pringle 3855 [Herb. Inst. Biol. Univ. Nac. Mex. 2599] (Cc--isotype, D--518026--isotype, D--824268--isotype, Du--199984--isotype, Es--isotype, Me--isotype, Me--isotype, Me--isotype, Ob--23883--isotype, Pa--isotype, Vt--isotype), 6299 [Herb. Inst. Biol. Univ. Nac. Mex. 2600] (Br, Cc, Cm, D--824267, Gg--152419, Me, Me, Me, Vt). GUATEMALA: Jutiapa: Steyermark 30405 (F--1038456, N, N).

ERIOCAULON BRACHYPEPLON Körn.

The material cited by Ruhland from "Neu Mecklenberg" is from New Ireland in the Bismark Archipelago.

ERIOCAULON BREVISCAPUM Körn.

Additional citations: INDIA: Bombay: W. A. Talbot 1379 (F--photo, K, N, N--photo, Sg--photo, Z--photo).

ERIOCAULON BROWNIANUM Mart.

The type of this species is Wallich 6066, collected by De Silva and Gomez in Silhet. The Philadelphia sheet cited below is obviously of this collection, but bears the incorrect label "6071" and was identified as E. luzulaefolium Mart. It is apparently a case of mixed labels, for several other Wallich specimens of this genus at Philadelphia have curiously mixed and interchanged labels.

Additional citations: INDIA: Assam: Hooker f. & Thomson s.n. [Mont. Khasia] (C); De Silva & Gomez s.n. [Wallich 6066] (D--824256, in part--isotype, M--isotype).

ERIOCAULON BUCHANANII Ruhl.

The species has been collected at 1600 m. elevation in British Nyasaland.

Additional citations: SOUTHERN RHODESIA: N. C. Chase 886 [Govt. Herb. Salisbury 22183] (Rh); Herb. Queen Victoria Memorial 8121 (Rh); Wild 2510 [Govt. Herb. Salisbury 20027] (Rh). BRITISH NYASALAND PROTECTORATE: J. Buchanan 1168 (W--807261); Stolz 1344 (D--824283, E--892113, Mg, N).

ERIOCAULON BUERGERIANUM Körn.

The species has been found in open grassy places and abundant in sandy soil of swamps and rice terraces at almost sea level, flowering in December and fruiting in November.

Additional citations: UNION OF SOCIALIST SOVIET REPUBLICS: Buryato-Mongolskaya: Bohnhof 294 (N). CHINA: Kwangtung: W. T. Tsang 20687 (Ms, N, N, Ob--89891). Yunnan: Maire 3925 (N). HAINAN ISLAND: Liang 66137, in part (N).

ERIOCAULON BURCHELLII Ruhl.

The specimen cited below has peduncles up to 11 1/2 inches long and is thus quite different from the type, but its vivipary is just as pronounced and it is otherwise quite similar. I think that the type collection was merely a depauperate speci-

men. The plant is said by Archer to be "aquatic". If this is true, then the length of the peduncles is probably very variable, depending on the depth of the water, as it is in E. septangulare With. It has been collected in anthesis in August.

Additional citations: BRAZIL: Minas Geraes: Archer 3614 (W--1705658).

ERIOCAULON CAESTUM Griseb.

The species has been found in savanna grass along footpaths.

Additional citations: TRINIDAD: W. E. Broadway 2145 (Br, D--583031, Du--120673); Trin. Bot. Gard. Herb. 3292 (F--photo, N, N, N--photo, R, Si--photo, W--933493, Z--photo).

ERIOCAULON CEYLANICUM Körn.

The species has been collected at 2200 m. altitude.

Additional citations: CEYLON: Kuntze 20046 (N).

ERIOCAULON CINEREUM R. Br.

Specimens of this species have been confused in herbaria with various species and have been distributed as E. truncatum Hamilt., E. sexangulare L., "E. hexangulare L.", "E. heteranthum Benth.", "E. formosanum Hayata", E. xeranthemum Mart., E. quinquangulare L., and "E. Sieboldianum Sieb. & Zucc." It is apparently a common plant of rice fields and mud of dried ponds in India, at altitudes of 5200 to 6000 feet. The California collection is from plants said to have been submerged except for the upper part of the flowering scapes in the Krause rice fields at Modesto, collected on September 18, 1947. The specimens are huskier and larger in all their parts than typical E. cinereum.

Additional citations: CALIFORNIA: Stanislaus Co.: Markos s.n. (N). INDIA: Assam: H. Bruce s.n. [Herb. Wallich 6073a] (C, M). Bombay: Santapau 8101 (N, Xa); Stocks, Law, etc. s.n. (C). Chota Nagpur: C. B. Clarke 24750 (K). Kashmir: Koelz 9040 (N); R. R. Stewart 3268 1/2 (D--615824), 3350 1/2 (N), 8449a (N). Madras: E. W. Erlanson 5652 (N). West Bengal: C. B. Clarke 7938 (K); W. Griffith 5565 (C), 5579 (C); Wallich 6072b (C). State undetermined: H. Falconer 1192 (T); Herb. Wight s.n. (Pr); Royle s.n. [Himalayas] (D--824281); Wallich 6081 (D--824277); R. Wight 2366 (C), 2368 (C). CHINA: Anhwei: Sun 1344 (N). Chekiang: Chiao 18882 (N). Kwangsi: Steward & Cheo 1097 (N). Kwangtung: E. D. Merrill 10271 (Gg--105743), 10948 (Gg--105742, N). Kweichow: Tsiang 7010 (N). Shantung: E. Faber s.n. [Chefoo] (N). KOREA: Dorsett & Morse 6328 (N). FORMOSA: Sasaki 21620 (N). JAPAN: Honshiu: Herb. Sci. Coll. Imp. Univ. s.n. [Sept.] (Vt); Y. Matsumura 6675 (N); Maximowicz s.n. [1862] (C). Island undetermined: Yamaguchi 126 (Pl--51159). HONGKONG: Kuntze 3457 (N); C. Wright s.n. [Hong Kong] (T). HAINAN ISLAND: Lau 1960 (N). HONAM ISLAND: E. D. Merrill 9846 (Gg--105741). FRENCH INDOCHINA: Annam: Clemens & Clemens 3652 (N). JAVA: Blume s.n. (N).

ERIOCAULON COLLETTII Hook. f.

Additional citations: BURMA: Robertson 233 (F--photo, K, N, N--photo, Sg--photo, Z--photo).

ERIOCAULON COLLINUM Hook. f.

The species has been collected at 6300 feet altitude.

Additional citations: INDIA: Madras: C. E. C. Fischer 2971 (K); R. Wight s.n. (F--photo, K, N--photo, Sg--photo, Z--photo).

ERIOCAULON COMPRESSUM Lam.

Literature references: Eyles & Robertson, U. S. Pub. Health Bull. 286: 106. 1944; W. A. Merrill, Guide to Florida Plants 34. 1945; Tatnall, Fl. Delaware 75. 1947.

The species is called "pipewort" by Singletary and by Eyles & Robertson, "hatpin flower" by Merrill, and "flattened pipewort" by Heritage. It has been collected in moist soil, acid ponds, swamps, flatwoods, pinebarren swamps, cypress swamps, sphagnum bogs, moist pinebarrens, cypress-*Ilex* swamps, cypress ponds in pinebarrens, wet rich soil of cypress swamps, swampy sandy soil of cutover pastured pine forests, moist sandy pine-lands, shallow peaty ephemeral ponds, boggy peaty ground along rivers, water of swampy woods, wet sand, 6 inches of acid stagnant water, 12--15 inches of water in shallow ponds, on floating islands of sphagnum, prairies, swampy lake shores, sandsoaked areas in flatwoods, at pond margins, borders of swamps, swampy edges of ponds, and along water-filled ditches. It has been collected in anthesis from March to June and in August. Specimens have been confused with and distributed as E. decangulare L., E. septangulare With., E. lineare Small, E. texense Körn., "E. gnaphaloides Michx.", "E. gnaphaloides Michx.", "Eriaucolon gnaphalodes Michx.", Lachnocaulon glabrum Körn., and "Nasmythia angustifolia."

Tatnall, in the reference cited above, records the species from Sussex Co., Delaware, and from Wicomico Co., Maryland. The H. L. Stewart specimen cited below is mounted with a specimen of E. septangulare With. from Chenango Co., N. Y., and is labeled "Sylvan Beach" (a locality in Oneida Co., N. Y.), but obviously could not have been collected there. The Banker 3514 cited below has the heads on both its peduncles binary. The heads on E. P. Walker 1532, cited below, are extraordinarily large.

Additional citations: NEW JERSEY: Atlantic Co.: Bassett 3017 (Ka), s.n. [Hammonton, May 27, 1923] (Gu--16255, Pl--61936, Po-231884), s.n. [Hammonton] (Mg, Mg); E. L. Core 5036 (We); Fretz s.n. [Hammonton, July 1, '81] (Al), s.n. [Hammonton, 1881] (Al); C. A. Gross 3018 (Du--90822); Killip 36616 (W--1825935), s.n. [Hammonton Lake, July 19, 1917] (Ur); Mumbauer s.n. [July 8, 1912] (St--22338); Treat s.n. [Hammonton, Aug. 1866] (Ms). Burlington Co.: H. R. Bassler 95 (Ka); Chrysler s.n. [3 June 1931] (Ob--23886), s.n. [18 June 1937] (Pl--97482); Collector undesignated s.n. [Quaker Bridge, 5/28/1843] (Cc); E.

L. Core 5076 (We); Drushel 6625 (Vt); E. H. Eames s.n. [Chatsworth, June 12, 1894; Herb. Barnhart 2366] (N, Ur); Fogg 4422 (H--17811); M. A. Johnson s.n. [Chatsworth, 5 June 1934] (Mg); Witte 2078 (We), s.n. [Quaker Bridge, June 17, 1928] (N). CAMDEN CO.: H. A. Green 481 (Ms). OCEAN CO.: Ewer 1066 (Bt--26456), s.n. [7 June 1933] (Gg--223697); Heritage s.n. [Forked River, 9-6-97] (Ur); Hexamer & Maier s.n. [Manchester pond, Aug. 25, '57] (Cm); Lehrman 5 (Bl--48768); MacElwee 658 (Ka--71030, Mg); H. N. Moldenke 10577 (Ba, Ur), 10979 (N); Moldenke & Moldenke 10577 (Go); A. B. Rich s.n. [Tom's River, May 30, 1887] (H--65764); W. A. Weber 168 (Bl--48769). County undetermined: H. R. Bassler 3017, in part (Ka); Brinton 3017 (Gg--105730); Britton, Britton, & Wilson s.n. [June 30--July 4, 1900] (Br); W. M. Canby s.n. [pinebarren swamp, July 1862] (Pa); Collector undesignated s.n. [Squam, 7.17.29] (Cc); Dudley Herb. 54392 (Du); Parker s.n. [Herb. Ill. Indust. Univ. 18383] (Ur); Tatnall s.n. [5/30/43] (Cc). DELAWARE: SUSSEX CO.: W. M. Canby s.n. [Rehoboth Beach, June 1878] (Pa). DISTRICT OF COLUMBIA: E. S. Steele s.n. [July 27, 1897] (Ka--82561). NORTH CAROLINA: BLADEN CO.: Ashe s.n. [May 20, 1896] (Ur), s.n. (Ur). BRUNSWICK CO.: Blomquist 5786 (H--9653). BUNCOMBE CO.: M. J. Wright s.n. [July 21, 1897] (Fl--86410). COLUMBUS CO.: Godfrey & White 7104 (Du--266962, Gg--290812, H--55492, N). CUMBERLAND CO.: Biltmore Herb. 2296b (Po--267591). FORSYTH CO.: P. O. Schallert 8409 (H--9655). NEW HANOVER CO.: W. M. Canby s.n. [prope Wilmington, Apr. 1873] (Pa); Godfrey & White 7083 (Gg--290811, H--55368, N); C. S. Williamson 129 (Cm). ONSLOW CO.: H. D. House 5108 (Al). ROWAN CO.: A. A. Heller 181, in part (Vt). County undetermined: A. W. Chapman s.n. (Pr); Herb. Limingani s.n. (Du). SOUTH CAROLINA: AIKEN CO.: Cuthbert s.n. [Graniteville, May 12, 1904] (Fl--5403). BERKELEY CO.: W. H. Duncan 5988 (N). DARLINGTON CO.: J. B. S. Norton s.n. [Apr. 26, 1921] (Al). DORCHESTER CO.: Du Bois s.n. [Summerville, April 1889] (Ob--23896). GEORGETOWN CO.: D. S. Correll 289a (H--31140). County undetermined: Curtiss s.n. (Pr). GEORGIA: BALDWIN CO.: Boykin s.n. [Milledgeville] (D--781697). BULLOCH CO.: Craig & Craig 3380 (Po--248455). CALHOUN CO.: Thorne & Menscher 8021 (Gu--31146). CHARLTON CO.: W. H. Buchanan s.n. [March 24, 1938] (Gu--16003); W. H. Duncan 2010 (N), 3153 (Gu); E. P. Walker 1532 (St--22802). COOK CO.: Pyron & McVaugh 2138 (Gu--16859, H--52365). LIBERTY CO.: W. H. Duncan 2241 (N); Grimm s.n. [5-11-43] (Cm). MACON CO.: Pyron & McVaugh 834 (Gu--12565). WARE CO.: Pyron & McVaugh 1481 (Gu--12924). WAYNE CO.: W. H. Duncan 4673 (N). FLORIDA: ALACHUA CO.: J. A. Crawford s.n. [April 12, 1897] (D--504028); Van Hyning s.n. [Apr. 27, 1924] (Ob--23909); G. F. Weber s.n. [Fairbanks, 4-8-28] (Fl--5404, Fl--5406). BAKER CO.: Heading s.n. [March, 1887] (Ob--94488), s.n. [Feb. 1892] (Se--3911); West & Arnold s.n. [Taylor, 25 Apr. 1940] (N). BAY CO.:

Banker 3514 (N). Bradford Co.: West & Arnold s.n. [Lawley, 15 May 1940] (N). Brevard Co.: Rhoads s.n. [Cocoa, 4-2-28] (Fl--5409), s.n. [Rockledge, Feb. 7, 1937] (Fl--25824). Broward Co.: E. Z. Bailey s.n. [Feb. 14, 1931] (Ba); Buswell s.n. [March 21, 1942] (Bu). Clay Co.: W. M. Canby s.n. [Hibernia, March 1869] (Pa, Pr). Collier Co.: E. Brainerd s.n. [March 28, 1909] (Vt); C. C. Deam 65398 (N), 65559 (Dm, N). Duval Co.: Blazio 50 (Gg--105756); Curtiss 3017 (Or--2203), 4585 [March 13] (Al, Es), 4585 [April 19] (Al, Es), 6126 (Fl--5419, Ur), s.n. [Jacksonville, 1884] (Ka), s.n. [near Jacksonville, April] (Cm), s.n. [Jacksonville] (Ob--23894); Fredholm 500 (Po--119242); Light-hipe s.n. [So. Jacksonville, April 6, '97] (Ur, Ur); Mrs. Sampson s.n. [Jacksonville, May 1873; Herb. Marie-Victorin 5959] (Vi). Escambia Co.: Fassett 21142 (Ob--201997). Franklin Co.: A. Wood s.n. [Apalachicola, Apr. 1857] (Pa). Hillsborough Co.: Britton, Britton, & Shafer 24 (Cm). Indian River Co.: MacDaniels s.n. [Vero Beach, April 16, 1936] (Ba). Jackson Co.: Exploration Party 1937 s.n. [Sneads, 15 Mar. 1937] (Fl--27178, H--51382). Lake Co.: A. S. Hitchcock s.n. [vicinity of Eustis, June & July 1894] (Ka); Mrs. L. Jones s.n. [March 25, 1926] (Ob 32458); Nash 92 (Es). Lee Co.: H. N. Moldenke 689a (Go, H--273, Ur); J. P. Standley 15 (Ur). Leon Co.: MacDaniels s.n. [Tallahassee, April 26, 1936] (Ba). Levy Co.: O'Neill 732 (Po--217256). Manatee Co.: Dowell 7054 (Md). Martin Co.: W. F. Buchanan, Jr., s.n. [Stuart, March 23, 1938] (Bt--46593, Gu--16069). Osceola Co.: Bitting 241 (Fl--5420); C. C. Deam 57566 (Dm); S. M. Deam 1825 (Dm); Singletary 47 (H--46212). Palm Beach Co.: H. C. Beardslee s.n. [Lake Worth, Dec. 1927] (Ob--94485); S. M. Deam 1801 (Dm); Randolph & Small 72 (Ba). Pinellas Co.: C. S. Williamson s.n. [St. Petersburg, Aug. 1894] (D--824276). Polk Co.: Buswell s.n. [Bartow, March 15, 1919] (Bu); McFarlin 4491 (Po--221868). Sarasota Co.: B. H. Smith s.n. [Osprey, March 4, 1904] (Cm, H--23026). Seminole Co.: H. C. Beardslee s.n. [Longwood, April 1928] (Ob--94483), s.n. [Longwood, Apr. 1931] (Ob--94487), s.n. [near Oviedo, March 14, '35] (Ob--94486), s.n. [April 3, 1940] (Ob--94482); Blanton 6512 (Ba); Glück 8409 (H--9658). Volusia Co.: Halfert s.n. [Port Orange, 4-3-34] (Bt--20086); Hulst 162 (Ob--23898). County undetermined: Callkins s.n. [Feb. 1883] (Ka); A. W. Chapman s.n. [Florida] (D--824262); A. Gray s.n. (Br); Herb. Univ. Vermont s.n. (Vt); S. H. Wright s.n. (Du--90824). ALABAMA: Coffee Co.: C. Schäffer s.n. [Enterprise, 2.17.83] (D--824264). MISSISSIPPI: Hancock Co.: Rose-Innes & Warnock 716 (Au, N). Jackson Co.: F. S. Earle s.n. [Ocean Springs, Mar. 20, 1888] (Cm, H--65762, Po--185876). LOUISIANA: Calcasieu Par.: E. J. Palmer 7718 (Gg--183012, Mg, Mg). Orleans Par.: H. P. Riley s.n. [Oct. 31, 1937] (Se--49424). Saint Tammany Par.: Bomhard s.n. [Pearl River, Mar. 20, 1927] (Cm). TEXAS: Hardin Co.: E. J. Palmer 9563

(Du--201605); Parks & Cory 22518 (Tr); Tharp s.n. [July 20, 1929] (Au). Jefferson Co.: Hooks s.n. [Beaumont, May 3, 1930] (Au, N), s.n. [Beaumont, 5/30/34] (Au). LOCALITY UNDESIGNATED: Herb. Canby s.n. (Cc); Herb. Chapman s.n. [Southern States] (Ms); T. Nuttall s.n. (D--824265); H. L. Stewart s.n. [Sylvan Beach, Aug. 16, 1888] (Po--186013, in part).

ERIOCAULON COMPRESSUM var. HARPERI Moldenke

The variety has been collected in wet sandy ditches and in dry sandy pinelands, sometimes growing along with the typical form (according to Banker), flowering in February, April, and May. It has often been confused with typical E. compressum, but some material actually resembles E. lineare Small much more closely than it does typical E. compressum.

Additional citations: FLORIDA: Bay Co.: Banker 3583 (N). Calhoun Co.: Bailey & Bailey s.n. [Wewahatchka, Apr. 2, 1933] (Ba). Lee Co.: H. N. Moldenke 689 (Go, H--376, Ob--23899, Ur). Walulla Co.: H. N. Moldenke 1123 (Go, H--4404, Ob--23884, Ur). County undetermined: Chapman s.n. [S. Fla.] (Du--90412). MISSISSIPPI: Harrison Co.: L. H. Bailey 7313 (Ba); Tracy 5032 (Dm). Jackson Co.: Stehan 22541 (Ur).

ERIOCAULON CONICUM (Fyson) C. E. C. Fischer

Additional citations: INDIA: Madras: C. E. C. Fischer s.n. [Ganjam Distr.] (F--photo, K, N, N--photo, Sg--photo, Z--photo).

ERIOCAULON CRASSISCAPUM Bong.

Literature references: Castellanos in Descole, Gen. Sp. Pl. Argent. Eriocaulac. 87, pl. 17. 1945; Abbiatti, Revist. Mus. La Plata Bot. 6 (26): 329. 1946.

Additional citations: BRAZIL: Minas Geraes: Collector undesignated s.n. [Mart. 1839] (Du); Regnell III.1264 [22/11/1864] (W--937198).

ERIOCAULON CRISTATUM Mart.

Specimens of this species have been distributed in herbaria as "E. quinquangulare Heyne", "E. 5-angulare L.", and "E. melaleucum Mart."

Additional citations: INDIA: Assam: Hooker & Thomson s.n. [Khasia] (K). West Bengal: W. Griffith 5578 (C). CHINA: Province undetermined: Collector undesignated 570 (K); E. Faber s.n. (N). STRAITS SETTLEMENTS: Malacca: Benj. Heyne 13 (Br). LOCALITY OF COLLECTION UNDETERMINED: Simons 137 [Trunklon] (K).

ERIOCAULON CUSPIDATUM Dalz.

Additional citations: INDIA: Bombay: W. A. Talbot 1083 (F--photo, K, N, N--photo, Sg--photo, Z--photo).

ERIOCAULON DALZELLII Körn.

Specimens of this species have been confused with and distributed in herbaria as "E. argenteum Mart.", "E. pentangulare

L.", and E. setaceum L.

Additional citations: INDIA: Bombay: Stocks s.n. (K). West Bengal: W. Griffith 5564 (C). State undetermined: Herb. R. Wight 2855 (T); T. Philippi s.n. [India orient. 1849] (Gg--105735). CEYLON: Walker-Arnott s.n. [1850] (C); R. Wight s.n. (N).

ERIOCAULON DECANGULARE L.

Literature references: The Carolinian Florist of Governor John Drayton of South Carolina 14. 1943; Eyles & Robertson, U. S. Pub. Health Bull. 286: 106. 1944; W. A. Merrill, Guide to Florida Plants 34. 1945; Rhodora 48: iv & 58. 1946; Tatnall, Fl. Delaware 75. 1947.

The species has been collected in open white gravel bogs, marshy ground, moist sandy soil, marshes, bogs, streams, water pools, wet sinks, wet pinewoods, swamps, swampy ground, pinebarren ponds, swampy places in pinebarrens, sandy bogs, mountain bogs, pinebarren swamps, wet places, shallow stagnant pools, low moist grassy soil in open prairies, seepage on high open hills, wet pasture soil, black boggy soil, roadside ditches, drainage ditches, pasture peat bogs, wet pinebarrens, damp places in open fields, sphagnum-magnolia swamps, sphagnum-cranberry bogs, wet sandy savannas, shallow mud-hole ponds, and grass-sedge bogs and at edges of ponds. Sometimes it forms very large tufts in damp sand of low meadows. It is frequently common on savannas, and has been collected from about sea level to 2500 feet elevation, blooming from May to December.

It is called "pipe-wort" by Curtiss, "pipewort" by Gray, Hyams, and Warner, "ten-angled pipewort" by Heritage, and "ten-angled piepwort" by Schallert. It often grows with E. compressum Lam. and specimens are sometimes found mixed with this species on herbarium sheets. It is often confused with and distributed as E. compressum Lam., E. Ravenelii Chapm., E. lineare Small, E. texense Körn., "E. decemangulare L.", "E. Ravenelii Chapm.", "E. articulatum Morong", "E. floridanum Chapm.", "E. gnaphalodes Michx.", "E. serotinum Walt.", and "E. compressus Lam."

The Tharp s.n. [July 20, 1929] specimen at Austin has a 9-costate scape. The Twining specimen cited below is labeled as having been collected at "Lake Poyntelle, Aug. 1, 1907". This locality is in Wayne County, Pennsylvania. Dr. Fogg (1939) says "This locality is almost certainly in error. The species is unknown in Pennsylvania." W. L. Dix, in a letter to me, concurs in this opinion and thinks it must be a case of mixed labels, although he admits that "Twining was a very careful collector. There is no specimen of the species in the Everhart Museum at Scranton from this locality. It is not listed in Twining's 'Flora of Northeastern Penna.'" It is, however, of interest to note that there is in the Brussels herbarium a Schweinitz specimen, collected in 1829, also labeled as from Pennsylvania.

The Correll & Correll 9960 specimen cited below bears the annotation "approaching E. benthami Kunth" of Mexico.

Additional citations: NEW JERSEY: Atlantic Co.: Bartram s.n. [Hammonton, Aug. 4, 1907] (Mg); W. M. Canby s.n. [Absecon, Aug. 1858] (Pa); Gershoy 203 (Ob--61423); C. A. Gross 3016 (Du--90825), s.n. [near Weymouth, Aug. 15, 1883] (Ur, Ur); Parker s.n. [Herb. Ill. Indust. Univ. 18382] (Ur); C. S. Williamson s.n. [Egg Harbor, Sept. 16, 1905] (Dm). Burlington Co.: M. A. Chase 3552 (Ur, Ur); Chrysler s.n. [13 Aug. 1937] (H--56529, Pl--97487); Chrysler & Johnson s.n. [Aug. 11, 1936] (Mg); Commons s.n. [Atsion, Oct. 1, 1872] (Cm); Dreisbach 1029 (Cm), 2206 (Cm); E. H. Eames s.n. [Sept. 15, 1897] (Gg--105749); A. A. Eaton s.n. [Quaker Bridge] (Cc); Fogg 4756 (Mg); Heritage s.n. [Atsion, 9-20-85] (Ur); F. M. Hexamer s.n. [16 Aug. 1856] (Br); W. Stone s.n. [Parkdale, Aug. 1906] (Cm); Treat s.n. [Atsion, July 1866] (Al), s.n. [Atsion, Aug. 1866] (Ms); Witte s.n. [Aug. 12, 1928] (N), s.n. [Hampton Furnace, Sept. 1, 1928] (Mg). Camden Co.: Bassett s.n. [Atco] (Mg); H. A. Green 474 (Ms); Martindale s.n. [Winslow, Sep. 1875] (Je--208); C. C. Stewart s.n. [T. W. Edmondson 2958] (N), s.n. [T. W. Edmondson 4365] (N). Cape May Co.: Killip 373 (Po--125212). Cumberland Co.: Monachino 457 (Ec, Ml, N). Hunterdon Co.: Chrysler & Johnson s.n. [Aug. 11, 1936] (Ms); M. A. Johnson s.n. [11 Aug. 1936] (Al). Ocean Co.: E. Cannon s.n. [Sep. 14th, 1888] (Gg--105751); Clute 214 (Bt--3853); Drushel & Carpenter s.n. [Aug. 18, 1935] (Vt); T. W. Edmondson 4366 (N); Eggleston 4894 (Cm); G. B. Grant 6084 (Po--267598); Guttenberg s.n. [Manchester, Sept. 1, '78] (Cm); C. H. Hall s.n. [Manchester, Sept.] (Vt); Henser s.n. [Sept. 4, 1896] (Al); Holton s.n. [Manchester, Aug. 1847] (Pa); Lighthipe s.n. [Tom's River, Sept. 12, 1893] (Vt), s.n. [Forked River, Aug. 31, '95] (Ur, Ur), s.n. [Sept. 14, 1912] (Au); Loughridge & Chrysler s.n. [25 July 1931] (Ob--23887); Mackenzie 2361 (Dm); W. de W. Miller 1333 (N); P. Wilson s.n. [28 July 1909] (Al). County undetermined: Austin s.n. [Pines of N. J., 18/13] (Ms, Ms), s.n. [Pines of New Jersey] (Ba); Bumstead s.n. [Pine barrens, Sept. 18/14] (Ms); W. M. Canby s.n. [1864] (Du--54389); Collector undesignated s.n. [Squam, 7.17.29] (Cc); Herb. Coll. Pharmacy s.n. [Pine barrens, July] (Pa); Herb. Hodgson s.n. [Squam, 7/17/1827] (Cc); Knieskern s.n. (Br); Knobloch 10 [Speedwell] (Al); Lighthipe s.n. [Sept. 1, 1890] (Ob--23890); Morong s.n. [Sept. 1873] (Gg--105752); Treat s.n. [Aug. 1875] (Du--70674); J. Torrey s.n. [1833] (Br), s.n. [1834] (Br). PENNSYLVANIA: County undetermined: Schweinitz s.n. [1829] (Br); Twining s.n. [Lake Poyntelle, August 1, 1907] (Cm). DELAWARE: Sussex Co.: W. M. Canby s.n. [Ellendale, Aug. 1874] (Pa); Collector undesignated s.n. [Ellendale, 9/1892] (Cc); Goodale 62508 (H--65760); McVaugh 6596 (N); True 235 (Gu--10663). MARYLAND: Prince Georges Co.: S. F. Blake 10665 (Du--167971, Gg--163594, Gg--207025, Mg, Or--22061, Pl--65180, Po--172502); M. A. Chase 3824 (Ur, Ur), 7527 (Ur). DISTRICT OF COLUMBIA: M. S. Bebb s.n. (Mg); T. Holm s.n. [22/7/1888] (Gg--105750); C. S.

Sheldon s.n. [July 19, 1881] (Al, Ob--23889); E. S. Steele s.n. [July 27, 1897] (H--22972, Ob--23891, Ob--23893), s.n. [Aug. 12, 1897] (Ob--23891); L. F. Ward s.n. [July 13, 1873] (Cm), s.n. [Aug. 5, 1877] (Ba), s.n. [Oct. 3, 1880] (Ba, Cm), s.n. [July 14, 1884] (Cm, Ur). VIRGINIA: County undetermined: A. Gray s.n. (Br). NORTH CAROLINA: Beaufort Co.: D. S. Correll 1702 (H--34089); R. Gray 92 (Dp--2930). Bladen Co.: Blomquist 10871 (H--55328). Brunswick Co.: Blomquist 5788 (H--9654). Buncombe Co.: Biltmore Herb. 3867a, in part (Cc, Ur, Ur). Caldwell Co.: Blomquist 7908 (H--36656). Carteret Co.: R. Gray s.n. [6/28/38] (H--46571). Catawba Co.: Small & Heller s.n. [June 25--26, 1891] (N, Pl--5357, Sc--4146). Columbus Co.: A. A. Heller 14112 (Du--157968); P. O. Schallert 73 (Bt--9898), s.n. [Bug Hill, 8/16/27] (Dp--15098), s.n. [8/26/27] (Gg--198564), s.n. [Pireway, 8/4/33] (Bt--18711, Bt--18714, Ga, Ga, H--32999), s.n. [Nakina, 6/25/34] (Or--34493, Or--34527, We, We), s.n. [Nakina, 12/27/34] (Bt--26225), s.n. [Nakina, 2/9/35] (Or--34647). Craven Co.: Loomis & Croom s.n. [New Bern] (D--781671). Cumberland Co.: Godfrey 4550 (H--22765); Herb. Philad. Acad. Sci. 824260 (D). Dare Co.: Blomquist 5789 (H--15573); P. O. Schallert s.n. [July 12, '41] (Dp--30384, We), s.n. [7/13/41] (N). Forsyth Co.: Denke s.n. [Winston-Salem, 6/1/1829] (Vt); P. O. Schallert 1803 (H--9657), s.n. [Winston-Salem, 9/1/1921] (Vt). Guilford Co.: Denke 5035 (H--9659). Harnett Co.: Blomquist & Correll 2552 (H--34026). Henderson Co.: Caughy 656 (H--54054); D. S. Correll 3325 (H--34090), s.n. [East Flat Rock, 7/27/1935] (Ms); Wherry & Pennell 14204 (D--81616). Hoke Co.: D. S. Correll 1145 (H--34085). Iredell Co.: M. E. Hyams 162 (Ob--23892, Ob--23895, Ob--23897), s.n. [Statesville] (Ob--23888, Po--119238, Po--119244); Keever 357 (H--73229); Veerhoff 187 (Gg--290776), s.n. [Statesville, July 30, 1934] (H--71825). Jackson Co.: Thaxter s.n. [Cullowhee] (Al). Johnston Co.: Ashe s.n. [Wilson's Mills] (Ur). Macon Co.: Boltwood s.n. (Ur). Mitchell Co.: Biltmore Herb. 3867a, in part (N). New Hanover Co.: M. A. Chase 3142 (Ur); M. E. Hyams s.n. [Wilmington, Aug. 18, '79] (Vt). Northampton Co.: D. S. Correll 2356 (H--34042). Onslow Co.: Godfrey 5760 (H--55457), 5821 (N); Randolph & Randolph 969 (Ba). Pender Co.: Bright 6132 (Mg); B. W. Wells s.n. [Big Savannah, July 2, 1924] (Dm). Richmond Co.: D. S. Correll 1089 (H--34087). Rowan Co.: A. A. Heller 181, in part (D--824259, Vt). Sampson Co.: Godfrey 6166 (N), 8108 (H--9173). Scotland Co.: Godfrey 4554 (H--9159). County undetermined: Bosc s.n. [Caroline, 1819] (Du); A. W. Chapman s.n. [N. C.] (Pr). SOUTH CAROLINA: Berkeley Co.: Godfrey & Tryon 603 (N). Clarendon Co.: Godfrey & Tryon 927 (N); W. Stone 530 (D--5544-42). Darlington Co.: J. B. S. Norton s.n. [Apr. 18, 1921] (Al). Dorchester Co.: K. A. Taylor 10866 (Ur). Georgetown Co.: D. S. Correll 5315 (N); Godfrey & Tryon 343 (Gg, H--58712, I, N); W. H. Rhodes s.n. [Georgetown, August 1935] (Dp--2933).



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