

ADDITIONAL NOTES ON THE ERIOCAULACEAE. LXXXV

Harold N. Moldenke

ERIOCAULACEAE Lindl.

Additional & emended bibliography: Roxb., Fl. Ind. 3: 612--613 & 865. 1832; Anon., Kew Bull. Gen. Ind. 111 & 209. 1959; C. L. & A. A. Lundell, Wrightia 7: 226. 1983; Mold., Phytologia 53: 218--225. 1983.

CARPTOTEPALA JENMANI (Gleason) Mold.

Additional bibliography: Mold., Phytologia 53: 224. 1983.

Additional citations: VENEZUELA: Bolivar: B. Maguire 33516a (W--2168911); Steyermark 76016 (W--2407782), 76057 (W--2407785); Steyermark & Wurdack 365 (W--2168507, W--2407716), 476 (W--2168510, W--2407719). GUYANA: Maguire & Fanshawe 32312 (W--2168880), 32643 (W--2168887).

ERIOCAULON Gron.

Additional bibliography: Mayuranathan, Bull. Madras Gov. Mus., ser. 2, pl. 38. 1929; C. A. Gardn., Enum. Pl. Austral. Occid. 1: 17. 1930; G. T. Stevens, Illust. Flow. Pl. Midd. Atl. N. Eng. St. pl. 9. 1930; Komarov & Klobukova-Alisova, Key Pl. Far East. USSR [Opred. Rast. Dal'nevost. Kr.] 1: 340, pl. 105. 1931; Stapf, Ind. Lond. 6: 248, 316, & 554. 1931; Vasinger-Alektorova, Bull. Appl. Bot. Leningrad 25 (4): 121. 1931; Fyson, Fl. S. Indian Hill Stat. 2: 565. 1932; Van Steenis & Ruttner, Pterid. Phan. Deutsch. Limnol. Sunda-Exped. [Arch. Hydrobiol. Suppl. 11:] pl. 53. 1932; Ishidoya, Chines. Drog. 1: 16 & 17. 1933; Mak., Gensyoku Yagai-shokubutu [Nature-Col. Wild Pl.] 3: 173 & 184. 1933; Terasaki, Nippon Shokubutsu Zuku [Jap. Bot. Illust. Album] 1845 & 1846. 1933; A. Chev., R v. Bot. Appl. Agric. Trop. 15: 1027. 1935; Bedevian, Illust. Polyglot. Dict. 260. 1936; Mak., Illust. Fl. Nipp. 8, 771--772, & E.26, fig. 2311--2316. 1940; L. H. & E. Z. Bailey, Hortus Sec., imp. 1, 286. 1941; Worsdell, Ind. Lond. Suppl. 1: 375--376. 1941; Raf., Autikon Bot., imp. 2, 188--189. 1942; Savage, Cat. Linn. Herb. Lond. 21. 1945; Blume, Cat. Gewass., imp. 2, 35. 1946; Raf., Atl. Journ., imp. 2, 121. 1946; Lawrence, Taxon. Vasc. Pl., imp. 1, 404, 405, & 792, fig. 83. 1951; Stachurska, Wszechswiat 7: 189--194. 1955; Erdtman, Revist. Fac. Cienc. Agrar. Mend. 6: 39--51. 1957; Wang, Pollen Gr. China. 1960; Beadle, Evans, & Carolin, Handb. Vasc. Pl. Sydney Dist. 483. 1962; Bennett, Sci. Cult. 33: 121. 1967; Huang, Taiwania 15: 152--153. 1970; Rouleau, Guide Ind. Kew. 31, 39, 40, 59, 68, 71, 105, 109, 127, 160, 177, 183, & 270. 1970; Balapure, Journ. Bomb. Nat. Hist. Soc. 68: 374. 1971; Lawrence, Taxon, Vasc. Pl., imp. 2, 404, 405, & 792, fig. 83. 1971; C. D. Adams, Flow. Pl. Jamaic. 41. 1972; T. B. Muir, Muelleria 2: 140. 1972; Shimakura, Spec. Publ. Osaka Mus. Nat. Hist. 5: 1--60. 1973; Soerjan in Vanshney & R  ska, Aquat. Weeds Southeast Asia 64. 1973; Thanikaimoni, Inst. Franc. Pond. Trav. Sect. Scient. Tech. 12 (2): 50. 1973; L. H. &

E. Z. Bailey, Hortus Sec., imp. 2, 286. 1974; Hocking, Excerpt. Bot. A.23: 388 & 389. 1974; León & Alain, Fl. Cuba, imp. 2, 1: 279--281, fig. 112 & 113. 1974; Napp-Zinn, Anat. Blatt. A (1): 228, 247, 360, & 555. 1974; Rotherham, Briggs, Blaxell, & Carolin, Flow. Pl. N. S. Wales 50 & 187, pl. 121. 1975; L. H. & E. Z. Bailey, Hortus Third 440. 1976; Bennet, Fl. Howrah 98--99. 1976; Srivastava, Fl. Gorek. 331. 1976; Thanikaimoni, Inst. Franç. Pond. Trav. Sect. Scient. Tech. 13: 91, 285, 332, 353, & 384. 1976; Amaratunga, Ceyl. Journ. Sci. Biol. 12: 189. 1977; Babu, Herb. Fl. Dehra Dun 13, 17, 26, 39, & 546--548. 1977; Bole & Almeida, Journ. Bomb. Nat. Hist. Soc. 74: 226--227. 1977; Latorre, Ortego, & Inca, Cienc. Naturaleza 18: 62. 1977; Chang, Fl. Taiwan 5: [179]--188, pl. 1313--1316. 1978; C. D. Cook in Heywood, Flow. Pl. World 281 & 282. 1978; Giul., Bol. Bot. Univ. S. Paulo 6: 39--47, fig. 1 & 2. 1978; Haslam, River Pl. 287. 1978; Hocking, Excerpt. Bot. A.33: 16--17. 1978; Monteiro-Scanavacca & Mazzoni, Revist. Bras. Bot. 1: [59] & 63. 1978; Moore & Webb, Illustr. Guide Pollen Anal. 36 & 56, pl. 15. 1978; Rao & Khark., Journ. Bomb. Nat. Hist. Soc. 75: 275 & 279. 1978; Sharma, Shetty, Vivekan., & Rathakrish., Journ. Bomb. Nat. Hist. Soc. 75: 38. 1978; Singh, Journ. Bomb. Nat. Hist. Soc. 75: 318. 1978; Johnson & Fowles, Heritage Me. Wild Fls. 66, 67, 226, 296, & 311. 1978; R. J. & C. S. Taylor in R. J. Taylor, New Rare Infr. Coll. Pl. [Herb. SE. Okla. St. Univ. Publ. 2:] 44--46, 85, 100, & 101, fig. 4. 1978; Ajilvsqi, Wild Flow. Big Thicket 59 & 107--108. 1979; Erickson, George, Merchant, & Morcombe, Fls. Pl. West. Austr., ed. 2, 176, 219, & 225, pl. 565. 1979; Holm, Pancho, Herberger, & Plucknett, Geogr. Atlas World Weeds 148. 1979; Klein, Sellowia 31: 132. 1979; Kral in Godfrey & Wooten, Aquat. Wetl. Pl. Southeast. U. S. 503--518 & 520, fig. 293--299. 1979; Mold., Phytologia 41: 410--430, 451--462, 464, 470, 471, & 506 (1979), 42: 39 & 506 (1979), 43: 222 & 503 (1979), and 44: 123, 134, 384, & 507. 1979; Monteiro, Giulietti, Mazzoni, & Castro, Bol. Bot. Univ. S. Paulo 7: [43], 45--49, 51, & 56, fig. 26--44. 1979; Pursh, Fl. Amer. Sept., imp. 2 [ed. Ewan], 91--92. 1979; Van Royen, Alpine Fl. N. Guin. 1: 208, 211, & 213, fig. 48 (1979) and 2: 823--843. 1979; H. Walt., Veg. Earth, ed. 2, 82. 1979; Wherry, Fogg, & Wahl, Atlas Fl. Penna. 93. 1979; Zander & Pierce, Bull. Buffalo Soc. Nat. Sci. 16, Suppl. 2: 10, 40, & 92. 1979; Avery & Loope, S. Fla. Res. Cent. Rep. T-574: 7. 1980; Barry, Nat. Veg. S. Carol. 163. 1980; Campbell & Eastman, Life Sci. Agr. Exp. Stat. Orono Tech. Bull. 99: [Fl. Oxford Co.] 93--94. 1980; Chiang, Fl. Taiwan 5: 185 (1980) and 6: 654 & 663. 1980; Eleuterius, Illustr. Guide Tidal Marsh Pl. [Miss.-Ala. Sea Grant Publ. 77-039:] 9, 64, & 65. 1980; Fosberg & Canfield, Micronesia 16: 194. 1980; Fosberg, Otobed, Sachet, Oliver, Powell, & Canfield, Vasc. Pl. Palau 12. 1980; Hu, Journ. Arnold Arb. 61: 91. 1980; J. T. & R. Kartesz, Syn. Checklist Vasc. Fl. 2: 197. 1980; Klein, Sellowia 32: 312. 1980; Mold., Phytologia 45: 36, 40, & 506. 1980; Mold. in Harley & Mayo, Toward Checklist Fl. Bahia 72--73. 1980; Mold., Phytol. Mem. 2: 8--14, 16, 17, 19, 21, 22, 25--27, 29, 33--35, 40, 41, 46, 48, 57, 62, 71, 74, 75, 78, 83, 89, 91, 103, 108, 115, 121, 122, 124, 126, 133, 141, 142, 172,

174, 177, 180, 186, 193, 194, 196, 198, 200--203, 205--212, 214, 216, 217, 219, 220, 222--224, 226, 227, 229, 230, 232, 233, 235, 237, 239, 240, 242--245, 250, 252, 254--258, 260--262, 267, 268, 270, 272, 275, 278, 281, 283, 285, 286, 288--290, 292, 293, 296, 298--304, 307, 310, 311, 314, 315, 320, 326, 328, 329, 331, 336, 339, 340, 353, 368, 399--405, 407, 409, 412, 423, 425, 426, 428, 435, 442, 443, 446, 596--606, 617, & 627. 1980; Øllgaard & Balslev, Rep. Bot. Inst. Univ. Aarhus 4: 42, 61, 64, & 103. 1980; Prescott, How Know Aquat. Pl., ed. 2, 126, fig. 146. 1980; Roxb., Hort. Beng., imp. 2, 68. 1980; F. C. Seymour, Phytol. Mem. 1: 85. 1980; Briggs in Graves, Austral. Veg. 350. 1981; Cleef, Dissert. Bot. 61: 303. 1981; Corner, Bot. Journ. Linn. Soc. 82: 87. 1981; Cronq., Integ. Syst. Classif. [1116]--1118. 1981; Duncan & Kartesz, Vasc. Fl. Ga. 36. 1981; Foote, Phytologia 50: 24. 1981; Geesink, Leeuwenb., Ridsdale, & Veldkamp, Thonn. Analyt. Key 9, 11, & 220. 1981; Gómez P., Phytologia 49: 340. 1981; Hu, Enum. Chin. Mat. Med. 30, 54, 196, & 246. 1981; Klein, Sellowia 33: 23. 1981; A. Löve, Taxon 30: 515. 1981; Mold., Phytologia 47: 410 (1981), 48: 253, 254, & 507, fig. 1 (1981), and 49: 508. 1981; F. Rose, Wild Flow. Key 441 & 445, fig. 1a & 1b. 1981; F. C. Seymour, Phytol. Mem. 5: 171 & 585. 1981; Sharma, Shetty, Vivekan., & Rathakr., Journ. Bom. Nat. Hist. Soc. 75: 38. 1981; Snyder & Vivian, Rare Endang. Vasc. Pl. Sp. N. J. 23 & 97. 1981; Cronq. in S. P. Parker, Synop. Classif. Organisms 1: 472. 1982; Duncan, Veg. Sapelo 25 & 48. 1982; Hara in Ozegahara, Scient. Res. Highmoor 132. 1982; Mold., Phytologia 50: 233, 235, 236, 239, 247, 250, 252--254, 260, 262, 455, 506, 508, & 509 (1982), 51: 492 (1982), 52: 110--113, 120--125, & 128 (1982), 52: 504 (1983), and 53: 225. 1983; Bartholomew & al., Journ. Arnold Arb. 64: 95. 1983; Reveal, Phytologia 53: 33, 38, 50, 56, 57, 64, 71, & 91. 1983.

Babu (1977) reports that in the Dehra Dun section of India members of this genus are usually found growing with liverworts on slippery places in barren humid localities.

The Baileys (1976) affirm that "One native N. Amer. species is offered for the bog garden".

It is of interest to note that Reichenbach (1828) classified Eriocaulon in the Commelinaceae. Craib's surname is misspelled "Graib" in Kew. Bull. Misc. Inf. 1912: 421 (1912).

Pobéquin (1906) lists seven unidentified species of Eriocaulon from the Republic of Guinea based in Friguiaghé 30, Kindia 1312, 1351, 1359, & 1359bis, Kouroussa 615 & 1153, and Maneah 18.

The Holm-Nielssen, Jeppesen, Løjtnant, & Øllgaard 4800 & 5071, distributed as Eriocaulon sp., actually are Paepalanthus ensifolius (H.B.K.) Kunth, 5277 is P. espinosianus Mold., and 4814 is Syngonanthus yacuambensis Mold., while Mori, Mattos Silva, & Santos 10614 is Abolboda americana (Aubl.) Lanjouw (in the Abolboda-ceae), A. B. Anderson 308 is Syngonanthus densus (Körn.) Ruhl., and Sohmer & Jayasuriya 10610 (at least in the Missouri Botanical Garden herbarium) is a mint.

ERIOCAULON ABYSSINICUM Hochst.

Additional & amended bibliography: Hocking, Excerpt. Bot. A.23: 293 & 389 (1974) and A.31: 16. 1978; Mold., Phytologia 41: 411. 1979; Mold., Phytol. Mem. 2: 202, 203, 212, 223, 226, 230, 233, 237, 243--245, 402, 403, & 596. 1980.

Recent collectors have found this plant growing at the edges of pools, flowering in May, the flower-"heads dark".

The Wanntorp & Wanntorp 949, distributed as E. abyssinicum, actually is E. heudelotii N. E. Br.

Additional citations: SOUTH AFRICA: Natal: Hilliard & Burt 10382 (E--2626814).

ERIOCAULON ACANTHOCEPHALUM W. Griff.

Additional bibliography: Mold., Phytologia 24: 339. 1972; Mold., Phytol. Mem. 2: 368 & 596. 1980.

ERIOCAULON ACHITON Körn.

Additional bibliography: Fyson, Indian Sp. Erioc. 30. 1923; Worsdell, Ind. Lond. Suppl. 1: 375. 1941; Mold., Phytologia 41: 412. 1979; Mold., Phytol. Mem. 2: 256, 260, 270, 285, & 596. 1980.

Additional illustrations: Fyson, Indian Sp. Erioc. 30. 1923.

Recent collectors have encountered this species in wet places and "in the open alongside streams", at 850--1500 m. altitude, in flower and fruit in January and October, describing it simply as an herb with white flowers.

Material has been misidentified and distributed in some herbaria as E. heterocephalon Körn. and E. oryzetorum Mart.

Additional citations: INDIA: Assam: Schlegelintweit s.n. [Khasia, 1--3 Oct. 1855] (W--804606). Karnataka: Hooper & Gandhi HFP.2432 (Mi). Maharashtra: Padhye 11 (Ld). Tamil Nadu: Koelz 10768 (Mu). THAILAND: Niyomdham, Suangtho, & Sangkhachand 107 (Ac).

ERIOCAULON ADAMESII Meikle

Additional bibliography: Anon, Kew Bull. Gen. Ind. 111. 1959; Mold., Phytologia 41: 412. 1979; Mold., Phytol. Mem. 2: 205, 207--209, & 596. 1980.

ERIOCAULON AEQUINOCTIALE Ruhl.

Additional bibliography: Knuth, Feddes Repert. Spec. Nov. Beih. 43: [Init. Fl. Venez.] 179. 1927; Mold., Phytologia 29: 98. 1974; Mold., Phytol. Mem. 2: 115 & 596. 1980.

Knuth (1927) cites only Passarge & Selwyn 590 from Bolívar, Venezuela, for this species.

ERIOCAULON AFRICANUM Hochst.

Additional bibliography: Mold., Phytologia 29: 87--88 (1974) and 38: 132. 1977; Mold., Phytol. Mem. 2: 237, 242, 245, & 596. 1980.

ERIOCAULON AFZELIANUM Wikstr.

Additional bibliography: A. Chev., Rév. Bot. Appl. Agric. Trop. 15: 1027. 1935; Mold., Phytologia 41: 412. 1979; Mold., Phytol.

Mem. 2: 201, 205, 207, 208, 210--212, 216, 400, 401, & 596. 1980; Mold., *Phytologia* 50: 250. 1982.

Chevalier (1935) lists this species from São Nicolau in the Cape Verde Islands, but comments that "Coutinho n'a vu qu'un spécimen pauvre provenant de S. Nicolau, mais le même collecteur aurait récolté de meilleurs échantillons en Guinée portugaise. Il est possible que l'espèce n'existe pas aux îles du Cap Vert et que l'indication ci-dessus soit la conséquence d'un mélange. Nous avons l'exemple analogue du Lotus Jacobaea L. indiqué à tort en Gambie." He gives the known distribution of Eriocaulon afzelianum as "Afrique occidentale: de la Casamance à la Guinée portugaise".

Material of this species has been misidentified and distributed in some herbaria as Cyperaceae sp.

Additional citations: ZAIRE: Michel & Reed 435 (E--1777149).

ERIOCAULON ALLEIZETTEI Mold.

Additional bibliography: Mold., *Phytologia* 24: 340. 1972; Mold., *Phytol. Mem.* 2: 250 & 596. 1980.

ERIOCAULON ALPESTRE Hook. f. & Thoms.

Additional bibliography: Fyson, *Journ. Indian Bot.* 2: 139, fig. 8. 1921; Fyson, *Indian Sp. Erioc. pl.* 42. 1923; Ishidoya, *Chines. Drog.* 1: 17. 1933; Worsdell, *Ind. Lond. Suppl.* 1: 375. 1941; Mold., *Phytologia* 36: 470--471 (1977) and 41: 414. 1979; Mold., *Phytol. Mem.* 2: 260, 278, 285, 292, 299, 300, 307, 400, & 596. 1980.

Additional illustrations: Fyson, *Journ. Indian Bot.* 2: 139, fig. 8. 1921; Fyson, *Indian Sp. Erioc. pl.* 42. 1923; Ishidoya, *Chines. Drog.* 1: 17. 1933.

Recent collectors report finding this plant in damp glades in hill evergreen forests and as "emergent and submergent" in wet fens and seasonally flooded lakebeds, at 1170--1780 m. altitude, flowering and fruiting in October.

Material has been misidentified and distributed in some herbaria as E. "robustum Makino".

Additional citations: CHINA: Hupeh: 1980 Sino-Amer. Exped. 1187 (N). THAILAND: Shimizu, Toyokuni, Koyama, Yahara, & Santisuk T. 18049 (Ac).

ERIOCAULON ALPESTRE var. AMPULLARIUM Van Royen

Additional bibliography: Mold., *Phytologia* 24: 340--341. 1972; Mold., *Phytol. Mem.* 2: 141, 326, & 596. 1980.

ERIOCAULON ALPINUM Van Royen

Additional bibliography: Mold., *Phytologia* 41: 412--413. 1979; Van Royen, *Alpine Fl. N. Guin.* 2: 832 & 833, fig. 284 A--F. 1979; Mold., *Phytol. Mem.* 2: 141, 326, & 596. 1980.

Additional illustrations: Van Royen, *Alpine Fl. N. Guin.* 2: 833, fig. 284 A--F. 1979.

Recent collectors describe this plant as a cushion-forming herb forming small, flat, hard mats or quite large clumps, the leaves shiny and sem-glossy mid-green, the "flowers pale-green" or brown, the corollas almost colorless, the "stamens yellow", and

the anthers black, and have found it growing in bogs and in sub-alpine areas dominated by Gleichenia vulcanica, recently fired, at 2550--3800 m. altitude, in anthesis in April and in both flower and fruit in June. Van Royen (1979) asserts that it is endemic on Mt. Wilhelmina, where it occurs on marshy slopes in alpine grasslands from 3225 to 3560 m. altitude, fruiting in September. The Stevens & Veldkamp was distributed as E. novoguineense Van Royen.

Additional citations: NEW GUINEA: Territory of New Guinea: Croft & Lolean LAE.68442 (Mu, W--2911493); Stevens & Veldkamp LAE. 54907 (W--2929643). Papua: Barker 66938 (W--2894843); Croft & Lolean LAE.61474 (E--2473557), LAE.65869 (Ld, W--2895086). MOUNTED ILLUSTRATIONS: Van Royen, Alpine Fl. N. Guin. 2: 833, fig. 283 A--F. 1979 (Ld).

ERIOCAULON ALTOGIBBOSUM Ruhl.

Additional bibliography: Mold., Phytologia 36: 471. 1977; Mold., Phytol. Mem. 2: 141 & 596. 1980.

ERIOCAULON AMANOANUM Koyama

Additional bibliography: Mold., Phytologia 24: 341. 1972; Mold., Phytol. Mem. 2: 300, 302, & 596. 1980.

ERIOCAULON AMBOËNSE Schinz

Additional synonymy: Eriocaulon amboensis Schinz ex Mold., Phytologia 50: 260, in syn. 1982.

Additional bibliography: Mold., Phytologia 34: 393. 1976; Mold., Phytol. Mem. 2: 205, 207, 233, 237, 242, 243, & 596. 1980; Mold., Phytologia 50: 260. 1982.

The Giess 10245 & 15280, distributed as E. amboense, actually are E. haudelotii N. E. Br., while Giess 15099 is E. teusczii Engl. & Ruhl.

ERIOCAULON ANDONGENSE Welw.

Additional bibliography: Mold., Phytologia 29: 88--89. 1974; Mold., Phytol. Mem. 2: 233, 242, & 596. 1980.

ERIOCAULON ANGUSTIFOLIUM Körn.

Additional bibliography: Mold., Phytologia 41: 413. 1979; Mold., Phytol. Mem. 2: 141 & 596. 1980.

Giulietti (1978) reduces this taxon to synonymy under E. aquatile Körn.

Additional citations: BRAZIL: Goiás: Hatschbach 36841 (W--2850699).

ERIOCAULON ANGUSTISEPALUM H. Hess

Additional bibliography: Mold., Phytologia 24: 341. 1972; Mold., Phytol. Mem. 2: 233, 237, 400, & 596. 1980.

ERIOCAULON ANNAMENSE H. Lecomte

Additional bibliography: Mold., Phytologia 29: 89. 1974; Mold.,

Phytol. Mem. 2: 292 & 596. 1980.

Lecomte (1912) cites only and unnumbered Lecomte & Finay collection from Annam, Vietnam.

ERIOCAULON ANNUUM Milne-Redhead

Additional bibliography: Mold., *Phytologia* 29: 89. 1974; Mold., *Phytol. Mem.* 2: 207, 226, 229, 235, 237, & 596. 1980.

Additional citations: MOUNTED ILLUSTRATIONS: Milne-Redhead in Hook., *Icon. Pl.* 34: pl. 3389. 1939 (W).

ERIOCAULON ANTUNESII Engl. & Ruhl.

Additional bibliography: Mold., *Phytologia* 29: 89. 1974; Mold., *Phytol. Mem.* 2: 201, 205, 210, 233, & 596. 1980.

Recent collectors have found this plant growing in moist places in sandy creek valleys, flowering in October. The leaves are described as medium-green and the "tepals and anthers pale-white".

Additional citations: VOLTAIC REPUBLIC: Geerling & Bokdam 1310 (E--2476257).

ERIOCAULON APICULATUM H. Lecomte

Additional bibliography: Mold., *Phytologia* 29: 89. 1974; Mold., *Phytol. Mem.* 2: 250 & 596. 1980.

ERIOCAULON AQUATICUM (J. Hill) Druce

Additional synonymy: *Eriocaulon articulatum* Morong ex Stapf, *Ind. Lond.* 3: 90. 1930.

Additional bibliography: Loud., *Hort. Brit.*, ed. 1, 36 (1830) and ed. 2, 36. 1832; G. Don in Loud., *Hort. Brit.*, ed. 3, 36. 1839; G. Don in Sweet, *Hort. Brit.*, ed. 3, 719. 1839; Lindl. & Moore, *Treas. Bot.*, ed. 1, 462 (1866), ed. 2, 462 (1870), ed. 3, 462 (1876), ed. 4, 462 (1884), and ed. 5, 462. 1899; J. C. Willis, *Dict. Flow. Pl.*, ed. 2, 368 (1903) and ed. 3, 378. 1908; Lotsy, *Vortr. Bot. Stammesges.* 3 (1): 706--709 & 964, fig. 481 & 482. 1911; Arber, *Bot. Gaz.* 74: 80, 84, & 94, pl. 2, fig. 19 A & B. 1922; Arber, *Monocot.* 88 & 251, fig. 66 A & B. 1925; J. C. Willis, *Dict. Flow. Pl.*, ed. 5, 251 (1925) and ed. 6, imp. 1, 251. 1931; Worsdell, *Ind. Lond. Suppl.* 1: 375. 1941; J. C. Willis, *Dict. Flow. Pl.*, ed. 6, imp. 2, 251. 1948; Hare, *Journ. Linn. Soc. Lond. Bot.* 53: 422--448. 1950; McClintock & Fitter, Collins Pock. *Guide Wild Fls.*, pl. 66, fig. 955. 1971; Napp-Zinn, *Anat. Blatt. A* (1): 555. 1974; J. C. Willis, *Dict. Flow. Pl.*, ed. 6, imp. 3, 251. 1951; Hocking, *Excerpt. Bot. A.23*: 389. 1974; C. D. Cook in Heywood, *Flow. Pl. World* 281, fig. 1. 1978; Monteiro-Scanavacca & Mazzoni, *Revist. Bras. Bot.* 1: 63. 1978; Moore & Webb, *Illustr. Guide Pollen Anal.* 36 & 56, pl. 15. 1978; Monteiro, Giulietti, Mazzoni, & Castro, *Bol. Bot. Univ. S. Paulo* 7: 48. 1979; Mold., *Phytologia* 41: 413, 429, & 454. 1979; Mold., *Phytol. Mem.* 2: 193, 194, 353, 368, 400, 403, 423, & 596. 1980; Mold., *Phytologia* 47: 410. 1981; Cronq., *Integ. Syst. Classif.* [1116]. 1981; Munz & Slauson, *Ind. Illust. Living Things Outside N. Am.* 219 & 351. 1981; F. Rose, *Wild Flow. Key* 444, fig. 445. 1981.

Additional illustrations: Arber, *Bot. Gaz.* 74: 94, pl. 2, fig.

19 A & B. 1922; Arber, Monocot. 88, fig. 66 A & B. 1925; W. K. Martin, Concise Brit. Fl. pl. 90 (in color). 1965; McClintock & Fitter, Collins Pock. Guide Wild Fls. pl. 66, fig. 955 (in color). 1971; Fitter, Fitter, & Blamey, Wild Fls. Brit. N. Eur. 261, fig. 9 (in color). 1974; C. D. Cook in Heywood, Flow. Pl. World 281, fig. 1 a--e (e in color). 1978; Moore & Webb, Illust. Guide Pollen Anal. pl. 15. 1978; F. Rose, Wild Flow. Key fig. 445 (in color). 1981.

Birks (1973) tells us that on the Isle of Skye this plant's principal habitat is the Carex rostrata-Menyanthes trifoliata association which can occur on silty substrata of low organic content, but generally favors highly organic muds, referring to the Eriocauleto-Lobelietum of Braun-Blanquet & Tüxen (1952) and Eriocaulatum septangulare of Schoof-van Pelt & Westhoff (1969) within the alliance of Littorellion.

Rose (1981) describes the plant as a "slender aquatic herb; creeping rootstock produces at intervals erect to spreading tufts of linear, submerged translucent basal lvs 5--10 cm long, flattened at sides, tapering to fine points, and with internal cross-partitions. Fl-stems arising from lf-rosettes, lfless, erect, 6--8 (usually 7) -angled.....20--60 cm. tall, twisted...." He gives its distribution as Skye, Coll. & West Argyll in Scotland, and Donegal to Cork near the west coast in Ireland, absent from the rest of Europe and "only closely related spp. are in N America". He avers that it inhabits shallow lakes and pools of acid water on peaty substrates, avoiding limestones, and flowering from July to September. Stieperaere found it growing with Scirpus lacustris, Phragmites australis, Cladium mariscus, Nymphaea alba, Lobelia dortmanna, and Eleocharis multicaulis.

Additional citations: ISLE OF SKYE: Balfour s.n. (N); Gilchrist s.n. [Aug. 1856] (E--2184970); Herb. Bernhadi s.n. (E); Newbould 1149 (W--45294). IRELAND: Billot, Vendrely, & Paillot 4075 (E--705574); Groves & Groves s.n. [8.VIII.1892] (Go); W. Irving s.n. [Co. Clare, 20-17-98] (It); Nilsson & Degelius s.n. [1.8.1933] (Go); Shoolbred s.n. [Co. Galway, 5-7-95] (It); Stieperaere 2146 [Co. Galway] (Mi). MOUNTED ILLUSTRATIONS: Baxter, Brit. Bot., ed. 2, 6: pl. 465. 1843 (Ba--381080); Journ. Linn. Soc. Lond. Bot. 15: pl. 7, fig. 5 & 6 (Ba).

ERIOCAULON AQUATILE Körn.

Additional bibliography: Mold., Phytologia 29: 90. 1974; Giul., Bol. Bot. Univ. S. Paulo 6: 39--47, fig. 1 & 2. 1978; Monteiro, Giul., Mazzoni, & Castro, Bol. Bot. Univ. S. Paulo 7: [43], 45, 46, 48, & 51. 1979; Mold., Phytologia 45: 36. 1980; Mold., Phytol. Mem. 2: 141, 596, & 627. 1980; Mold. in Harley & Mayo, Toward Checklist Fl. Bahia 72. 1980; Mold., Phytologia 48: 253 (1981) and 50: 245 & 247. 1982.

Additional illustrations: Giul., Bol. Bot. Univ. S. Paulo 6: 42, fig. 1 & 2. 1978.

Giulietti (1978) reduces E. angustifolium Körn. to synonymy here.

Recent collectors describe E. aquatile as a "soft herb" with pale-green leaves and ashen-gray flower-heads. They have found it growing in water in a region of waterworn horizontally banded sandstone at the soil surface, with damp sand, sedge marsh, exposed rock, and waterfalls, the vegetation of open scrub to closed low woodland in the drier areas, and in marshy grassland around marshes in areas of savanna-covered sand-dunes, at 80--900 m. altitude, both flowering and fruiting in March, the flowers "white".

Additional citations: VENEZUELA: Apure: Davidse & González 15993 (Ld). BRAZIL: Bahia: Harley, Mayo, Storr, Santos, & Pinheiro in Harley 19276 (N).

ERIOCAULON AQUATILE var. LATIFOLIUM Mold., Phytologia 48: 253. 1981.

Bibliography: Mold., Phytologia 48: 253. 1981.

The type collection was originally identified and distributed to herbaria as Synгонanthus sp.

Citations: BRAZIL: Amapá: Rubelo 6 (N--type).

ERIOCAULON AQUATILE f. VIVIPARUM Mold., Phytologia 45: 36. 1980.

Bibliography: Mold., Phytologia 45: 36. 1980; Mold., Phytol. Mem. 2: 597. 1980.

Citations: BRAZIL: Bahia: Mori, King, Santos, & Hage 12515 (Ld--isotype, W--2854273--type).

ERIOCAULON ARECHAVALETAE Herter

Additional bibliography: Mold., Phytologia 36: 471. 1977; Mold., Phytol. Mem. 2: 180 & 597. 1980.

ERIOCAULON ARENICOLA Britton & Small

Additional bibliography: León & Alain, Fl. Cuba, imp. 2, 1: 280. 1974; Mold., Phytologia 36: 471. 1977; Mold., Phytol. Mem. 2: 91 & 597. 1980.

ERIOCAULON ARFAKENSE Van Royen

Additional bibliography: Mold., Phytologia 24: 343. 1972; Mold., Phytol. Mem. 2: 326 & 597. 1980.

ERIOCAULON ARGENTINUM Castell.

Additional synonymy: Eriocaulon argenteum Castell. ex Hocking, Excerpt. Bot. A.23: 389, sphalm. 1974 [not E. argenteum Bong., 1831, nor Heyne, 1959, nor Mart., 1832, nor Mart. & Wall., 1852, nor Wight, 1832].

Additional bibliography: Hocking, Excerpt. Bot. A.23: 389. 1974; Mold., Phytologia 41: 413. 1979; Mold., Phytol. Mem. 2: 141, 186, 400, 428, 443, & 597. 1980.

The E. argenteum credited to Bongard, mentioned above, is now known as Paepalanthus argenteus (Bong.) Körn., while the homonyms credited to Heyne, to Martius, to Martius & Wallich, and to Wight are all synonyms of E. quinquangulare L.

ERIOCAULON ARISTATUM H. Hess

Additional bibliography: Mold., Phytologia 29: 90--91 & 237. 1974; Mold., Phytol. Mem. 2: 233, 237, 242, & 597. 1980.

The Giess 15193 & 15217, distributed as E. aristatum, actually are E. teusczii Engl. & Ruhl.

ERIOCAULON ARUPENSE Van Royen

Additional bibliography: Mold., Phytologia 24: 343. 1972; Mold., Phytol. Mem. 2: 326 & 597. 1980.

ERIOCAULON ATABAPENSE Mold.

Additional bibliography: Mold., Phytologia 36: 472. 1977; Mold., Phytol. Mem. 2: 108, 115, & 597. 1980.

Huber refers to this species as "very common in all hummocks on savannas", at 100 m. altitude, and found it in flower in February.

The Huber 1529, distributed in some herbaria as E. atabapense, actually is E. tenuifolium Klotzsch, while Huber 2041 & 3106, Huber & Tillett 2780, and Steyermark & Bunting 103228, previously cited by me as E. atabapense, seem better regarded as E. brevifolium Klotzsch. These three taxa are extremely closely related and difficult to distinguish from each other.

Additional citations: VENEZUELA: Amazonas: Ll. Williams 13858 (Ld--photo of type).

ERIOCAULON ATRATUM Körn.

Additional bibliography: Fyson, Indian Sp. Erioc. pl. 26. 1923; Worsdell, Ind. Lond. Suppl. 1: 375. 1941; Mold., Phytologia 41: 413. 1979; Mold., Phytol. Mem. 2: 267, 400, 403, 404, & 597. 1980.

Additional illustrations: Fyson, Indian Sp. Erioc. pl. 26. 1923.

Recent collectors refer to this plant as a rosulate herb, the leaves to 5 cm. long, and the flowering heads long-stalked, and have found it growing in boggy ground along streams, frequent at 1900 m. altitude, in flower in December.

Material has been misidentified and distributed in some herbaria as E. ceylanicum Körn.

Additional citations: SRI LANKA: Bernardi 15793 (W--2808151), 16091 (E--2906590); Kingdon-Ward 22987 (Go); Sohmer & Sumithraarachchi 9863 (E--2581983), 9927 (E--2581968).

ERIOCAULON ATRATUM var. MAJOR Thwaites

Additional bibliography: Baill., Hist. Pl. 12: 397. 1884; Mold., Phytologia 41: 413. 1979; Mold., Phytol. Mem. 2: 267, 400, 403, & 597. 1980.

Additional illustrations: Baill., Hist. Pl. 12: 397. 1884.

Recent collectors have encountered this plant in very marshy places.

Additional citations: SRI LANKA: Bernardi 16093 (E--2906608); Davidse & Sumithraarachchi 8000 (W--2808539); Kingdon-Ward 23026 (Go).

ERIOCAULON ATROIDES Satake

Additional bibliography: Mold., *Phytologia* 24: 344. 1972; Mold., *Phytol. Mem.* 2: 300 & 597. 1980.

ERIOCAULON ATROIDES f. *NANUM* Satake

Additional bibliography: Mold., *Phytologia* 24: 344. 1972; Mold., *Phytol. Mem.* 2: 300 & 597. 1980.

ERIOCAULON ATRUM Nakai

Additional bibliography: Fedde & Schust., *Justs Bot. Jahresber.* 39 (2): 10. 1913; Mold., *Phytologia* 34: 394 & 406. 1976; Mold., *Phytol. Mem.* 2: 299, 300, 302, & 597. 1980.

ERIOCAULON ATRUM var. *INTERMEDIUM* Nakai

Additional bibliography: Mold., *Phytologia* 24: 344. 1972; Mold., *Phytol. Mem.* 2: 300 & 597. 1980.

ERIOCAULON ATRUM var. *PLATYPETALUM* Satake

Additional bibliography: Mold., *Phytologia* 24: 344. 1972; Mold., *Phytol. Mem.* 2: 299 & 597. 1980.

ERIOCAULON AUSTRALASICUM (F. Muell.) Körn.

Additional bibliography: T. B. Muir, *Muelleria* 2: 140. 1972; Mold., *Phytologia* 29: 92. 1974; Mold., *Phytol. Mem.* 2: 336 & 597. 1980.

ERIOCAULON AUSTRALE R. Br.

Additional & amended bibliography: D. Don in Sweet, *Hort. Brit.*, ed. 3, 719. 1839; Mold., *Phytologia* 36: 472--473. 1977; Mold., *Phytol. Mem.* 2: 275, 278, 288, 292, 296, 304, 311, 314, 326, 328, 336, 339, 340, 353, & 597. 1980; Mold., *Phytologia* 50: 253. 1982.

Bogner found this plant in both flower and fruit in September.

The Suzuki collections, cited below, exhibit extremely narrowly linear, almost filiform leaves. They are placed here only tentatively until the exact characters of *E. australe* can better be determined.

Lecomte (1912) cites only an unnumbered André collection from Annam and one of Geoffray from Cambodia.

Additional citations: MALAYA: Trengganu: Soepadmi Mahmud 9133 (Ne--29867, Ne--29868). TAIWAN: Suzuki 23 (N), s.n. [Jul. 15, 1935] (W--2062478). GREATER SUNDA ISLANDS: Sabah: Ampon & Aban SAN.74984 (Ac). Sarawak: Bogner 1431 (W--2916722). Sumatra: Toroes 4285 (Mi).

ERIOCAULON AUSTRALE f. *PROLIFERUM* Mold.

Additional bibliography: Mold., *Phytologia* 36: 473. 1977; Mold., *Phytol. Mem.* 2: 296, 314, & 597. 1980.

Recent collectors have found this plant growing at 100 feet altitude, in both flower and fruit in August, and have misidentified and distributed it as *Cyperaceae* sp.

Additional citations: MALAYA: Johore: Herb. Honours Students

s.n. [August 1973] (E--2207513).

ERIOCAULON BARBA-CAPRAE Fyson

Additional bibliography: Fyson, Indian Sp. Erioc. pl. 4. 1923; Worsdell, Ind. Lond. Suppl. 1: 375. 1941; Mold., Phytologia 29: 93. 1974; Mold., Phytol. Mem. 2: 260 & 597. 1980.

Additional illustrations: Fyson, Indian Sp. Erioc. pl. 4. 1923.

ERIOCAULON BARBEYANUM Ruhl.

Additional bibliography: Mold., Phytologia 29: 93 & 196. 1974; Mold., Phytol. Mem. 2: 260 & 597. 1980.

ERIOCAULON BASSACENSE Mold.

Additional bibliography: Mold., Phytologia 24: 345. 1972; Mold., Phytol. Mem. 2: 290 & 597. 1980.

ERIOCAULON BATHOLITHICUM Van Royen, Alpine Fl. N. Guin. 2: 838--839, fig. 285 h--m. 1979.

Bibliography: Van Royen, Alpine Fl. N. Guin. 2: 825, 837--839, fig. 284 h--m. 1979; Mold., Phytologia 50: 254 & 270. 1982.

This species is based on Croft LAE.60671 from Mt. Giluwe, Papua, New Guinea, deposited in the herbarium of the Bishop Museum in Honolulu. The collector states that the species was found in "an alpine grassland peat bog at the base of a volcanic plug" at 3300 m. altitude, in both flower and fruit in December. Van Royen (1979) notes that "This species is somewhat intermediate between Eriocaulon novoguineense van Royen and E. alpinum van Royen, not only in characters but also geographically. It differs from E. novoguineense by having free sepals in the female flowers. Though the lateral sepals in the present species sometimes mutually are connate in the basal 1/3, the sepals, at least the lateral ones, in E. novoguineense are connate almost to the tip."

Citations: MOUNTED ILLUSTRATIONS: Van Royen, Alpine Fl. N. Guin. 2: 837, fig. 284 h--m. 1979 (Ld).

ERIOCAULON BAURI N. E. Br.

Additional bibliography: Mold., Phytologia 32: 465 (1975) and 34: 273. 1976; Mold., Phytol. Mem. 2: 243--245, 399, & 597. 1980.

Recent collectors have encountered this plant in patches of marshy turf, at 9500 feet altitude, where they describe it as "rare", flowering and fruiting in January. They refer to it as having "almost black anthers giving the heads a gray appearance."

Additional citations: LESOTHO: Hilliard & Burt 8803 (E--2383652).

ERIOCAULON BEAUVERDI Mold.

Additional bibliography: Mold., Phytologia 34: 395 (1976) and 35: 421 & 422. 1977; Mold., Phytol. Mem. 2: 141, 400, & 597. 1980.

Additional citations: BRAZIL: São Paulo: Pickel 5472 (W--1803954). MOUNTED CLIPPINGS: Beauverd, Bull. Herb. Boiss., ser. 2,

8: 987. 1908 (W).

ERIOCAULON BENTHAMII Kunth

Additional bibliography: Mold., Phytologia 41: 413--414. 1979; Mold., Phytol. Mem. 2: 41, 62, & 597. 1980.

Rzedowski has found this plant growing in disturbed pastizal.

Material has been misidentified and distributed in some herbaria as the very closely related E. ehrenbergianum Klotzsch. The two taxa are very difficult to distinguish from each other.

The Pringle 11202, distributed as E. benthamii, is actually the type collection of E. mexicanum Mold.

Additional citations: MEXICO: México: Hinton 4549 (It); Rzedowski 35035 (Mi, N, W--2900370).

ERIOCAULON BIFISTULOSUM Van Heurck & Muell.-Arg.

Additional bibliography: J. G. Baker, Journ. Linn. Soc. Lond. Bot. 20: 237. 1883; Giulietti, Bol. Bot. Univ. S. Paulo 6: 44. 1978; Mold., Phytologia 41: 414. 1979; Mold., Phytol. Mem. 2: 200, 201, 205--212, 216, 217, 219, 222, 226, 230, 237, 240, 250, 260, & 597. 1980.

Recent collectors have encountered this plant in pools on savannas and describe it as having leaves and peduncles medium-green and "buds" grayish-green.

Additional citations: IVORY COAST: Geerling & Bokdam 880 (E--2475716).

ERIOCAULON BILOBATUM Morong

Additional bibliography: Mold., Phytologia 32: 465 (1975) and 33: 11. 1976; Mold., Phytol. Mem. 2: 62, 71, & 597. 1980.

ERIOCAULON BIPETALUM Good

Additional bibliography: Mold., Phytologia 24: 346 (1972) and 25: 231. 1973; Mold., Phytol. Mem. 2: 250 & 597. 1980.

ERIOCAULON BLUMEI Körn.

Additional bibliography: Van Steenis & Ruttner, Pterid. Phan. Deutsch. Limnol. Sunda-Exped. [Arch. Hydrobiol. Suppl. 11:] pl. 53. 1932; Worsdell, Ind. Lond. Suppl. 1: 375. 1941; Mold., Phytologia 34: 267 & 395. 1976; Mold., Phytol. Mem. 2: 314 & 597. 1980.

Additional illustrations: Van Steenis & Ruttner, Pterid. Phan. Deutsch. Limnol. Sunda-Exped. [Arch. Hydrobiol. Suppl. 11:] pl. 53. 1932.

ERIOCAULON BOMBAYANUM Ruhl.

Additional bibliography: Mold., Phytologia 32: 466. 1975; Mold., Phytol. Mem. 2: 260 & 597. 1980.

ERIOCAULON BONGENSE Engl. & Ruhl.

Additional bibliography: Mold., Phytologia 41: 414. 1979; Mold., Phytol. Mem. 2: 200, 201, 205--207, 211, 212, 216, 217, 230, 235, 400, & 597. 1980.

Recent collectors have encountered this plant in sandy-clay soil of moist places among pools on savannas, at 300 m. altitude, both flowering and fruiting in December, describing it as "a pale-green herb with pale silvery-brown inflorescences".

Additional citations: CAMEROONS: Wilde, Wilde, & Wilde-Duyfjes 4793 (E--2256010).

ERIOCAULON BONI H. Lecomte

Additional bibliography: Mold., Phytologia 32: 466 & 467 (1975) and 34: 264. 1976; Mold., Phytol. Mem. 2: 292 & 597. 1980.

Illustrations: Mold., Phytologia 32: 467. 1975.

Lecomte (1912) cites only an unnumbered Bon collection from Tonkin, Vietnam.

ERIOCAULON BRACHYPEPLON Körn.

Additional bibliography: Mold., Phytologia 29: 95. 1974; Mold., Phytol. Mem. 2: 329 & 597. 1980.

ERIOCAULON BREVIPEDUNCULATUM Merr.

Additional bibliography: Mold., Phytologia 36: 473. 1977; Mold., Phytol. Mem. 2: 307, 326, & 597. 1980.

ERIOCAULON BREVIPEDUNCULATUM var. LONGIPES Mold.

Additional bibliography: Mold., Phytologia 26: 18. 1973; Mold., Phytol. Mem. 2: 326 & 597. 1983.

ERIOCAULON BREVISCAPUM Körn.

Additional bibliography: Fyson, Journ. Indian Bot. 3: 13 & 14, pl. 45. 1922; Fyson, Indian Sp. Erioc. pl. 45. 1923; Worsdell, Ind. Lond. Suppl. 1: 375. 1941; Mold., Phytologia 41: 415. 1979; Mold., Phytol. Mem. 2: 260, 288, & 597. 1980.

Additional illustrations: Fyson, Indian Sp. Erioc. pl. 45. 1923.

ERIOCAULON BROMELIOIDEUM H. Lecomte

Additional bibliography: Mold., Phytologia 29: 95. 1974; Mold., Phytol. Mem. 2: 292 & 597. 1980.

Lecomte (1912) cites only an unnumbered André collection from Annam, Vietnam.

ERIOCAULON BROMELIOIDEUM var. LATIFOLIUM H. Lecomte

Additional bibliography: Mold., Phytologia 26: 18. 1973; Mold., Phytol. Mem. 2: 292 & 597. 1980.

Lecomte (1912) cites for this variety only an unnumbered collection of Lecomte & Finet from Annam, Vietnam. He describes it as differing in its "Feuilles beaucoup plus longues, atteignant 8--10 cm."

ERIOCAULON BROWNIANUM Mart.

Additional bibliography: Fyson, Indian Sp. Erioc. 39, pl. 17. 1923; Fyson, Fl. S. Indian Hill Stat. 2: 565. 1932; Worsdell, Ind. Lond. Suppl. 1: 375. 1941; Rao & Khark., Journ. Bomb. Nat.

Hist. Soc. 75: 275 & 279. 1978; Mold., Phytologia 41: 415. 1979; Mold., Phytol. Mem. 2: 260, 267, 270, 290, 292, 314, & 597. 1980.

Additional illustrations: Fyson, Indian Sp. Erioc. 39, pl. 17. 1923; Fyson, Fl. S. Indian Hill Stat. 2: 565. 1932.

Rao & Kharkongor (1978) describe this species as a slender herb of marshy places and along ravines, the flowers "in dense globose heads at the terminal ends of the culms", associated with grasses, sedges, and Plantago sp., flowering in August and September.

Lecomte (1912) cites for this species only an unnumbered Pierre collection from Cochinchina.

The Hepper 4427, distributed as E. brownianum, actually is E. collinum Hook. f., while Sinclair 3600 is E. nilagirens Steud.

Additional citations: SRI LANKA: Hepper 4418 (N); Sohmer & Jayasuriya 10607 (W--2808541), 10610 (W--2808540); Sohmer & Sumithraarachchi 9801 (E--2581891).

ERIOCAULON BROWNIANUM var. LATIFOLIUM Mold.

Additional bibliography: Mold., Phytologia 41: 415. 1979; Mold., Phytol. Mem. 2: 260, 267, & 597. 1980.

Recent collectors have encountered this plant in marshy places and ditches, at 200 m. altitude, flowering and fruiting in February and June, describing it as "common".

Additional citations: SRI LANKA: Davidse & Sumithraarachchi 8902 (W--2808536); Kostermans 27284 (Ac); Maxwell & Jayasuriya 869 (E--2145607); Sohmer, Jayasuriya, & Eliezar 8542 (E--2236741).

ERIOCAULON BRUNONIS Britten

Additional bibliography: C. Muell. in Walp., Ann. Bot. Syst. 5: 927. 1860; Mold., Phytologia 24: 348. 1972; Mold., Phytol. Mem. 2: 336 & 597. 1980.

Recent collectors describe this plant as a bright-green rosette annual with grayish inflorescences and have found it to be "frequent" in open swamps with Pandanus and Coelorachis spp., sedges, and other herbs.

Additional citations: AUSTRALIA: Northern Territory: Lazarides & Adams 240 (W--2900313).

ERIOCAULON BUCHANANII Ruhl.

Additional bibliography: Mold., Phytologia 29: 89 & 97. 1974; Mold., Phytol. Mem. 2: 205, 207, 222, 226, 233, 235, 237, 239, 242, & 597. 1980.

ERIOCAULON BUERGERIANUM Körn.

Additional synonymy: Ericaulon buergerianum Körn. apud Hu, Enum. Chin. Mat. Med. 54 & 196, sphalm. 1981.

Additional & emended bibliography: Hayata, Icon. Pl. Formos. 10: 52, 53, & 272, fig. 29. 1921; Ito, Taiwan Shokubutu, Dzusetu [Illust. Formos. Pl.] pl. 847. 1927; Worsdell, Ind. Lond. Suppl. 1: 376. 1941; Mold., Phytologia 34: 396, 488, 493, & 494. 1976; Chang, Fl. Taiwan 5: [179]--181 & 183, pl. 1313. 1978; Holm, Pancho, Herberger, & Plucknett, Geogr. Atlas World Weeds 148.

1979; Hu, Journ. Arnold Arb. 61: 91. 1980; Mold., Phytol. Mem. 2: 198, 278, 281, 292, 300, 302, 304, & 597. 1980; Hu, Enum. Chin. Mat. Med. 54 & 196. 1981; Mold., Phytologia 50: 260. 1982; Bartholomew & al., Journ. Arnold Arb. 64: 95. 1983.

Additional illustrations: Hayata, Icon. Pl. Formos. 10: 53, fig. 29. 1921; Ito, Taiwan Shokubutu Dzusetu [Illust. Formos. Pl.] pl. 847. 1927; Chang, Fl. Taiwan 5: 181, pl. 1313. 1978.

Chang (1978) reports this species from "rice paddies and low wet lands" in the northern parts of Taiwan, with a general distribution of China, the Ryukyu Islands, and Japan. He cites Susuki 11764 & 27315 and Young 175 from Taiwan. In his 1981 work he lists the vernacular names, "ku-ching ts'ao", "ku-ching-tzŭ", and "ku-chu", for this species and E. sexangulare L. and states that the plant is listed in Chinese materia medica as "Scapus Eriocaulonis".

The Walker, Sonohara, Tawada, & Amano 7120 and Walker, Tawada, & Amano 6579, previously cited by me as E. buergerianum, actually seem to represent E. merrillii var. suishaense (Hayata) Chang instead, while 1980 Sino-Amer. Exped. 2061 is E. robustius (Maxim.) Mak.

Additional citations: MOUNTED CLIPPINGS & ILLUSTRATIONS: Chang, Fl. Taiwan 5: 181, pl. 1313 (Ld); Hayata, Icon. Pl. Formos. 10: 52. 1921 (W).

ERIOCAULON BURCHELLII Ruhl.

Additional bibliography: Mold., Phytologia 25: 122. 1973; Mold., Phytol. Mem. 2: 141 & 597. 1980.

ERIOCAULON CAAGUAZENSE Ruhl.

Additional bibliography: Mold., Phytologia 24: 348. 1972; Mold., Phytol. Mem. 2: 177 & 597. 1980

ERIOCAULON CABRALENSE Alv. Silv.

Additional bibliography: Worsdell, Ind. Lond. Suppl. 1: 375. 1941; Mold., Phytologia 29: 97. 1974; Mold., Phytol. Mem. 2: 141, 400, & 597. 1980.

Additional citations: MOUNTED ILLUSTRATIONS: Alv. Silv., Archiv. Mus. Nac. Rio 23: 162, pl. 4. 1921 (Ld, N, W); Alv. Silv., Fl. Mont. pl. 5. 1928 (Ld, N, W).

ERIOCAULON CAESIUM Griseb.

Additional bibliography: Mold., Phytologia 29: 97 (1974) and 30: 37. 1975; Giulietti, Bol. Bot. Univ. S. Paulo 6: 44. 1978; Mold., Phytol. Mem. 2: 103, 627, & 597. 1980; Mold., Phytologia 50: 260. 1982.

ERIOCAULON CANDIDUM Mold.

Additional bibliography: Mold., Phytologia 24: 348--349. 1972; Mold., Phytol. Mem. 2: 141 & 597. 1980.

ERIOCAULON CAPITULATUM Mold.

Additional bibliography: Mold., Phytologia 29: 97. 1974; Mold.,

Phytol. Mem. 2: 62 & 597. 1980.

ERIOCAULON CARAJENSE Mold.

Additional bibliography: Hocking, Excerpt. Bot. A.23: 378. 1975; Mold., Phytologia 32: 468. 1975; Mold., Phytol. Mem. 2: 141 & 597. 1980.

ERIOCAULON CARSONI F. Muell.

Additional bibliography: T. B. Muir, Muellera 2: 140. 1972; Mold., Phytologia 32: 468. 1975; Mold., Phytol. Mem. 2: 336 & 597. 1980.

ERIOCAULON CAULIFERUM Mak.

Additional bibliography: Mold., Phytologia 29: 98. 1974; Mold., Phytol. Mem. 2: 300 & 597. 1980.

ERIOCAULON CELEBICUM Van Royen

Additional bibliography: Mold., Phytologia 24: 349. 1972; Mold., Phytol. Mem. 2: 314 & 597. 1980.

ERIOCAULON CEYLANICUM Körn.

Additional bibliography: Fyson, Indian Sp. Erioc. pl. 27 & 28. 1923; Worsdell, Ind. Lond. Suppl. 1: 375. 1941; Mold., Phytologia 36: 474 & 476. 1977; Mold., Phytol. Mem. 2: 267, 400, 442, & 598. 1980.

Additional illustrations: Fyson, Indian Sp. Erioc. pl. 27 & 28. 1923.

Koyama reports this species "occasional" in wet depressions of wet patana grasslands associated with Gentianella.

The Bernardi 15793, distributed as E. ceylanicum, seems, instead, to be E. atratum Körn.

Additional citations: SRI LANKA: Koyama 13516 (Ac); Maxwell & Jayasuriya 877 (E--2144264).

ERIOCAULON CHINOROSSICUM Komarov

Additional bibliography: Worsdell, Ind. Lond. Suppl. 1: 375. 1941; Mold., Phytologia 26: 19. 1973; Mold., Phytol. Mem. 2: 198 & 598. 1980.

ERIOCAULON CHISHINGSANENSE Chang, Fl. Taiwan 5: 180 & 183 (as "chishingsanensis"). 1978.

Synonymy: Eriocaulon chishingsanensis Chang ex Mold., Phytol. Mem. 2: 304, sphalm. 1980.

Bibliography: Chang, Fl. Taiwan 5: [179], 180, 183, & 185 (1978) and 6: 654 & 663. 1980; Mold., Phytol. Mem. 2: 304 & 598. 1980.

Chang (1978) asserts that this species differs from E. buergerianum Körn. in its pilose receptacles, obtuse floral bractlets, and much smaller leaves. It is based on Hsu & al. 141706, deposited in the Taipei herbarium, and this is the only collection that he cites. He designated his original publication of the name as "stat. nov.", instead of "sp. nov." (corrected by him 2

years later).

ERIOCAULON CHRISTOPHERI Fyson

Additional bibliography: Mold., *Phytologia* 41: 415. 1979; Mold., *Phytol. Mem.* 2: 260 & 598. 1980.

ERIOCAULON CILIIPETALUM H. Hess

Additional bibliography: Mold., *Phytologia* 24: 349. 1972; Mold., *Phytologia Mem.* 2: 229 & 598. 1980.

ERIOCAULON CINEREUM R. Br.

Additional & emended synonymy: Leucocephala spathacea Roxb., *Hort. Beng.*, imp. 1, 68, hyponym. 1814. Leucocephala spathacea Roxb., *Fl. Ind.* 3: 613 & 865. 1832.

Additional & emended bibliography: Roxb., *Hort. Beng.*, imp. 1, 68. 1814; Roxb., *Fl. Ind.* 3: 613 & 865. 1832; C. B. Robinson, *Philip. Journ. Sci.* 7: 415. 1912; Fyson, *Journ. Ind. Bot.* 1: 51, fig. 10 (1919) and 2: 139, fig. 10. 1921; Hayata, *Icon. Pl. Formos.* 10: 49, 50, & 272, fig. 27. 1921; Fyson, *Indian Sp. Erioc.* pl. 50 & 51. 1923; Mak., *Illust. Fl. Jap.* [723]. 1924; Ito, *Taiwan Shokubutu Dzusetu* [*Illust. Formos. Pl.*] pl. 848. 1927; Mayuranathan, *Bull. Madras Gov. Mus.*, ser. 2, 2: pl. 38. 1929; C. A. Gardn., *Enum. Pl. Austral. Occid.* 1: 17. 1930; Mak., *Gensyoku Yagai-shokubuti* [*Nature-Col. Wild Pl.*] 3: 173. 1933; Worsdell, *Ind. Lond. Suppl.* 1: 375 & 376. 1941; Begum, *Proc. Indian Acad. Sci.* B.67: 148--156. 1968; Huang, *Taiwania* 15: 152 & 153, pl. 45, fig. 1 & 2. 1970; T. B. Muir, *Muelleria* 2: 140. 1972; Srivastava, *Fl. Gorak.* 331. 1976; Amaratunga, *Ceyl. Journ. Sci. Biol.* 12: 189. 1977; Babu, *Herb. Fl. Dehra Dun* 13 & 546--548. 1977; Chang, *Fl. Taiwan* 5: [179], 182 & 183, pl. 1314. 1978; Monteiro-Scanavacca & Mazzoni, *Revist. Bras. Bot.* 1: 63. 1978; Holm, Pancho, Herberger, & Plucknett, *Geogr. Atlas World Weeds* 148. 1979; Kral in Godfrey & Wooten, *Aquat. Wetl. Pl. Southeast. U. S.* 504, 510, & 511, fig. 296. 1979; Mold., *Phytologia* 41: 415--416, 421, & 455. 1979; J. T. & R. Kartesz, *Syn. Checklist Vasc. Fl.* 2: 197. 1980; Mold., *Phytol. Mem.* 2: 41, 57, 196, 198, 207, 208, 211, 216, 226, 255, 257, 258, 260, 267, 270, 272, 278, 281, 283, 285, 292, 299, 300, 303, 304, 307, 314, 336, 339, 400, 403, 598, & 627. 1980; Mold., *Phytologia* 50: 236, 260, & 262. 1982.

Additional illustrations: Fyson, *Journ. Indian Bot.* 1: 51, fig. 10 (1919) and 2: 139, fig. 10. 1921; Hayata, *Icon. Pl. Formos.* 10: 50, fig. 27. 1921; Fyson, *Indian Sp. Erioc.* pl. 50 & 51. 1923; Mak., *Illust. Fl. Jap.* [723] (in color). 1924; Ito, *Taiwan Shokubutu Dzusetu* [*Illust. Formos. Pl.*] pl. 848. 1927; Maruyanathan, *Bull. Madras Gov. Mus.*, ser. 2, 2: pl. 38. 1929; Mak., *Gensyoku Yagai-shokubuti* [*Nature-Col. Wild Pl.*] 3: 173 (in color). 1933; Huang, *Taiwania* 15: 153, pl. 45, fig. 1 & 2. 1970; Chang, *Fl. Taiwan* 5: 182, fig. 1314. 1978; Kral in Godfrey & Wooten, *Aquat. Wetl. Pl. Southeast. U. S.* 511, fig. 296. 1979.

Interestingly, Srivastava (1976) separates E. cinereum R. Br. from E. quinquangulare L. by saying that in the former the anthers are white, while in the latter they are black. He asserts

that E. cinereum is "Abundantly found as a weed in rice fields and in other moist and swampy places". He cites Srivastava 1429 and asserts that the species flowers from August to November. Babu (1977) reports the plant as "common" in irrigated rice fields and canals and in damp or marshy shaded localities in the Dehra Dun section of India, also flowering there from August to November. He cites Babu 34044 & 34044a.

Chang (1978) reports the species from rice paddies in Taiwan and gives its general distribution as "Australia, Japan, Korea, Ryukyus, China, Philippines, Malaysia, Indochina, India and Africa." From Taiwan he cites Mori 27240 & 27339, Suzuki 27287, Yamamoto & Mori 27288, and Young 111.

The Fadens refer to the species as a "rosette herb with more numerous, narrower leaves than 77/194 [E. quinquangulare L.] and growing in wetter sites, often in water." They describe it as common at the edges of rock pools in an area of rock outcrops with pools and seepage areas", at 90 m. altitude, flowering and fruiting in January. Saldanha & Ramamoorthy describe the plant as an "occasional annual herb with needle-like leaves growing in full sun on moist soil in wet deciduous forests" at 1070 m. altitude in Mysore.

In Australia Lazarides & Adams describe what is presumably the typical form of the species as a dense rosette annual to 3 inches tall with whitish flowers and white roots, flowering and fruiting there in March.

Lecomte (1912) cite for E. cinereum unnumbered collections of Balansa, of Bon, and of Mouret from Tonkin, Vietnam, and lists it also from Cochinchina, but citing no collections.

Huang (1970) illustrates the pollen grains of this species, stating that they are 17--30 μ wide, based on DeVol 7481, Morimoto 584, Huang 3477, Simada s.n., and Simizu 2333 from Taiwan.

Material of E. cinereum has been misidentified and distributed in some herbaria as E. quinquangulare L. and E. truncatum Hamilt. and even as Lachnocaulon anceps (Walt.) Morong. On the other hand, the Tanaka & Shimada 13574, distributed as E. formosanum Hayata and previously cited by me as E. cinereum or as E. kiusianum Maxim., is now regarded as representing E. merrillii Ruhl., Jarrett & Ramamoorthy HFP.1107 is E. humile Mold., and Carroll 1742, Thomas & Grelan 71863 & 71890, and Thomas & Moreland 65853 are Lachnocaulon anceps (Walt.) Morong.

Additional citations: LOUISIANA: Acadia Par.: Thomas, Allen, & Bot. 403 Class 47817 (Ne, Ne, Ne); Thomas, Pias, & Rich 66606 (Ne--164696). TANGANYIKA: Schlieben 872 (E--1707468). INDIA: Andhra Pradesh: V. S. Raju 670e (Ld). Karnataka: Saldanha & Ramamoorthy HFP.1195b (W--2797013). Maharashtra: Padhye 1 (Ld). West Bengal: J. Sinclair 3756 (W--2918900). SRI LANKA: Bernardi 15816 (W--2808537); Faden & Faden 77/195 (W--2891054). JAPAN: Honshu: Itô & Koyama 826 (Mi); Murata 19688 (N). PHILIPPINE ISLANDS: Luzon: Rogerson 1099 (It, Mi). AUSTRALIA: Northern Territory: Lazarides & Adams 34 (W--2949398). MOUNTED ILLUSTRATIONS:

Chang, Fl. Taiwan 5: 182, pl. 1314. 1978 (Ld); Mak., Illust. Fl. Nipp. 771. 1940 (Ld).

ERIOCAULON CIPOENSE Alv. Silv.

Additional bibliography: Worsdell, Ind. Lond. Suppl. 1: 375. 1941; Mold., Phytologia 32: 469. 1975; Monteiro, Giulietti, Mazzoni, & Castro, Bol. Bot. Univ. S. Paulo 7: [43], 45, 46, 48, 51, & 56, fig. 32-3. 1979; Mold., Phytol. Mem. 2: 141 & 598. 1980.

Additional illustrations: Monteiro, Giulietti, Mazzoni, & Castro, Bol. Bot. Univ. S. Paulo 7: 56, fig. 32-3. 1979.

ERIOCAULON COERULEUM Van Royen

Additional bibliography: Mold., Phytologia 24: 350--351. 1972; Mold., Phytol. Mem. 2: 314 & 598. 1980.

ERIOCAULON COLLETTII Hook. f.

Additional bibliography: Fyson, Indian Sp. Erioc. pl. 3. 1923; Worsdell, Ind. Lond. Suppl. 1: 375. 1941; Mold., Phytologia 36: 474. 1977; Mold., Phytol. Mem. 2: 260, 272, & 598. 1980.

Additional illustrations: Fyson, Indian Sp. Erioc. pl. 3. 1923.

ERIOCAULON COLLINUM Hook. f.

Additional bibliography: Fyson, Indian Sp. Erioc. 34. 1923; Worsdell, Ind. Lond. Suppl. 1: 375. 1941; Anon., Kew Bull. Gen. Ind. III. 1959; Mold., Phytologia 41: 416. 1979; Mold., Phytol. Mem. 2: 261, 267, 402, & 598. 1980.

Additional illustrations: Fyson, Journ. Indian Bot. 2: 139 & 207, fig. 3, & pl. 15. 1921; Fyson, Indian Sp. Erioc. 34. 1923.

Material of E. collinum has been misidentified and distributed in some herbaria as E. brownianum Mart.

Additional citations: INDIA: Tamil Nadu: Koelz 10993 (Mu). SRI LANKA: Hepper 4427 (N); Maxwell & Jayasuriya 876 (E--2144263); Sohmer & Sumithrarachchi 10029 (E--2582784).

ERIOCAULON COLLINUM var. NANUM Mold.

Additional bibliography: Hocking, Excerpt. Bot. A.25: 379. 1975; Mold., Phytologia 32: 469. 1975; Mold., Phytol. Mem. 2: 268 & 598. 1980.

Sinclair reports this plant "common" on marshy stream banks in forest clearings, flowering and fruiting in March.

Additional citations: INDIA: Tamil Nadu: J. Sinclair 3392 (W--2918903).

ERIOCAULON COMPRESSUM Lam.

Additional synonymy: Eriocaulon compressum var. compressum [Lam.] ex J. T. & R. Kartesz, Syn. Checklist Vasc. Fl. 2: 197. 1980.

Additional & emended bibliography: Bong., Mem. Acad. Sci. Imp. St.-Petersb., ser. 6, 1: 629 & 630. 1831; Lotsy, Vortr. Bot. Stammesges. 3 (1): 706 & 964. 1911; Lawrence, Taxon, Vasc. Pl., imp. 1, 404, fig. 83 (1951) and imp. 2, 404, fig. 83. 1971; L. H.

& E. Z. Bailey, Hortus Third 440. 1976; Kral in Godfrey & Wooten, Aquat. Wetl. Pl. Southeast. U. S. 504--506, fig. 293. 1979; Mold., Phytologia 41: 416--417 & 419. 1979; Pursh, Fl. Amer. Sept., imp. 2 [ed. Ewan], 91--92. 1979; Avery & Loope, S. Fla. Res. Cent. Rep. T-574: 7. 1980; J. T. & R. Kartesz, Syn. Checklist Vasc. Fl. 2: 197. 1980; Mold., Phytol. Mem. 2: 11--14, 16, 17, 19, 21, 22, 25, 26, 41, 48, 353, 401, & 598. 1980; Cronq., Integ. Syst. Classif. 1117, fig. 9.5. 1981; Duncan & Kartesz, Vasc. Fl. Ga. 36. 1981; Duncan, Vég. Sapelo 25 & 48. 1982; Mold., Phytologia 50: 112, 234, 235, & 260. 1982.

Additional illustrations: Lawrence, Taxon, Vasc. Pl., imp. 1, 404, fig. 83 (1951) and imp. 2, 404, fig. 83. 1971; L. H. & E. Z. Bailey, Hortus Third 440. 1976; Kral in Godfrey & Wooten, Aquat. Wetl. Pl. Southeast. U. S. 506, fig. 293. 1979; Cronq., Integ. Syst. Classif. 1117, fig. 9.5. 1981.

Taylor describes this plant as having the "leaves bright-green, scapes paler, capitula pale-gray or black". I have never seen the heads so dark; as I know them they are pure white. Stoutmire encountered the plant on the margins of lakes, flowering and fruiting in January, while Hellquist found it growing in soil with an alkalinity level of 1.5 mg./l.

Material of E. compressum has often been misidentified and distributed in herbaria as E. lineare Small, E. pellucidum Michx., or E. septangulare With.

On the other hand, the Crockett 438, S. Darwin 1419, R. Kral 28290, J. Taylor 21368, P. Taylor 23039, and Thomas, Allen, & Landry 43055 & 43122, distributed as typical E. compressum, actually represent its var. harperi Mold., while DePoe & DePoe 7200, S. B. Jones s.n. [31 Aug. 1960], and Thomas, Dorris, & Drane 13831 are E. decangulare L., Fryxell 3000 is E. decangulare var. minor Mold., Thomas & Barrett 16564, Thomas & Bot. 313 Class 19558, and Volosen 38 are E. decangulare f. parviceps Mold., Gershoy 206 is E. pellucidum Michx., and Correll & Ogden 25168 is E. texense Körn.

Additional citations: NEW JERSEY: Burlington Co.: Blaser 28 (It), s.n. [May 20, 1932] (It); Parker s.n. [Atsion] (It). Cape May Co.: Gershoy 208 (It). Cumberland Co.: Beals s.n. [Vineland, June 28, 1898] (N). Ocean Co.: Edwards, Urner, & Clausen 356 (It); Hellquist 11330 (Mi); Wiegand & Clausen s.n. [June 12, 1934] (It). County undetermined: Knieskern s.n. (It); Manchester s.n. [May 31, 1880] (It). NORTH CAROLINA: Brunswick Co.: Radford 43810 (Mi). Columbus Co.: Godfrey & White 7104 (It). New Hanover Co.: Sieren 1583 (Ne--165078). SOUTH CAROLINA: Berkeley Co.: "K.W.H." 881c (It). Lexington Co.: Marx 3111 (Ne--124016). County undetermined: Curtis s.n. [1875] (N). GEORGIA: Calhoun Co.: Thorne & Muenscher 8021 (It). Charlton Co.: Schlesinger 19 (It); Wright & Harper 125 (It). Cook Co.: Pyron & McVaugh 2138 (It). Early Co.: Thorne 3294 (It); Thorne & Muenscher 2925 (It). Lowndes Co.: Thigpen s.n. [11 May 1971] (Ne--120966). McIntosh Co.: Duncan, Adams, & Connell 20000 (It). Miller Co.: Thorne & Harper 3171 (It). Screven Co.: Boufford 5268 (Go). FLORIDA: Brevard Co.: Calkins

539 [Herb. Kent Sci. Mus. 13811] (Mi). Charlotte Co.: Wiersema 1443a (N). Citrus Co.: R. P. St. John 1855 (It). Collier Co.: Perkins 468 (It). Duval Co.: Curtiss 3017 (It), 4585 (It). Highlands Co.: Stoutmire 1034 (Mi), 1063 (Mi). Indian River Co.: Mac Daniels s.n. [April 16, 1936] (It). Lake Co.: Nash 92 (It); Upton, Upton, & Van Deman s.n. [March 12, 1930] (It). Lee Co.: Perkins 471 (It). Leon Co.: MacDaniels s.n. [April 26, 1936] (It). Manatee Co.: Perkins 467 (It). Martin Co.: Atwood s.n. (It). Okaloosa Co.: McArthur s.n. [9 June 1960] (Ne--112832). Orange Co.: Perkins 470 (It). Palm Beach Co.: Randolph & Small 72 (It); Uttal 9559 (Ne--98480). Pinellas Co.: Blatchley 27 (It). Polk Co.: Milligan s.n. [May 1890] (W--503902). Sarasota Co.: Perkins 469 (It). Volusia Co.: Ryan 6 (Ne--121777). Wakulla Co.: P. Taylor 13039 (N). County undetermined: Herb. Cornell Univ. s.n. [1877] (It); C. L. Lawrence s.n. [Mar. 13, 1892] (It). ALABAMA: Covington Co.: Duncan & Hardin 15000 (Ne--145267). MISSISSIPPI: Harrison Co.: Garner & Middlebrooks 147 (Ne--53076). Jackson Co.: Skeehan 7891 [Herb. Kent. Sci. Mus. 50092] (Mi). Pearl River Co.: Thomas, Allen, & Landry 42917 (Ne--101811). MOUNTED ILLUSTRATIONS: Cronq., Integ. Syst. Classif. 1117, fig. 9.5. 1981 (Ld).

ERIOCAULON COMPRESSUM var. HARPERI Mold.

Additional bibliography: Mold., Phytologia 41: 416--417 & 419. 1979; J. T. & R. Kartesz, Syn. Checklist Vasc. Pl. 2: 197. 1980; Mold., Phytol. Mem. 2: 12, 19, 22, 25, 26, 41, & 598. 1980; Mold., Phytologia 50: 234 & 235. 1982.

Additional citations: FLORIDA: Okaloosa Co.: Laird & Laird 1348 (Ne--131188). Santa Rosa Co.: Laird & Laird 1334 (Ne--131145). Wakulla Co.: P. Taylor 23039 (Go). ALABAMA: Baldwin Co.: Crockett 438 (It). Mobile Co.: R. Kral 28290 (Ne--106051). MISSISSIPPI: George Co.: J. Taylor 21368 (Ne--165936); Thomas, Allen, & Landry 43055 (Ne--103102). Harrison Co.: Thomas, Allen, & Landry 43122 (Ne--102965). Pearl River Co.: S. Darwin 1419 (Ne--177280).

ERIOCAULON COMPTONII Rendle, Journ. Linn. Soc. Lond. Bot. 45: 259--260. 1921.

Additional & amended bibliography: Rendle, Journ. Linn. Soc. Lond. Bot. 45: 259--260. 1921; Mold., Phytologia 29: 104. 1974; Mold., Phytol. Mem. 2: 331 & 598. 1980.

ERIOCAULON CONCRETUM F. Muell.

Additional bibliography: T. B. Muir, Muelleria 2: 140. 1972; Mold., Phytologia 29: 105. 1974; Mold., Phytol. Mem. 2: 336 & 598. 1980.

ERIOCAULON CONGOLENSE Mold.

Additional bibliography: Mold., Phytologia 24: 352. 1972; Mold., Phytol. Mem. 2: 220 & 598. 1980.

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

Additional bibliography: Anon., Kew Bull. Gen. Ind. 111. 1959; Mold., Phytologia 29: 105. 1974; Mold., Phytol. Mem. 2: 261 & 589. 1980.

ERIOCAULON CONIFERUM Herzog

Additional bibliography: Mold., Phytologia 29: 105. 1974; Mold., Phytol. Mem. 2: 141 & 598. 1980.

ERIOCAULON CRASSISCAPUM Bong.

Additional bibliography: Worsdell, Ind. Lond. Suppl. 1: 375. 1941; Mold., Phytologia 36: 475. 1977; Mold., Phytol. Mem. 2: 141, 186, 402, & 598. 1980.

ERIOCAULON CRISTATUM Mart.

Additional bibliography: Fyson, Indian Sp. Erioc. pl. 31. 1923; Worsdell, Ind. Lond. Suppl. 1: 375. 1941; Mold., Phytologia 36: 475. 1977; Mold., Phytol. Mem. 2: 257, 261, 268, 270, 278, 283, 296, 300, & 598. 1980.

Additional illustrations: Fyson, Indian Sp. Erioc. pl. 31. 1923.

ERIOCAULON CRISTATUM var. *BREVICALYX* C. H. Wright

Additional bibliography: Mold., Phytologia 32: 470 (1975) and 33: 14. 1976; Mold., Phytol. Mem. 2: 283 & 598. 1980.

ERIOCAULON CRISTATUM var. *MACKII* Hook. f.

Additional bibliography: Mold., Phytologia 29: 105 (1974) and 34: 400. 1976; Mold., Phytol. Mem. 2: 261 & 598. 1980.

ERIOCAULON CUBENSE Ruhl.

Additional bibliography: Mold., Phytologia 36: 475. 1977; Mold., Phytol. Mem. 2: 91 & 598. 1980.

ERIOCAULON CUSPIDATUM Dalz.

Additional bibliography: Arber, Bot. Gaz. 74: 84, 88, & 94, pl. 2, fig. 19D. 1922; Fyson, Indian Sp. Erioc. pl. 38. 1923; Arber, Monocot. 88 & 251, fig. 66D. 1925; Worsdell, Ind. Lond. Suppl. 1: 375. 1941; Mold., Phytologia 36: 476. 1977; Mold., Phytol. Mem. 2: 261 & 598. 1980.

Additional illustrations: Arber, Bot. Gaz. 74: 94, pl. 2, fig. 19D. 1922; Fyson, Indian Sp. Erioc. pl. 38. 1923; Arber, Monocot. 88, fig. 66D. 1925.

ERIOCAULON CUSPIDATUM var. *BRACTEATUM* Fyson

Additional bibliography: Mold., Phytologia 24: 353. 1972; Mold., Phytol. Mem. 2: 261 & 598. 1980.

ERIOCAULON DALZELLII Körn.

Additional bibliography: Fyson, Indian Sp. Erioc. pl. 46. 1923; Worsdell, Ind. Lond. Suppl. 1: 376. 1941; Mold., Phytologia 41: 417. 1977; Giulietti, Bol. Bot. Univ. S. Paulo 6: 44. 1978; Mold., Phytol. Mem. 2: 208, 261, 268, 270, & 598. 1980.

Additional illustrations: Fyson, Indian Sp. Erioc. pl. 46. 1923.

Additional citations: INDIA: Maharashtra: Padhye 10 (Ld).

MOUNTED CLIPPINGS: Dalz., Journ. Bot. Kew Misc. 3: 280. 1851 (W).

ERIOCAULON DALZELLII var. GLABRATUM Mold.

Additional bibliography: Mold., Phytologia 29: 283. 1974;

Hocking, Excerpt. Bot. A.25: 379. 1975; Mold., Phytol. Mem. 2: 261 & 598. 1980.

ERIOCAULON DAMAZIANUM Beauverd

Additional bibliography: Mold., Phytologia 29: 106. 1974; Mold.,

Phytol. Mem. 2: 141 & 598. 1980.

ERIOCAULON DECANGULARE L.

Additional synonymy: Eriocaulon decangulare var. decangulare

[L.] ex J. T. & R. Kartesz, Syn. Checklist Vasc. Fl. 2: 197. 1980.

Additional & amended bibliography: J. F. Gmel. in L., Syst. Nat., ed. 13, imp. 1, 2: 206. 179; G. Don in Loud., Hort. Brit., ed. 3, 469 & 588. 1839; G. Don in Sweet, Hort. Brit., ed. 3, 719. 1839; Steud., Syn. Pl. Glum. 2: [Cyp.] 268, 277, & 333. 1855; Pfeiffer, Nom. Bot. 2 (2): 914. 1874; Lotsy, Vortr. Stammesges. 3 (1): 707 & 964. 1911; G. T. Stevens, Illustr. Flow. Pl. Midd. Atl. N. Eng. St. pl. 9. 1930; L. H. & E. Z. Bailey, Hortus Sec., imp. 1, 286. 1941; Worsdell, Ind. Lond. Suppl. 1: 375. 1941; Savage, Cat. Linn. Herb. Lond. 21. 1945; L. H. & E. Z. Bailey, Hortus Sec., imp. 18, 246. 1974; L. H. & E. Z. Bailey, Hortus Third 440. 1976; E. B. Sm., Atlas Annot. List, imp. 1, 421 & 422. 1978; R. J. & C. S. Taylor in R. J. Taylor, New Rare Infr. Coll. Pl. [Herb. SE. Okla. St. Univ. Publ. 2:] 101. 1978; Ajilvsgi, Wild Flow. Big Thicket 59 & 107--108. 1979; Kral in Godfrey & Wooten, Aquat. Wetl. Pl. SE. U. S. 504 & 508--510, fig. 295. 1979; Mold., Phytologia 41: 416--419, 429, & 459 (1979) and 44: 134. 1979; Pursh, Fl. Amer. Sept., imp. 2 [ed. Ewan], 91. 1979; E. B. Sm., Atlas Annot. List, imp. 2, 421 & 422. 1979; Van Royen, Alpine Fl. N. Guin. 2: 824. 1979; Wherry, Fogg, & Wahl, Atlas Fl. Penna. 93. 1979; Barry, Nat. Veg. S. Carol. 163. 1980; Eleuterius, Illust. Guide Tidal Marsh Pl. [Miss.-Ala. Sea Grant Publ. 77-039:] 9, 64, & 65. 1980; J. T. & R. Kartesz, Syn. Checklist Vasc. Pl. 2: 197. 1980; Mold., Phytol. Mem. 2: 12--14, 16, 17, 19, 22, 25, 26, 41, 46, 48, 62, 78, 353, 400--402, 407, 435, & 598. 1980; F. C. Seymour, Phytol. Mem. 1: 85. 1980; Duncan & Kartesz, Vasc. Fl. Ga. 36. 1981; Duncan, Veg. Sapelo 25 & 48. 1982; Mold., Phytologia 50: 234--236, 239, & 260 (1982) and 52: 111 & 112. 1982; Reveal, Phytologia 53: 33, 38, 50, 56, 57, 64, 71, & 91. 1983.

Additional illustrations: G. T. Stevens, Illustr. Flow. Pl. Midd. Atl. N. Eng. St. pl. 7. 1930; Ajilvsgi, Wild Flow. Big Thicket 59 (in color). 1979; Kral in Godfrey & Wooten, Aquat. Wetl. Pl. SE. U. S. 509, fig. 295. 1979; Eleuterius, Illust. Guide Tidal Marsh Pl. [Miss.-Ala. Sea Grant Publ. 77-039:] 65. 1980.

The Taylors (1978) record this species from only Pushtamaha County in Oklahoma.

The Baileys (1976) assert that E. decangulare is offered in

the horticultural trade for cultivation in bog gardens.

It is of interest to note here how Rafinesque (1840) distinguished his E. longifolium from what he called E. serotinum Walt. For the latter he says: "fol. semiped. angustis glaucescens, obt. scapis elongatus, basi vaginatis, contortis sulcatis costatis, capit. globosis umbilicatis, bract. latov. acum. vel laceris glabris. -- New Jersey to Carol. blended with the last in Erioc. decangulare of authors, none of them has 10 angles! this has 12 to 15 grooves and ribs, fl. white". For E. longifolium he says: "fol. gramineis longissimis pedalis latiusculis obtusis, scapis fol. sepe breviorib. usque ad medium vaginatis, apice contortis costatis, capit. depressis, bract. ovatis acutis scariosis fulvis pubens -- South New Jersey in swamps, leaves pedal, scape slender rigid, heads small, fl. pale." It seems most likely to me now that his E. longifolium, previously regarded as a synonym of typical E. decangulare, is, rather, the plant we now know as its f. parviceps Mold.

Abel reports that in Palm Beach County, Florida, E. decangulare grows sympatically with Lachnocaulon glabrum Körn. The Hansens encountered the plant in "slightly drier areas under Pinus palustris with intermittent standing water dominated by Aristida tustocks along with Ilex coriacea, Lobelia brevifolia, L. nuttallii, Polygala brevifolia, P. ramosa, Lycopodium carolinianum, Rhynchospora spp., and Utricularia juncea".

Eleuterius (1980) asserts that the flowers of Eriocaulon decangulare have 4--6 stamens per flower and that the plant grows in freshwater marshes or those of low salinity, especially in riverine marshes, in Alabama and Mississippi.

Material of this species is often misidentified and distributed in herbaria as E. compressum Lam. On the other hand, the Marx 3111, Sieren 1583, and Thigpen s.n. [11 May 1971], distributed as E. decangulare, actually are E. compressum Lam., while Hotchkiss 1500 is E. decangulare var. minor Mold., Abbe & Spalteholz s.n. [July 31, 1927], J. A. Allen 73 & 178, Benner 3612, Blaser s.n. [August 16, 1932], Chrysler s.n. [11 Aug. 1926], Eaton s.n., Gershoy 205, Heller 180, Herb. Cornell Univ. s.n. [July 25, '77], Hitchcock 375, Munz s.n. [June 11, 1917], W. Stone s.n. [Aug. 7, 1901], Tharp s.n. [6/28/42], Tracy 7587 & 8043, and Wright & al. 123, at least insofar as examined by me, are E. decangulare f. parviceps Mold.

Additional citations: NEW JERSEY: Atlantic Co.: Gershoy 203 (It). Ocean Co.: Egbert s.n. [Manchester, 1875] (E). County undetermined: Knieskern s.n. (It). NORTH CAROLINA: Carteret Co.: Helms & Helms 1188 (Ne--53073). Dare Co.: Schallert s.n. [July 12, '41] (It). Hyde Co.: Wiegand & Manning 673 (It). New Hanover Co.: Munter s.n. [July 18, '27] (It). Richmond Co.: Wiegand & Manning 674 (It). Scotland Co.: Wiegand & Manning 675 (It). SOUTH CAROLINA: Berkeley Co.: Rodgers & Mullen 75029 (Ne--96353). Georgetown Co.: Godfrey & Tryon 343 (It). Hampton Co.: Wiegand

& Manning 678 (It). Kershaw Co.: Radford 44243 (Mi). Williamsburg Co.: Wiegand & Manning 677 (It). GEORGIA: Calhoun Co.: Thorne 4697 (It). Charlton Co.: Jones, Bruce, Coile, Kirkman, Muir, Neufeld, & Legato 23030 (Au, Mi). Evans Co.: Boufford 5138 (Go). Meriwether Co.: Shurtleff s.n. (N). Chesser Island: Wright & Harper 124 (It). FLORIDA: Bay Co.: Perdue 1643 (Mi). Duval Co.: Curtiss 3016 (It, Mi), 5690 (It); Wiegand & Manning 679 (It). Lake Co.: Nash 847 (It), 1722 (It). Manatee Co.: Perdue 1757 (Mi); Perkins 473 (It), 474 (It). Martin Co.: Atwood s.n. (It, It). Okaloosa Co.: Hansen & Hansen 3725 (Ws). Palm Beach Co.: Abel s.n. [25 March 1972] (Ne--172738); Cassen 233 (Ne--55199); Muenschner & Muenschner 14031 (It); Randolph & Small 65 (It); Uttal 9560 (Ne--98479). Pinellas Co.: Genelle & Fleming 274 (Ne--53074); Thorne 1353 (It). ALABAMA: Mobile Co.: H. H. Bartlett 3232 (Mi, Ne--56238). Washington Co.: S. B. Jones s.n. [31 Aug. 1960] (Mi); Simmers 2136 (It). Dauphin Island: Taylor & Taylor 15264 (Ne--104937). MISSISSIPPI: Harrison Co.: Tracy 6417 (It). Jackson Co.: DePoe & DePoe 7200 (Ne--77662); Lelong 763 (Ne--100188); Seymour 9199 [Seymour & Earle 16] (It). Marion Co.: Thomas & al. 19633 (Ne--53075), 23716 (Ne--55954). Pearl River Co.: F. H. Sargent 9368 (Go). LOUISIANA: Beauregard Par.: Thomas & al. 14555 (Ne--53065), 41010 (Ne--90659). Jackson Par.: Thomas & Bot. 311 Class 14048 (Ne--53067); Thomas, Dorris, & Drane 14921 (Ne--53059), 13931 (Ne--53060). St. Tammany Par.: Demaree 50777 (Ne--56369); R. D. Thomas 64834 (Ne--160619); Thomas & al. 40563 (Ne--93031), 62195 (Ne--151058); Thomas & Allen 47277 (Ne--113572); Thomas & family 30252 (Ne--63387, Ne--84265); Thomas & Moreland 65856 (Ne--159006); Thomas, Moreland, Cormier, & Scurria 55352 (Ne--144713); Thomas & Thomas 49283 (Ne--124138). Tangipahoa Par.: Thomas & Pias 65209 (Ne--161620). Washington Par.: Thomas & al. 32355 (Ne--65466), 40406 (Ne--92901); Thomas & Bot. 403 Class 46151 (Ne--121419); Thomas & Rogers 29353 (Ne--66426); Thomas & Tyner 37587 (Ne--84471). TEXAS: Angelina Co.: R. S. Mitchell 4007 (N). MOUNTED ILLUSTRATIONS: Curtis, Bot. Mag. 59: pl. 3126. 1832 (It).

ERIOCAULON DECANGULARE f. LATIFOLIUM (Chapm.) Mold.

Additional bibliography: Kral in Godfrey & Wooten, Aquat. Wetl. Pl. SE. U. S. 510. 1979; Mold., Phytologia 41: 417 & 418 (1979) and 44: 134. 1979; Mold., Phytol. Mem. 2: 22, 25, 26, 401, & 598. 1980; Mold., Phytologia 50: 260 (1982) and 52: 112. 1982.

Additional citations: ALABAMA: Houston Co.: Wiegand & Manning 680 (It).

ERIOCAULON DECANGULARE var. MINOR Mold.

Additional bibliography: Mold., Phytologia 41: 417 & 418. 1979; J. T. & R. Kartesz, Syn. Checklist Vasc. Fl. 2: 197. 1980; Mold., Phytol. Mem. 2: 14, 16, 41, 48, & 598. 1980; Mold., Phytologia 50: 234, 236, & 239. 1982.

Recent collectors have encountered this plant in white gravel-

ly soil of bogs, in open grassy Sphagnum mats in bogs, and in clumps in savanna-evergreen bog areas, the soil with a pH 5.9 value, in flower in May and June and both in flower and fruit in July and September. They describe the flowers as white.

Material has been misidentified and distributed in herbaria as E. compressum Lam., E. decangulare L., and E. septangulare With.

Additional citations: MARYLAND: Prince Georges Co.: Muensch 3649 (It). DISTRICT OF COLUMBIA: Hotchkiss 1500 (It). NORTH CAROLINA: New Hanover Co.: Sieren 1403 (Ne--124964). LOUISIANA: Natchitoches Par.: Thomas & Carroll 73884 & 2378 (Ne--183781); Thomas & Pias 49236 (Ne--122342). Sabine Par.: Carroll 1442 (Ne--181009), 1706 (Ne--182772), 1707 (Ne--182771), 1734 (Ne--181488), 1754 (Ne--181469), 1925 (Ne--182993), 2020 (Ne--183145). Vernon Par.: Thomas & al. 19842 (Ne--53063); Thomas & family 24688 (Ne--69382. Ne--69383). TEXAS: Hardin Co.: Fryxell 3000 (Ne--161072). Leon Co.: Crutchfield 2640 (N). Robertson Co.: Rowell 8071 (Mi). Tyler Co.: D. S. Correll 35842 (N).

ERIOCAULON DECANGULARE f. PARVICEPS Mold.

Synonymy: Eriocaulon longifolium Raf., Autikon Bot., imp. 1, 188. 1840 [not E. longifolium Nees, 1841].

Additional bibliography: Raf., Autikon Bot., imp. 1, 188 (1840) and imp. 2, 188. 1943; Mold., Phytologia 41: 416--419 & 459. 1979; Mold., Phytol. Mem. 2: 12--14, 16, 17, 19, 22, 25, 41, 46, 48, 78, 402, & 598. 1980; F. C. Seymour, Phytol. Mem. 1: 85. 1980; Mold., Phytologia 50: 234 & 236 (1982) and 52: 111 & 112. 1982.

It appears to me now that Rafinesque's species, previously regarded as being the same as typical E. decangulare, actually represents the small-headed f. parviceps.

Recent collectors have found this plant growing in clumps on seasonally flooded ground in pine savannas burned annually in the dry season and in wet clearings in white cedar swamps, at 10 m. altitude, in both flower and fruit in June and August, the flower-heads described as white.

Thomas, in South Carolina, found it growing in soil comprising a 22 cm. layer of black humus over an 18 cm. layer of yellow sand, which, in turn, lay over a 30 cm. layer of impermeable clay on a level savanna dominated by Ctenium aromaticum, Ilex glabra, Myrica cerifera, Quercus pumila, Rhynchospora chapmani, Pinus palustris, and Panicum wrightianum. One scape on Thomas 174 is binary.

It may be worth noting here that the collections previously cited by me from "Cabo Gracias a Dios", Nicaragua, are actually from the province of Zelaya (which province includes the cape). Seymour (1980) cites from Zelaya the following collections: Nelson 4468, 4630, 4765, & 4971 and Seymour 5766.

Material of this form has been widely distributed in herbaria as typical E. decangulare L. and as E. compressum Lam.

Additional & amended citations: NEW JERSEY: Burlington Co.: J. A. Allen 73 (It), 178 (It); Blaser s.n. [August 16, 1932] (It); Gershoy 204 (It). Cape May Co.: B. Long 14076 (Go). Ocean Co.:

Benner 3612 (It); Chrysler s.n. [11 Aug. 1926] (It); Gershoy 205 (It); Herb. Cornell Univ. s.n. [July 25, '77] (It); W. Stone s.n. (It). County undetermined: Eaton s.n. (It). NORTH CAROLINA: Carteret Co.: Abbe & Spalteholz s.n. [July 31, 1927] (It). Columbus Co.: Wiegand & Manning 676 (It). Macon Co.: L. N. Johnson s.n. [Franklin, July 16, 1888] (N). Onslow Co.: Randolph & Randolph 969 (It). Rowan Co.: Heller 180 (It). SOUTH CAROLINA: Bamberg Co.: Ahles & Haesloop 30487 (Mi). Charleston Co.: Junt 34b (It). Horry Co.: W. W. Thomas 174 (Mi). GEORGIA: Ben Hill Co.: Rhoades s.n. [August 1925] (It). Charlton Co.: Wright, Wright, Harper, & Pirnie 123 (It). Coffee Co.: Volosen 38 (Ne--120842). Randolph Co.: Thorne & Muenscher 8173 (It). Tift Co.: Stuckey s.n. [August 18, 1933] (It). Worth Co.: Thorne 6349 (It). FLORIDA: Lee Co.: A. S. Hitchcock 375 (It). Manatee Co.: Tracy 7587 (It). ALABAMA: Baldwin Co.: Tracy 8043 (It). Mobile Co.: Bigelow 152 (N). Washington Co.: Munz s.n. [June 11, 1917] (It). LOUISIANA: Allen Par.: Thomas & family 30088 (Ne--63072). Beauregard Par.: Thomas & al. 14501 (Ne--53064), 24020 (Ne--53068). Grant Par.: Thomas & Barrett 16564 (Ne--53061); Thomas & Bot. 313 Class 19559 (Ne--53062). Natchitoches Par.: DePoe 5725-2 (Ne--74093); W. C. Holmes 3887 (Ne--182345); Price & Price s.n. [4 July 1973] (Ne--83732); R. D. Thomas 74113 (Ne--180701); Thomas, Allen, & al. 41418 (Ne--106684). Rapides Par.: Schutz & Cormier 1614 (Ne--156304); Schutz, Cormier, & White 1791 (Ne--154487); Thomas, Schutz, Pias, & Lurry 55121 (Ne--137726). St. Tammany Par.: R. D. Thomas 69018 (Ne--165881). Vernon Par.: Thomas & al. 14559 (Ne--53066); Thomas & Grelan 71864 (Ne--175806). Washington Par.: Thomas & al. 23738 (Ne--53069), 35383 (Ne--80324). Winn Par.: Thomas & Kessler 72979 & 615 (Ne--179023). OKLAHOMA: Pushmataha Co.: J. Taylor 22410 (Ne--136920); Taylor & Taylor 24563 (Ne--136919). TEXAS: Austin Co.: Tharp s.n. [6/28/42] (It). Hardin Co.: Crockett S.1140 (It); Fryxell 3000 (Mi). Jasper Co.: Raymond & Painter 24 (Ne--95273). Tyler Co.: Correll & Correll 36026 (N). NICARAGUA: Zelaya: Bunting & Licht 438 (N, W--2542882); Neill 4399 (Ld); E. B. Nelson 4630 (Ld), 4765 (Ld); F. C. Seymour 5766 (Ac, N); W. D. Stevens 10391 (Ld). LOCALITY OF COLLECTION UNDETERMINED: Barrett s.n. (N).

ERIOCAULON DECEMFLOSUM Maxim.

Additional bibliography: Worsdell, Ind. Lond. Suppl. 1: 375. 1941; Mold., Phytologia 36: 476--477. 1977; Mold., Phytol. Mem. 2: 278, 299, 300, 303, & 598. 1980.

ERIOCAULON DECEMFLOSUM f. ABERANS Satake

Additional bibliography: Mold., Phytologia 29: 113. 1974; Mold., Phytol. Mem. 2: 300 & 598. 1980.

ERIOCAULON DECEMFLOSUM f. COREANUM (H. Lecomte) Nakai

Emended synonymy: Eriocaulon coreanum H. Lecomte, Notul. Syst.

1: 191--192. 1909.

Additional bibliography: H. Lecomte, *Notul. Syst.* 1: 191--192. 1909; *Mold., Phytologia* 24: 254. 1972; *Mold., Phytol. Mem.* 2: 299 & 598. 1980.

ERIOCAULON DECIPIENS N. E. Br.

Additional bibliography: *Mold., Phytologia* 29: 113. 1974; *Mold., Phytol. Mem.* 2: 235, 237, 239, 403, & 598. 1980.

Recent collectors have found this plant growing in wet peat bogs with *Drosera*, sedges, and tussocky grasses, describing it as an herb with a short rhizome and rosettes of small leaves, the perianth and anthers black, and the feathery stigmas white, at 2200 m. altitude, in flower in October.

Additional citations: MALAWI: Robson & Angus 293 (E--1984096).

ERIOCAULON DEHNIAE H. Hess

Additional bibliography: *Mold., Phytologia* 24: 355. 1972; *Mold., Phytol. Mem.* 2: 237 & 598. 1980.

ERIOCAULON DEIGHTONII Meikle

Additional bibliography: *Mold., Phytologia* 41: 419--420. 1979; *Mold., Phytol. Mem.* 2: 207, 208, & 598. 1980.

ERIOCAULON DEMBIANENSE A. Chiov.

Additional bibliography: Fedde & Schust., *Justs Bot. Jahresber.* 39 (2): 10. 1913; *Mold., Phytologia* 24: 355. 1972; *Mold., Phytol. Mem.* 2: 203 & 598. 1980.

DeWilde describes this plant as a small herb with "silvery-pale brown" or "gray-blackish" inflorescences with a "whitish fringe at apex of bracts, the stigmas whitish" and found it growing in clayish soil "in wet places under grasses and sedges around small marshy lakes in valley bottoms surrounded by short-grass vegetation" and "in marshy land along creeks, moist grassy places, and reddish clay soil", at 1700--2000 m. altitude, in both flower and fruit in June. He comments "see also my 6148".

Additional citations: ETHIOPIA: DeWilde 6146 (E--2694284, Ld, Mu); DeWilde & al. 6886 (E--2254671).

ERIOCAULON DENSUM Mart.

Additional bibliography: *Mold., Phytologia* 29: 113. 1974; *Mold., Phytol. Mem.* 2: 141, 401, & 598. 1980.

ERIOCAULON DEPAUPERATUM Merr

Additional bibliography: *Mold., Phytologia* 36: 477. 1977; *Mold., Phytol. Mem.* 2: 307 & 598. 1980.

ERIOCAULON DEPRESSUM R. Br.

Additional bibliography: *Mold., Phytologia* 34: 268 & 399. 1976; *Mold., Phytol. Mem.* 2: 336 & 598. 1980.

ERIOCAULON DIANAE Fyson

Additional & emended bibliography: Fyson, *Journ. Indian Bot.* 1:

50--52, fig. 12 (1919) and 2: 139 & 259--260, fig. 12, pl. 11 & 12. 1921; Fyson, Indian Sp. Erioc. pl. 11--15. 1923; Worsdell, Ind. Lond. Suppl. 1: 375. 1941; Anon., Kew Bull. Gen. Ind. 111. 1959; Mold., Phytologia 41: 420. 1979; Mold., Phytol. Mem. 2: 261, 267, 285, & 598. 1980.

Additional & amended illustrations: Fyson, Journ. Indian Bot. 1: 51, fig. 12 (1919) and 2: 139, fig. 12, & pl. 11 & 12. 1921; Fyson, Indian Sp. Erioc. pl. 11--15. 1923.

Recent collectors refer to this plant as a "common" herb, with white flowering heads, growing in full sunlight on marshy ground and found it in both flower and fruit in November.

Nicolson regards the Hooper & Gandhi collection, cited below, as representing var. longibracteatum Fyson.

Additional citations: INDIA: Karnataka: Hooper & Gandhi HFP. 2432 (W--2797014). Maharashtra: Padhye 3 (Ld), 7 (Ld).

ERIOCAULON DIANAE var. LONGIBRACTEATUM Fyson

Additional bibliography: Mold., Phytologia 36: 477. 1977; Mold., Phytol. Mem. 2: 261, 267, 285, & 598. 1980.

Sinclair reports this plant as "common" in meadows in the Bombay region, flowering there in September.

The Hooper & Gandhi HFP. 2432, distributed as this variety, seems to me better regarded as representing typical E. dianae Fyson.

Additional citations: INDIA: Maharashtra: J. Sinclair 4485 (W--2918901).

ERIOCAULON DIANAE var. PARVIFLORUM Fyson

Additional bibliography: Mold., Phytologia 24: 356. 1972; Mold., Phytol. Mem. 2: 261 & 598. 1980.

ERIOCAULON DIANAE var. RICHARDIANUM Fyson

Additional bibliography: Mold., Phytologia 32: 489 & 490. 1976; Mold., Phytol. Mem. 2: 261 & 598. 1980.

ERIOCAULON DICLINE Maxim.

Additional bibliography: Mold., Phytologia 29: 194. 1974; Mold., Phytol. Mem. 2: 300 & 598. 1980.

ERIOCAULON DICTYOPHYLLUM Körn.

Additional bibliography: Mold., Phytologia 36: 477. 1977; Mold., Phytol. Mem. 2: 141, 401, 425, & 598. 1980.

ERIOCAULON DICTYOPHYLLUM f. VIVIPARUM Mold.

Additional bibliography: Mold., Phytologia 34: 399. 1976; Mold., Phytol. Mem. 2: 141 & 598. 1980.

ERIOCAULON DIMORPHOELYTRUM T. Koyama

Additional bibliography: Mold., Phytologia 24: 357. 1972; Mold., Phytol. Mem. 2: 300 & 598. 1980; Hara in Ozegahara, Scient. Res. Highmoor 132. 1982.

Hara (1982) reports this species from the moors of Akatashiro

on Honshu island, Japan.

ERIOCAULON DIMORPHOPETALUM Mold.

Additional bibliography: Mold., *Phytologia* 36: 477. 1977; Mold., *Phytol. Mem.* 2: 108, 115, & 599. 1980.

Additional citations: VENEZUELA: Bolívar: Davidse 4400 (N).

ERIOCAULON DIOECUM Ruhl.

Additional bibliography: Mold., *Phytologia* 36: 477. 1977; Mold., *Phytol. Mem.* 2: 89 & 599. 1980.

ERIOCAULON DISEPALUM Ridl.

Additional bibliography: Mold., *Phytologia* 29: 195. 1974; Mold., *Phytol. Mem.* 2: 296 & 599. 1980.

ERIOCAULON DREGEI Hochst.

Additional bibliography: Mold., *Phytologia* 34: 399. 1976; Mold., *Phytol. Mem.* 2: 243--245 & 599. 1980.

ERIOCAULON DUTHIEI Hook. f.

Additional bibliography: Fyson, *Indian Sp. Erioc. pl.* 7. 1923; Worsdell, *Ind. Lond. Suppl.* 1: 375. 1941; Mold., *Phytologia* 29: 195. 1974; Mold., *Phytol. Mem.* 2: 261, 292, & 599. 1980.

Additional illustrations: Fyson, *Indian Sp. Erioc. pl.* 7. 1923.

Lecomte (1912) cites only an unnumbered Bon collection from Tonkin, Vietnam.

ERIOCAULON EBERHARDTII H. Lecomte

Additional bibliography: Mold., *Phytologia* 32: 490. 1976; Mold., *Phytol. Mem.* 2: 292 & 599. 1980.

Lecomte (1912) cites only an unnumbered Lecomte & Finet collection from Annam, Vietnam.

ERIOCAULON ECHINACEUM Van Royen

Additional bibliography: Mold., *Phytologia* 24: 357--358. 1972; Mold., *Phytol. Mem.* 2: 314 & 599. 1980.

ERIOCAULON ECHINOSPERMOIDEUM Ruhl.

Additional bibliography: Mold., *Phytologia* 36: 477. 1977; Mold., *Phytol. Mem.* 2: 89 & 599. 1980.

ERIOCAULON ECHINOSPERMUM C. Wright

Additional bibliography: Mold., *Phytologia* 36: 477. 1977; Mold., *Phytol. Mem.* 2: 89, 401, & 599. 1980.

ERIOCAULON ECHINULATUM Mart.

Additional bibliography: Walp., *Ann. Not. Syst.* 5: 926 & 935. 1860; Fyson, *Indian Sp. Erioc. pl.* 34. 1923; Worsdell, *Ind. Lond. Suppl.* 1: 375. 1941; Holm, Pancho, Harberger, & Plucknett, *Geogr. Atlas World Weeds* 148. 1979; Mold., *Phytologia* 41: 420 & 457. 1979; Mold., *Phytol. Mem.* 2: 261, 272, 275, 278, 285, 288, 290, 292, 307, 326, & 599. 1980.

Additional illustrations: Fyson, Indian Sp. Erioc. pl. 34. 1923.

Lecomte (1912) cites for this species only unnumbered collections of Lecomte & Finet from Cambodia, of Pierre and of Thorel from Cochinchina, and of Balansa from Tonkin.

Recent collectors have encountered this plant in moist savanna regions on sandstone, at 1300 m. altitude, in fruit in December.

The Beusekom & al. collection, cited below, is a mixture with E. truncatum Hamilt. and a sedge.

Additional citations: THAILAND: Beusekom, Phengkhai, Geesink, & Wongwan 4590 in part (E--2359030).

ERIOCAULON EDWARDII Fyson

Additional bibliography: Fyson, Indian Sp. Erioc. pl. 34. 1923; Worsdell, Ind. Lond. Suppl. 1: 375. 1941; Babu, Herb. Fl. Dehra Dun 547. 1977; Mold., Phytologia 41: 420. 1979; Mold., Phytol. Mem. 2: 261 & 599. 1980.

Additional illustrations: Fyson, Indian Sp. Erioc. pl. 34. 1923.

Babu (1977) describes this species as "common" in moist grassy places in the sal forests of Dehra Dun, India, flowering there from September to December, citing Babu 34044b.

ERIOCAULON EDWARDII var. CLARKEI Haines

Additional bibliography: Mold., Phytologia 41: 420. 1979; Mold., Phytol. Mem. 2: 261 & 599. 1980.

ERIOCAULON EHRENBERGIANUM Klotzsch

Additional synonymy: Eriocaulon ehrenbergianum Klotz ex Koern., in herb.

Additional bibliography: Mold., Phytologia 41: 420. 1979; Mold., Phytol. Mem. 2: 62, 71, 75, 401, & 599. 1980; F. C. Seymour, Phytol. Mem. 1: 85. 1980.

Recent collectors refer to this species as an herbaceous perennial plant, with white flower-heads, and have encountered it "en lugares pantanosos" and in disturbed pastizal, at 2350 m. altitude, in both flower and fruit in July.

The Fay, Byrne, & Calzada 873, distributed as E. ehrenbergianum, actually is E. seemannii Mold., while Rzedowski 35035 probably is E. benthami Kunth.

Additional citations: MEXICO: Hidalgo: Pringle 8989 (It, Mi). GUATEMALA: Chimaltenango: McPherson 1103 (N).

ERIOCAULON EKMANNII Ruhl.

Additional bibliography: Hocking, Excerpt. Bot. A. 23: 389. 1974; Mold., Phytologia 36: 478. 1977; Mold., Phytol. Mem. 2: 89 & 599. 1980.

ERIOCAULON ELEGANTULUM Engl.

Additional bibliography: Mold., Phytologia 41: 420--421. 1979; Mold., Phytol. Mem. 2: 201, 211, 212, 216, 226, 229, 230, 237, 240, & 599. 1980.

ERIOCAULON ELENORAE Fyson

Additional & emended bibliography: Fyson, Journ. Indian Bot. 2: 139, fig. 5. 1921; Fyson, Indian Sp. Erioc. pl. 35. 1923; Worsdell, Ind. Lond. Suppl. 1: 375. 1941; Mold., Phytologia 32: 491. 1976; Mold., Phytol. Mem. 2: 261, 267, & 599. 1980.

Additional illustrations: Fyson, Journ. Indian Bot. 2: 139, fig. 5. 1921; Fyson, Indian Sp. Erioc. pl. 35. 1923.

Bennet (1976) cites his nos. 1012 & 1013 from Howrah, India, where, he says, the species is "less common" than other species of the genus, "mostly in paddy-fields or swampy areas with a thin layer of water", flowering there from September to November.

The Saldanha 15416, distributed as E. elenorae, seems, instead, to be E. hamiltonianum Mart.

Additional citations: INDIA: Maharashtra: Padhye 5 (Ld), 12 (Ld).

ERIOCAULON ELICHRYSOIDES Bong.

Additional bibliography: Mold., Phytologia 36: 478. 1977; Monteiro, Giuliatti, Mazzoni, & Castro, Bol. Bot. Univ. S. Paulo 7: [43], 45, 46, & 56, fig. 26--31. 1979; Mold., Phytol. Mem. 2: 141, 177, 353, & 599. 1980.

Additional illustrations: Monteiro, Giuliatti, Mazzoni, & Castro, Bol. Bot. Univ. S. Paulo 7: 56, fig. 26--31. 1979.

Additional citations: BRAZIL: Distrito Federal: Heringer, Paula, Mendonça, & Salles 68 (E--2770471).

ERIOCAULON ENSIFORME C. E. C. Fischer

Additional bibliography: Worsdell, Ind. Lond. Suppl. 1: 375. 1941; Anon., Kew Bull. Gen. Ind. 111. 1959; Mold., Phytologia 32: 491 (1976) and 34: 263. 1976; Mold., Phytol. Mem. 2: 261 & 599. 1980.

ERIOCAULON EPAPILLOSUM Ruhl.

Additional bibliography: Mold., Phytologia 32: 491. 1976; Mold., Phytol. Mem. 2: 141 & 599. 1980.

ERIOCAULON EQUISETOIDES Van Royen

Additional bibliography: Mold., Phytologia 24: 458 (1972), 29: 200 (1974), and 34: 490. 1976; Mold., Phytol. Mem. 2: 314, 320, & 599. 1980.

ERIOCAULON ESCAPE Hansen

Additional bibliography: Mold., Phytologia 32: 491. 1976; Mold., Phytol. Mem. 2: 285 & 599. 1980.

ERIOCAULON EURYPEPLON Körn.

Additional bibliography: Mold., Phytologia 32: 491--492. 1976; Mold., Phytol. Mem. 2: 261 & 599. 1980.

ERIOCAULON EXSERTUM Satake

Additional bibliography: Mold., Phytologia 24: 459. 1972; Mold., Phytol. Mem. 2: 257 & 599. 1980.

ERIOCAULON FABERI Ruhl.

Additional bibliography: Mold., *Phytologia* 32: 492. 1976;
Mold., *Phytol. Mem.* 2: 278 & 599. 1980.

ERIOCAULON FENESTRATUM Bojer

Additional bibliography: Mold., *Phytologia* 29: 196. 1974;
Mold., *Phytol. Mem.* 2: 250, 252, & 599. 1980.

ERIOCAULON FILIFOLIUM Hand.-Mazz.

Additional bibliography: Mold., *Phytologia* 24: 459. 1972;
Mold., *Phytol. Mem.* 2: 278 & 599. 1980.

ERIOCAULON FISTULOSUM R. Br.

Additional bibliography: Mold., *Phytologia* 34: 400. 1976;
Mold., *Phytol. Mem.* 2: 336 & 599. 1980.

ERIOCAULON FLUMINEUM Mold.

Additional bibliography: Mold., *Phytologia* 24: 459. 1972; Mold.,
Phytol. Mem. 2: 250 & 599. 1980.

ERIOCAULON FLUVIATILE Trimen

Additional bibliography: Fyson, *Indian Sp. Erioc. pl.* 49. 1923;
Worsdell, *Ind. Lond. Suppl.* 1: 375. 1941; Mold., *Phytologia*
41: 421. 1979; Mold., *Phytol. Mem.* 2: 261, 268, 283, 292, & 599.
1980.

Additional illustrations: Fyson, *Indian Sp. Erioc. pl.* 49. 1923.

Lecomte (1912) cites for this species only an unnumbered Lecomte
& Finet collection from Annam and a Balansa collection from Tonkin,
Vietnam. He lists the species also from Hong Kong.

ERIOCAULON FRIESIORUM Bullock

Additional bibliography: Anon., *Kew Bull. Gen. Ind.* 111. 1959;
Mold., *Phytologia* 32: 492. 1976; Mold., *Phytol. Mem.* 2: 224, 230,
& 599. 1980.

ERIOCAULON FULIGINOSUM C. Wright

Additional bibliography: Mold., *Phytologia* 41: 421. 1979; Mold.,
Phytol. Mem. 2: 74, 89, 91, 403, 404, & 599. 1980.

Recent collectors have encountered this plant in damp sand, in
bare soil and grassy areas around ponds, and in wet areas on savan-
nas near sealevel, often with the green leaves submerged in water
and only the gray flower-heads exposed, in both flower and fruit
in January and September.

Additional citations: BELIZE: Liesner & Dwyer 1407a (E--2906905),
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ERIOCAULON GIBBOSUM f. VIVIPARUM Mold.

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ERIOCAULON GILWENSE Van Royen, Alpine Fl. N. Guin. 2: 836--838,
fig. 284 A--C. 1979.

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Illustrations: Van Royen, Alpine Fl. N. Guin. 2: 837, fig. 284
A--G. 1979.

This species is based on Schodde 1918 from the western summit
of Mt. Giluwe, Papua, New Guinea, deposited in the herbarium of
the Bishop Museum in Honolulu. It is described as a very small
herb growing in dense tussocks up to 12 cm. in diameter. Van Roy-
en (1979) asserts that it occurs also on Mounts Capella, Sarawaket,
and Scorpion in the Territory of New Guinea, citing Barker LAE.
66938, Croft & Lelean LAE.65869, 65874, & 68442, inhabiting alpine
bogs on the banks of tarns, at 3000--3800 m. altitude, flowering
and fruiting in April, May, and August. Croft and his associates
have also found it in saturated swamp margins at 2100 m. altitude,
flowering in December, describing it as an erect herb, 10 cm. tall.

[to be continued]



Moldenke, Harold N. 1983. "Additional notes on the Eriocaulaceae. LXXXV." *Phytologia* 53, 262–296. <https://doi.org/10.5962/bhl.part.6895>.

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