

ADDITIONAL NOTES ON THE ERIOCAULACEAE. XL

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ERIOCAULACEAE Lindl.

Additional bibliography: Hare, Proc. Linn. Soc. Lond. 157: 134. 1946; Gledhill, Check List Flow. Pl. Sierra Leone 31. 1962; Billore & Hemadri, Bull. Bot. Surv. India 11: 345. 1969; Cherian & Pataskar, Bull. Bot. Surv. India 11: 395. 1969; Rao & Verma, Bull. Bot. Surv. India 11: 410. 1969; Shah & Despande, Bull. Bot. Surv. India 11: 283. 1969; Shah & Suryanarayana, Bull. Bot. Surv. India 11: 298. 1969; N. P. Singh, Bull. Bot. Surv. India 11: 357. 1969; Stieber, Castanea 36: 277. 1971; Lewalle, Bull. Jard. Nat. Belg. 42 [Trav. Univ. Off. Bujumb. Fac. Sci. C. 20]: 43, 46, & [237]. 1972; Lind & Tallantire, Some Com. Flow. Pl. Uganda 198 & 243. 1972; Moldenke, Phytologia 24: 455--497, 507, 508, & 511. 1972.

ERIOCAULON Gron.

Additional bibliography: Hare, Proc. Linn. Soc. Lond. 157: 134. 1946; Gledhill, Check List Flow. Pl. Sierra Leone 31. 1962; Billore & Hemadri, Bull. Bot. Surv. India 11: 345. 1969; Cherian & Pataskar, Bull. Bot. Surv. India 11: 395. 1969; Rao & Verma, Bull. Bot. Surv. India 11: 410. 1969; Shah & Despande, Bull. Bot. Surv. India 11: 283. 1969; Shah & Suryanarayana, Bull. Bot. Surv. India 11: 298. 1969; N. P. Singh, Bull. Bot. Surv. India 11: 357. 1969; Stieber, Castanea 36: 277. 1971; Lewalle, Bull. Jard. Nat. Belg. 42 [Trav. Univ. Off. Bujumb. Fac. Sci. C. 20]: 43, 46, & [237]. 1972; Moldenke, Phytologia 24: 456--497 & 508. 1972.

ERIOCAULON ROBUSTO-BROWNIANUM Ruhl.

Additional bibliography: Moldenke, Phytologia 24: 497. 1972. Das & Mukerjee (1969) cite Law s.n. [Canara, Dharwar, & Bellary districts] as cotype collections of this species, deposited in the Calcutta herbarium, Stocks, Law, &c. s.n. [Malabar, Concan], W. A. Talbot 3217, Gamble 15421, and S. Paul s.n. [Cherrapunji, Assam], all deposited in the Central National Herbarium at Calcutta. They describe the species as "a striking plant for its white acuminate floral bracts" and say that it "is well known from Peninsular India, Western Mysore, Coorg, Kanara, Malabar, and Wynaad". They also record it from Assam and comment that "its distributional area now extends to Eastern India."

Saldanha refers to the species as a "common herb in marshy soil" and "in open water-logged soil" and found it in flower and fruit in February and October.

Additional citations: INDIA: Mysore: S. N. Ramaswamy 24 (Z); Saldanha 11571 (W), CS.10232 (W).

ERIOCAULON ROBUSTUM Steud., Syn. Pl. Glum. 2: [Cyp.] 271. 1855.

Additional & emended bibliography: Fyson, Journ. Indian Bot. 1: 50 (1919) and 2: 310--312, pl. 29 & 30. 1921; Moldenke, Phytologia

20: 18. 1970; Blasco, Journ. Bombay Nat. Hist. Soc. 67: 525. 1970; Blasco, Inst. Franç. Pond. Trav. Sec. Scient. & Techn. 10: 94, 260, & 401. 1971; Moldenke, Fifth Summ. 1: 275 (1971) and 2: 495, 510, & 941. 1971; Moldenke, Phytologia 23: 422 & 424 (1972) and 24: 343 & 344. 1972.

Charoenphol and his associates encountered this species growing at 1100 meters altitude in Thailand, flowering and fruiting in November.

The Eriocaulon robustum var. caulescens of Fyson's pl. 30 (1921) is actually E. atratum var. major Thwaites.

Additional citations: THAILAND: Charoenphol, Larsen, & Warncke 4645 (Ac).

ERIOCAULON ROCKIANUM Hand.-Mazz., Symb. Sin. 7: 1246. 1936.

Additional & emended bibliography: Moldenke, Phytologia 2: 219--220, 376, & 379 (1947) and 19: 412. 1970; Moldenke, Fifth Summ. 1: 289 (1971) and 2: 510 & 941. 1971.

ERIOCAULON ROLLANDII Rousseau, Bull. Jard. Bot. Brux. 27: 372. 1957.

Additional bibliography: Moldenke, Phytologia 18: 447. 1969; Moldenke, Fifth Summ. 1: 14 (1971) and 2: 941. 1971.

ERIOCAULON ROSEUM Fyson, Journ. Indian Bot. 1: 50--53, fig. 13, hyponym (1919) and 2: 204. 1921.

Additional & emended bibliography: Fyson, Journ. Indian Bot. 1: 50--53, fig. 13. 1919; Moldenke, Phytologia 18: 447. 1969; Moldenke, Phytologia 18: 447. 1969; Moldenke, Fifth Summ. 1: 283 (1971) and 2: 941. 1971.

Additional illustrations: Fyson, Journ. Indian Bot. 1: 51, fig. 13. 1919.

ERIOCAULON ROSULATUM Körn., Linnaea 27: 600. 1856.

Additional & emended bibliography: Jacks. in Hook. f. & Jacks., Ind. Kew., pr. 1, 2: 402. 1894; Ruhl. in Engl., Pflanzenreich 13 (4-30): 42, 53, 287, & 291. 1903; Jacks. in Hook. f. & Jacks., Ind. Kew., pr. 2, 2: 402 (1946) and pr. 3, 2: 402. 1960; Moldenke, Phytologia 20: 19. 1970; Moldenke, Fifth Summ. 1: 150 (1971) and 2: 510, 590, & 941. 1971.

ERIOCAULON ROUXIANUM Steud., Syn. Pl. Glum. 2: [Cyp.] 270--271. 1855.

Additional bibliography: Moldenke, Phytologia 20: 19 (1970) and 21: 428. 1971; Moldenke, Fifth Summ. 1: 275 (1971) and 2: 511 & 941. 1971.

ERIOCAULON RUBESCENS Moldenke, Bol. Soc. Venez. Cienc. Nat. 23: 99--100. 1962.

Additional bibliography: Moldenke, Phytologia 18: 448. 1969; G. Taylor, Ind. Kew. Suppl. 14: 54. 1970; Moldenke, Fifth Summ. 1: 123 (1971) and 2: 941. 1971.

ERIOCAULON RUHLANDII Schinz, Bull. Herb. Boiss., sér. 2, 6: 710. 1906.

Additional bibliography: Moldenke, Phytologia 18: 448--449. 1969; Moldenke, Fifth Summ. 1: 254 & 256 (1971) and 2: 941. 1971.

ERIOCAULON SACCATUM Van Royen, Nov. Guin., new ser., 10: 42--43, fig. 4 Q. 1959.

Additional bibliography: K. U. Kramer, Excerpt. Bot. A.6: 33. 1963; Moldenke, Phytologia 19: 91. 1969; G. Taylor, Ind. Kew. Suppl. 14: 54. 1970; Moldenke, Fifth Summ. 1: 336 (1971) and 2: 941. 1971.

ERIOCAULON SACHALINENSE Miyabe & Nakai, Bot. Mag. Tokyo 42: 479. 1928.

Additional bibliography: Moldenke, Phytologia 18: 449 (1969) and 20: 413 & 414. 1970; Moldenke, Fifth Summ. 1: 308 (1971) and 2: 941. 1971.

ERIOCAULON SANTAPAU Moldenke, Phytologia 3: 166--167. 1949.

Additional bibliography: Moldenke, Phytologia 18: 450. 1969; Moldenke, Fifth Summ. 1: 275 (1971) and 2: 941. 1971.

ERIOCAULON SAKATEANUM Tatew. & Itô, Journ. Jap. Bot. 40: 156--157. 1965.

Additional bibliography: Moldenke, Phytologia 18: 450. 1969; G. Taylor, Ind. Kew. Suppl. 14: 54. 1970; Moldenke, Fifth Summ. 1: 310 (1971) and 2: 941. 1971.

ERIOCAULON SCARIOSUM J. E. Sm. in Rees, Cycl. 13: Eriocaulon. 1809.

Additional bibliography: Tomlinson in C. R. Metcalfe, Anat. Monocot. 3: 149, 154--157, 159, 161, 162, 168--170, 172, 176, 177, & 180, fig. 32 J, 33 L, 35 K, & 36 A & K. 1969; Bolkh., Grif, Matvej., & Zakhar., Chrom. Numb. Flow. Pl. 274. 1969; Burbidge & Gray, Fl. Austr. Cap. Terr. 92 & 431, fig. 92. 1970; Moldenke, Phytologia 20: 19. 1970; Hocking, Excerpt. Bot. A.19: 43. 1971; Moldenke, Fifth Summ. 1: 346, 349, & 403 (1971) and 2: 504, 513, & 941. 1971.

Additional illustrations: Tomlinson in C. R. Metcalfe, Anat. Monocot. 3: 154, 156, 168, & 176, fig. 32 J, 33 L, 35 K, & 36 A & K. 1969; Burbidge & Gray, Fl. Austr. Cap. Terr. 93, fig. 92. 1970.

Burbidge & Gray (1970) tell us that this species is "Widespread in eastern Australia though rarely common."

ERIOCAULON SCHIEDEANUM Körn. in Mart., Fl. Bras. 3 (1): 492. 1863.

Additional bibliography: Moldenke, Phytologia 20: 14 & 19. 1970; Moldenke, Fifth Summ. 1: 69 (1971) and 2: 503, 506, & 941. 1971.

ERIOCAULON SCHIMPERI Körn. ex Engl., Abh. Preuss. Akad. Wiss.

1891: 154, nom. nud. (1892); Ruhl. in Engl., Bot. Jahrb. 27:

80. 1899.

Additional bibliography: Moldenke, *Phytologia* 2: 364, 375, 378, & 379 (1947) and 19: 412, 413, & 487. 1970; Cuf., *Bull. Jard. Bot. Belg.* 41 (3): Suppl. 1507. 1971; Moldenke, *Fifth Summ.* 1: 212, 230, 233, 234, 237, 246, & 249 (1971) and 2: 497, 506, 511, 516, & 941. 1971; Lewalle, *Bull. Jard. Nat. Belg.* 42 [Trav. Univ. Off. Bujumb. Fac. Sci. C. 20]: 46 & [237]. 1972.

The original publication of this binomial is given by Ruhland (1903) as "Engl., Hochgebirgsfl. Trop. Afr. 154", while others cite it as "Abh. Akad. Wiss. Berlin 1891, 154". Lewalle (1972) cites his no. 1420 from Burundi.

ERIOCAULON SCHIMPERI var. **GIGAS** Moldenke, *Phytologia* 2: 364. 1947.

Additional & emended bibliography: Moldenke, *Phytologia* 2: 364, 375, & 379 (1947) and 19: 413. 1970; Moldenke, *Fifth Summ.* 1: 241 (1971) and 2: 941. 1971.

ERIOCAULON SCHIPPPII Standl. ex Standl. & Record, *Field Mus. Publ. Bot.* 12: 90, hyponym (1936); Moldenke, *N. Am. Fl.* 19: 34. 1937.

Additional bibliography: Schipp, 1933-34 Price-list 57. 1934; Moldenke, *Phytologia* 20: 19. 1970; Lowden, *Taxon* 19: 836. 1970; Moldenke, *Fifth Summ.* 1: 81 & 243 (1971) and 2: 511 & 941. 1971.

ERIOCAULON SCHLECHTERI Ruhl. in Engl., *Bot. Jahrb.* 27: 78-79. 1899.

Additional bibliography: Moldenke, *Phytologia* 19: 413. 1970; Moldenke, *Fifth Summ.* 1: 251 (1971) and 2: 941. 1971.

ERIOCAULON SCHOCHIANUM Hand.-Mazz., *Anz. Akad. Wiss. Wien* 57: 238. 1920.

Additional bibliography: Moldenke, *Phytologia* 19: 98-99. 1969; Moldenke, *Fifth Summ.* 1: 289 (1971) and 2: 941. 1971.

ERIOCAULON SCHOCHIANUM var. **PARVICEPS** Hand.-Mazz., *Symb. Sin.* 7: 1246. 1936.

Additional bibliography: Moldenke, *Phytologia* 19: 99. 1969; Moldenke, *Fifth Summ.* 1: 289 (1971) and 2: 941. 1971.

ERIOCAULON SCHULTZII Benth. in Benth. & F. Muell., *Fl. Austral.* 7: 195-196. 1878.

Additional bibliography: Moldenke, *Phytologia* 19: 99. 1969; Moldenke, *Fifth Summ.* 1: 346 (1971) and 2: 941. 1971.

ERIOCAULON SCHWEICKERDTI Moldenke, *Phytologia* 3: 416-417. 1951.

Additional bibliography: Moldenke, *Phytologia* 19: 99. 1969; Moldenke, *Fifth Summ.* 1: 248 (1971) and 2: 941. 1971.

ERIOCAULON SCLEROCEPHALUM Ruhl. in Fedde, *Repert. Sp. Nov.* 22: 31. 1925.

Additional & emended bibliography: Moldenke, *Phytologia* 1: 323, 351, 352, 354, & 355 (1939) and 19: 413. 1970; Moldenke, *Fifth*

Summ. 1: 96 & 99 (1971) and 2: 511 & 941. 1971.

Additional citations: CUBA: Pinar del Río: Sastre 438 (N, P).

ERIOCAULON SEDGWICKII Fyson, Journ. Indian Bot. 1: 50, hyponym (1919) and 2: 260--261, pl. 16. 1921.

Additional bibliography: Moldenke, Phytologia 19: 100. 1969; Moldenke, Fifth Summ. 1: 275 (1971) and 2: 941. 1971.

ERIOCAULON SEEMANNII Moldenke, N. Am. Fl. 19: 28--29. 1937.

Additional & emended bibliography: Moldenke, Phytologia 1: 323, 350, 361, & 363 (1939) and 3: 80. 1949; Tomlinson in C. R. Metcalfe, Anat. Monocot. 3: 184, 186, & 191. 1969; Moldenke, Phytologia 19: 413. 1970; Dwyer, Raymondiana 4: 27. 1971; Moldenke, Fifth Summ. 1: 90 (1971) and 2: 511 & 941. 1971.

Dwyer (1971) says "cfr. seemannii Moldenke" for Woytkowski 8133 from Amazonas, Peru, but such an identification seems hardly likely.

ERIOCAULON SEKIMOTOI Honda, Bot. Mag. Tokyo 45: 299. 1931.

Synonymy: Eriocaulon atrum Nakai x E. hondoense Satake ex Koyama in Ohwi, Fl. Jap., [Engl. ed.], 269. 1965.

Additional bibliography: Moldenke, Phytologia 3: 144. 1949; Ohwi, Fl. Jap., [Jap. ed.], 263, 267, & 1296. 1953; Koyama in Ohwi, Fl. Jap., [Engl. ed.], 266 & 269. 1965; Moldenke, Phytologia 19: 101. 1969; Moldenke, Fifth Summ. 1: 310 (1971) and 2: 494 & 941. 1971.

Koyama (1965) records the vernacular name "inu-no-hige-modoki" for this species and says of it "Possibly this is a natural hybrid between E. atrum Nakai x E. hondoense Satake", found only locally in Shimotsuke Province on Honshu island, Japan.

ERIOCAULON SEKIMOTOI f. GLABRUM Satake in Nakai & Honda, Nov. Fl. Jap. 6: 77. 1940.

Additional bibliography: Moldenke, Phytologia 3: 144. 1949; Koyama in Ohwi, Fl. Jap., [Engl. ed.], 269. 1965; Moldenke, Phytologia 19: 101. 1969; Moldenke, Fifth Summ. 1: 310 (1971) and 2: 941. 1971.

Koyama (1965) records the vernacular variant "yashū-inu-no-hige", says that the plant differs from the typical form only in having the "receptacles almost glabrous; involucre shorter, nearly as long as the disc flowers", and that it "Occurs with the typical phase".

ERIOCAULON SELLOWIANUM Kunth, Enum. Pl. 3: 545. 1841.

Additional bibliography: Moldenke, Phytologia 20: 19 & 107. 1970; Moldenke, Fifth Summ. 1: 150, 185, 195, & 362 (1971) and 2: 495, 511, & 941. 1971.

Philcox and his associates found this plant growing on wet campos and describes the inflorescence as white. Irwin & Soderstrom also describe the flower-heads as white and found the plant frequent among sedges and grasses in boggy depressions in campos. It has been collected at altitudes of 800 to 1200 meters, flowering in August and October. Material has been misidentified and dis-

tributed in some herbaria as Paepalanthus sp.

Additional citations: BRAZIL: Goiás: Irwin & Soderstrom 7643 (Ac, N). Mato Grosso: Hatschbach 24546 (Rf), 25254 (Ac); Philcox, Ferreira, & Bertoldo 3639 (N). Paraná: Hatschbach 25558 (Rf), 25898 (Ft), 26306 (Rf); Hatschbach, Smith, & Klein 28255 (Ac). ARGENTINA: Corrientes: Krapovickas, Cristóbal, Maruffak, Mroginski, Pire, & Puyo 21273 (Rf).

ERIOCAULON SELLOWIANUM var. LONGIFOLIUM Moldenke, Phytologia 3: 417. 1951.

Additional bibliography: Moldenke, Phytologia 19: 102--104. 1969; Moldenke, Fifth Summ. 1: 150 & 185 (1971) and 2: 511 & 941. 1971.

ERIOCAULON SENEGALENSE N. E. Br. in Thiselt.-Dyer, Fl. Trop. Afr. 8: 251. 1901.

Additional bibliography: Moldenke, Phytologia 19: 104. 1969; Moldenke, Fifth Summ. 1: 214 (1971) and 2: 941. 1971.

ERIOCAULON SENILE Honda, Bot. Mag. Tokyo 42: 507. 1928.

Additional bibliography: Moldenke, Phytologia 3: 144. 1949; Ohwi, Fl. Jap., [Jap. ed.], 262, 264, & 1296. 1953; Koyama in Ohwi, Fl. Jap., [Engl. ed.], 266 & 267. 1965; Moldenke, Phytologia 19: 104. 1969; Satake, Journ. Jap. Bot. 46: 372. 1971; Moldenke, Fifth Summ. 1: 310 & 312 (1971) and 2: 941. 1971.

Koyama (1965) records the vernacular variant "gomashio-hoshikusa" for this plant and avers that the species is "relatively rare" in wet lowlands on Honshu, Kyushu, and Shikoku islands, Japan.

ERIOCAULON SENILE f. PILOSUM Koyama ex Moldenke, Résumé Suppl. 12: 8 & 10, nom. nud. 1965.

Additional bibliography: Moldenke, Phytologia 19: 104. 1969; Moldenke, Fifth Summ. 1: 310 (1971) and 2: 511 & 941. 1971.

ERIOCAULON SEPTANGULARE With.

This species, as commonly interpreted, is now divided into two parts: the North American is now known as E. pellucidum Michx. and the European is now known as E. aquaticum (J. Hill) Druce.

ERIOCAULON SESSILE Meikle, Kew Bull. 1954: 275. 1954.

Additional bibliography: Moldenke, Phytologia 19: 233. 1970; Moldenke, Fifth Summ. 1: 216 (1971) and 2: 941. 1971.

ERIOCAULON SETACEUM L., Sp. Pl., ed. 1, pr. 1, 1: 87. 1753.

Additional synonymy: Eriocaulon setaceum Raeusch., Nom. Bot. 30. 1797.

Additional bibliography: J. F. Gmel. in L., Syst. Nat., ed. 13, 2: 206. 1791; Pers., Sp. Pl. 1: 284. 1817; Fyson, Journ. Indian Bot. 1: 50. 1919; Tomlinson in C. R. Metcalfe, Anat. Monocot. 3:

161, 166, 167, 186, 189, & 191. 1969; S. P. & R. N. Banerjee, Bull. Bot. Soc. Bengal 23: 170. 1969; Moldenke, Phytologia 20: 7 & 20 (1970) and 21: 276. 1971; Satake, Journ. Jap. Bot. 46: 372. 1971; Moldenke, Fifth Summ. 1: 268, 275, 281, 283, 285, 296, 301, & 346 (1971) and 2: 496, 497, 507, 512, 518, 525, 594, 616, 632, 645, & 942. 1971; Lewalle, Bull. Jard. Nat. Belg. 42 [Trav. Univ. Off. Bujumb. Fac. Sci. C. 20]: [237]. 1972; Moldenke, Phytologia 23: 422. 1972.

Meikle regards E. melanocephalum Kunth as conspecific with and therefore a synonym of E. setaceum. The Banerjees (1969) record E. setaceum from Bihar, India. Lewalle (1972) records it from Burundi and cites his no. 5407, but I assume that his plant is the African representative, E. bifistulosum Van Heurck & Muell.-Arg.

The Hunt & Ramos 5909 and Philcox & Freeman 4639, distributed as E. setaceum, are actually E. melanocephalum Kunth.

ERIOCAULON SETICUSPE Ohwi, Bull. Nat. Sci. Mus. Tokyo, new ser., 1 (1) [34]: 3. 1954.

Emended synonymy: Ericocaulon echinulatum var. seticuspe (Ohwi) Ohwi, Journ. Jap. Bot. 33: 211. 1958.

Additional bibliography: Ohwi, Journ. Jap. Bot. 33: 211. 1958; Hisauchi, Excerpt. Bot. A.2: 194. 1960; Koyama in Ohwi, Fl. Jap., [Engl. ed.], 265 & 266. 1965; Moldenke, Phytologia 19: 237. 1970; Moldenke, Fifth Summ. 1: 310 (1971) and 2: 942. 1971.

Koyama (1965) records the vernacular name "hyūga-hoshi-kusa" for this plant and asserts that the species is "rare" on Kyushu island, Japan.

The Nomura 13011, cited below, is a topotype, and the collector states that he found the plants scattered in very shallow water on the margin of a large pond, at 100 meters altitude, flowering and fruiting in October.

Additional citations: JAPAN: Kyushu: Nomura 13011 (N).

ERIOCAULON SEXANGULARE L., Sp. Pl., ed. 1, pr. 1, 1: 87. 1753.

Additional synonymy: Ericocavlon hexangulare Raeusch., Nom. Bot. 30. 1797. Ericocavlon quadrangulare Raeusch., Nom. Bot. 30. 1797. Ericocaulon wallichianum f. submersa Arber ex Tomlinson in C. R. Metcalfe, Anat. Monocot. 3: 189, hyponym. 1969.

Additional & emended bibliography: J. F. Gmel. in L., Syst. Nat., ed. 13, 2: 206. 1791; Billb. in Thunb., Pl. Bras. Dec. 1: 7. 1817; Pers., Sp. Pl. 1: 284. 1817; Mart., Nov. Act. Physico-med. Acad. Caes. Leopold.-Carol. Nat. Cur. 17 (1): 24, 29, 41, & 63. 1835; Thwaites & Hook. f., Enum. Pl. Zeyl., pr. 1, 341. 1864; Kuntze, Rev. Gen. Pl. 2: 746. 1891; Fyson, Journ. Indian Bot. 1: 50 & 53. 1919; Ridl., Fl. Mal. Penins. 5: 133. 1925; Hooper, Gard. Bull. Straits Settl. 6: 59. 1929; Burkill, Dict. Econ. Prod. Malay Penins. 1: 938. 1935; Hare, Journ. Linn. Soc. Lond. Bot. 53: 443. 1950; Sastri, Wealth India 3: 188. 1952; Darlington & Wylie, Chrom. Atl., pr. 1, 340 (1956) and pr. 2, 340. 1961;

Hocking, Excerpt. Bot. A.6: 455. 1963; Majumdar, Bull. Bot. Soc. Bengal 19: 15. 1965; Burkill, Dict. Econ. Prod. Malay Penins., ed. 2, 1: 953. 1966; Santapan, Excerpt. Bot. A.11: 176. 1967; Hansen, Excerpt. Bot. A.12: 520. 1967; Bolkh., Grif, Matvej., & Zakhar, Chrom. Numb. Flow. Pl. 274. 1969; Tomlinson in C. R. Metcalfe, Anat. Monocot. 3: 159, 161, 162, 170, 171, & 190. 1969; Jeanplong, Phytton 14: 94. 1970; Moldenke, Phytologia 20: 8, 14, 15, 20, 23, 30, & 346. 1970; Amaratunga, Phytologia 20: 463. 1970; Moldenke, Fifth Summ. 1: 261, 264, 268, 275, 281, 283, 285, 289, 292, 293, 296, 301, 305, 309, 312, 313, 316, 320, 324, & 362 (1971) and 2: 492, 496, 497, 502, 505, 507—509, 512, 513, 515—518, 525, 533, 792, & 942. 1971; Moldenke, Phytologia 23: 424 & 431 (1972) and 24: 339 & 350. 1972.

The Martius reference cited above (1835) is often cited as "1833", but apparently was not actually issued until 1835.

Recent collectors have found this plant growing in wet soil by small stream. Fyson (1919) implies that his fig. 7 represents E. sexangulare, but its legend plainly states that it is meant to illustrate E. thomasi Fyson (now known as E. vanheurckii Muell.-Arg.)

Burkill (1966) records the vernacular names "rumput butang" [button grass], "rumpet butang patak", "rumput kumpai bĕnang" [wick-thread grass], and "rumput suasa" [gold and copper alloy grass] in Malaya. He says that it is "A herb found widely in the warmer parts of Asia and in Malaysia. It occurs in the rice-fields and forms part of the weed-growth which is ploughed in as green manure. The Chinese use it as a drug...and it may be seen in a fresh state in Chinese herbalists' shops in Malaya." Jeanplong (1970) records it from North Vietnam. Sastri (1952) says that "E. sexangulare Linn. is a stout herb occurring in the western parts of Deccan Peninsula. It has a short stem, erect, caespitose, linear leaves and many scapes (up to 18 in. long) bearing globose or ovoid, hoary flower-heads. This species forms part of the weed growth in rice fields of Malaya and is ploughed in as green manure. It is used as a drug in China (Burkill, 1, 938)."

Majumdar (1965) reduces E. sieboldianum Sieb. & Zucc. to synonymy under E. sexangulare L., but this is manifestly erroneous. Siebold & Zuccarini's name belongs in the synonymy of E. cinereum R. Br., a species totally unlike E. sexangulare!

Additional citations: INDIA: Kerala: Manilal 11 (Ac). Mysore: Cook & Gut 204 (Rf), 208 (Ac). THAILAND: Charoenphol, Larsen, & Warncke 4446 (Ac).

ERIOCAULON SEXANGULARE f. VIVIPARUM Moldenke, Résumé Suppl. 5: 6, nom. nud. (September 8, 1962), Phytologia 8: 388. December 10, 1962.

Additional bibliography: Moldenke, Phytologia 19: 246 & 248. 1970; Moldenke, Fifth Summ. 1: 305 (1971) and 2: 942. 1971.

ERIOCAULON SIAMENSE Moldenke, Phytologia 5: 83—84. 1954.

Additional bibliography: Moldenke, Phytologia 19: 248. 1970;

Moldenke, Fifth Summ. 1: 296 (1971) and 2: 942. 1971.

Charoenphol and his associates found this species growing at 1100 meters altitude, flowering and fruiting in November.

Additional citations: THAILAND: Charoenphol, Larsen, & Warncke 4691 (Ac), 4800 (Ac).

ERIOCAULON SIGMOIDEUM C. Wright ex Sauv., Anal. Acad. Ci. Habana 8: 48. 1871.

Additional & emended bibliography: Moldenke, Phytologia 1: 327, 351, & 363 (1939) and 19: 415. 1970; Moldenke, Fifth Summ. 1: 96 & 99 (1971) and 2: 942. 1971.

ERIOCAULON SIKOKIANUM Maxim., Diagn. Pl. Nov. Asiat. 8: 16--17. 1893.

Additional synonymy: Eriocaulon sikokianum var. sikokianum Koyama in Ohwi, Fl. Jap., [Engl. ed.], 268. 1965.

Additional bibliography: Moldenke, Phytologia 2: 376 (1947), 2: 493 (1948), and 3: 143 & 144. 1949; Ohwi, Fl. Jap., [Jap. ed.], 262, 266, & 1296. 1953; Koyama in Ohwi, Fl. Jap., [Engl. ed.], 266 & 268--269. 1965; Moldenke, Phytologia 19: 415--416 & 477. 1970; Moldenke, Biol. Abstr. 51: 9023. 1970; Moldenke, Fifth Summ. 1: 308 & 310 (1971) and 2: 512, 513, & 942. 1971; Moldenke, Phytologia 21: 275 & 277 (1971) and 24: 491. 1972.

Koyama (1965) records the vernacular variant "shiro-inu-no-hige" for this plant and says that the typical form of the species can be distinguished from the following variety because of the "Receptacle pilose; floral bracts and calyces rather densely white-puberulent on the upper margin; ovary 3-locular; stigmas 3".

ERIOCAULON SIKOKIANUM var. MATSUMURAE (Nakai) Satake ex Koyama in Ohwi, Fl. Jap., [Engl. ed.], 269. 1965.

Additional bibliography: Moldenke, Phytologia 3: 144. 1949; Ohwi, Fl. Jap., [Jap. ed.], 262, 264--265, & 1296. 1953; Koyama in Ohwi, Fl. Jap., [Engl. ed.], 269. 1965; Moldenke, Phytologia 19: 416. 1970; Moldenke, Biol. Abstr. 51: 9023. 1970; Moldenke, Fifth Summ. 1: 310 (1971) and 2: 505 & 942. 1971.

Koyama (1965) records the vernacular names "matsumura-ino-no-hige" and "ō-inu-no-hige" for this plant, says that it is known only from Bitchu province on Honshu island, Japan, and that it differs from the typical form of the species in having the "Receptacle glabrous; some pistillate flowers with the ovary 2-locular and with 2 stigmas".

ERIOCAULON SILICICOLA Ridl., Journ. Fed. Malay States Mus. 6: 191--192 [as "silicicolum"]. 1915.

Additional bibliography: Moldenke, Phytologia 19: 416--417. 1970; Moldenke, Fifth Summ. 1: 305 (1971) and 2: 513 & 942. 1971.

ERIOCAULON SILVEIRAE Moldenke, Known Geogr. Distrib. Erioc. 62. 1946.

Additional bibliography: Moldenke, Phytologia 2: 374 (1947) and 19: 417. 1970; Moldenke, Fifth Summ. 1: 150 (1971) and 2: 504 &

942. 1971.

ERIOCAULON SINII Ruhl., Notizbl. Bot. Gart. Berlin 10: 1041—1042. 1930.

Additional bibliography: Moldenke, *Phytologia* 19: 417—418. 1970; Moldenke, *Fifth Summ.* 1: 289 & 292 (1971) and 2: 942. 1971.

ERIOCAULON SMITINANDI Moldenke, *Phytologia* 7: 87. 1959.

Additional bibliography: Moldenke, *Phytologia* 19: 418. 1970; Moldenke, *Fifth Summ.* 1: 296 (1971) and 2: 513 & 942. 1971.

ERIOCAULON SOLLYANUM Royle, *Illustr.* 409, pl. 97, fig. 1 a, b, d—f, & i. 1840.

Additional bibliography: Fyson, *Journ. Indian Bot.* 1: 50—53, fig. 3. 1919; Moldenke, *Phytologia* 20: 18, 21, & 29. 1970; Moldenke, *Biol. Abstr.* 51: 9629. 1970; Moldenke, *Excerpt. Bot. A.* 18: 445. 1971; Moldenke, *Fifth Summ.* 1: 239, 261, 268, 275, 281, 289, 296, 301, 310, & 324 (1971) and 2: 502, 509, 510, 513—515, 767, 792, & 942. 1971; Moldenke, *Phytologia* 24: 474. 1972.

Additional illustrations: Fyson, *Journ. Indian Bot.* 1: 51, fig. 3. 1919.

Datta & Majumdar (1966) describe this species as "Perennial herbs of wet places and rice-fields. Leaves grey-green, opaque. Head globose, dark grey. Female flowers sessile... Distributed in the tropics."

ERIOCAULON SONDERIANUM Körn., *Linnaea* 27: 669—671. 1856.

Additional bibliography: Van der Schijff, *Check List Vasc. Pl. Kruger Natl. Park* 36. 1969; Moldenke, *Phytologia* 20: 21. 1970; Venter, *Journ. S. Afr. Bot.* 37 (2): 105. 1971; Moldenke, *Fifth Summ.* 1: 249, 254, & 256 (1971) and 2: 513 & 942. 1971; Moldenke, *Phytologia* 23: 421. 1972.

Van der Schijff (1969) states that this species grows in moist places and in shallow water and cites Van der Schijff 2131. Venter (1971) records the species from Zululand.

ERIOCAULON SOUCHERETI Moldenke, *Phytologia* 4: 290—291. 1953.

Additional bibliography: Moldenke, *Phytologia* 19: 423—424 & 478. 1970; Moldenke, *Fifth Summ.* 1: 296 & 301 (1971) and 2: 942. 1971.

ERIOCAULON SPANGANIOIDES Bong., *Mém. Acad. Imp. Sci. St. Pétersb.*, sér. 6, 1: 637. 1831.

Additional bibliography: Moldenke, *Phytologia* 20: 21. 1970; Moldenke, *Fifth Summ.* 1: 150 (1971) and 2: 513 & 942. 1971.

ERIOCAULON SPECTABILE F. Muell., *Fragm.* 1: 95. 1859.

Additional bibliography: Moldenke, *Phytologia* 2: 376 (1947) and 19: 424. 1970; Moldenke, *Fifth Summ.* 1: 346 (1971) and 2: 942. 1971.

ERIOCAULON SPHAGNICOLA Ohwi, Bot. Mag. Tokyo 45: 196. 1931.

Additional bibliography: Moldenke, *Phytologia* 3: 143 (1949) and 19: 440. 1970; Moldenke, *Biol. Abstr.* 51: 9023. 1970; Moldenke, *Fifth Summ.* 1: 308 (1971) and 2: 774 & 942. 1971.

ERIOCAULON SPONGIOSIFOLIUM Alv. Silv., Arch. Mus. Nac. Rio Jan. 23: 161. 1921.

Additional bibliography: Moldenke, *Phytologia* 2: 494 (1948) and 19: 440. 1970; Moldenke, *Fifth Summ.* 1: 150 (1971) and 2: 514 & 942. 1971.

ERIOCAULON SPRUCEANUM Körn. in Mart., Fl. Bras. 3 (1): 488—489. 1863.

Additional bibliography: J. F. Macbr., *Field Mus. Publ. Bot.* 13 (363): 490. 1936; Moldenke, *Phytologia* 20: 21. 1970; Hocking, *Excerpt Bot. A.18:* 444. 1971; Moldenke, *Fifth Summ.* 1: 116 & 150 (1971) and 2: 942. 1971; Moldenke, *Phytologia* 23: 417 & 418. 1972.

Additional citations: COLOMBIA: Vaupés: García-Barriga & Jaramillo Mejía 17128, in part (W--2569433a).

ERIOCAULON SPRUCEANUM f. *AMPHIBIUM* Herzog in Fedde, *Repert. Spec. Nov.* 29: 203—204 [as "amphibia"]. 1931.

Additional bibliography: Moldenke, *Phytologia* 19: 441 & 442. 1970; Moldenke, *Fifth Summ.* 1: 150 (1971) and 2: 514 & 942. 1971.

ERIOCAULON SPRUCEANUM f. *FLUITANS* Herzog in Fedde, *Repert. Spec. Nov.* 29: 203—204. 1931.

Additional bibliography: Moldenke, *Phytologia* 19: 441—442. 1970; Moldenke, *Fifth Summ.* 1: 150 (1971) and 2: 942. 1971.

ERIOCAULON SPRUCEANUM f. *VIVIPARUM* Moldenke, *Phytologia* 18: 342. 1969.

Additional bibliography: Moldenke, *Phytologia* 20: 21. 1970; Hocking, *Excerpt. Bot. A.18:* 444. 1971; Moldenke, *Fifth Summ.* 1: 116 (1971) and 2: 942. 1971; Moldenke, *Phytologia* 23: 417 & 418. 1972.

Santos & Souza found this plant growing in water at the edge of a river and record for it the vernacular name "capim cebola".

Additional citations: COLOMBIA: Vaupés: García-Barriga & Jaramillo Mejía 17096 (W--2569599a--isotype). BRAZIL: Mato Grosso: Santos & Souza R. 1758 (N).

ERIOCAULON STEINBACHII (Moldenke) Moldenke, *Phytologia* 2: 364. 1947.

Additional & emended bibliography: Moldenke, *Phytologia* 2: 231—232, 364—365, 374, 379, & 380. 1947; E. J. Salisb., *Ind. Kew. Suppl.* 11: 88 & 176. 1953; Moldenke, *Phytologia* 19: 442. 1970; Moldenke, *Fifth Summ.* 1: 182 (1971) and 2: 591 & 942. 1971.

ERIOCAULON STELLULATUM Körn., *Linnaea* 27: 620—621. 1856.

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

50. 1919; Billore & Hemadri, Bull. Bot. Surv. India 11: 345. 1969; Moldenke, Phytologia 20: 21. 1970; Moldenke, Fifth Summ. 1: 268, 275, & 296 (1971) and 2: 514 & 942. 1971.

Billore & Hemadri (1969) found this plant growing on hillslopes and plateaus at Kedarnath, India, citing their nos. 115481 & 115532.

ERIOCAULON STELLULATUM var. LAOSENSE Moldenke, Phytologia 7: 119. 1960.

Additional bibliography: Moldenke, Phytologia 19: 443. 1970; Moldenke, Fifth Summ. 1: 301 (1971) and 2: 942. 1971.

ERIOCAULON STENOPHYLLUM R. E. Fr., Wiss. Ergebn. Schwed. Rhod.-Kong.-Exped. 1911-12 Bot. 1: 218, pl. 16. 1916.

Additional bibliography: Moldenke, Phytologia 19: 444. 1970; Moldenke, Fifth Summ. 1: 246 (1971) and 2: 942. 1971.

ERIOCAULON STEYERMARKII Moldenke, Fieldiana Bot. 28: 117--118. 1951.

Additional & emended bibliography: Moldenke, Phytologia 2: 379 (1947) and 2: 491 & 492. 1948; J. A. Steyerl., Act. Bot. Venez. 1: 195. 1966; Moldenke, Phytologia 19: 444. 1970; Oberwinkler, Pterid. & Sperm. Venez. 7 & 52. 1970; Moldenke, Fifth Summ. 1: 123, 129, & 132 (1971) and 2: 942. 1971.

This species has been found growing at 500--2600 meters altitude. Irwin and his associates describe it as "submerged in running water, only the inflorescences emergent, the heads light-gray" and found it growing on a campo in an area of cerrado on outcrops with adjacent wet campo (brejo), flowering in March.

Additional citations: VENEZUELA: Bolívar: Hertel & Oberwinkler 15199 (Mu). BRAZIL: Goiás: Irwin, Harley, & Smith 33115 (Ld, Z).

ERIOCAULON STILLULATUM Hook. ex R. Schomb., Fl. S. Austr. 62, nom. nud. 1875.

Bibliography: R. Schomb., Fl. S. Austr. 62. 1875; Moldenke, Phytologia 23: 425. 1972.

Nothing is known to me about this supposed species and I cannot find that it has ever been published validly or described. It is not listed in the Index Kewensis nor its supplements to date. It may represent merely a misapplication of the name, E. stellulatum Körn., but this does not seem very likely to have been a mistake likely to have been made by Hooker, since E. stellulatum is known only from Pakistan, India, and Thailand.

ERIOCAULON STOLONIFERUM Welw. ex Rendle, Cat. Afr. Pl. Welw. 2 (1): 101--102. 1899.

Additional bibliography: Moldenke, Phytologia 19: 444--446 (1970) and 20: 25 & 26. 1970; Moldenke, Fifth Summ. 1: 243 (1971) and 2: 942. 1971.

ERIOCAULON STRAMINEUM Körn. in Mart., Fl. Bras. 3 (1): 478. 1863.

Additional & emended bibliography: Körn. in Mart., Fl. Bras. 3 (1): 478 & 507. 1863; Moldenke, Phytologia 19: 446--447. 1970; Moldenke, Fifth Summ. 1: 150 & 180 (1971) and 2: 493 & 942. 1971.

Irwin and his associates describe the inflorescences of this species as attaining a height of 5 cm., with whitish heads, and found the plant growing in gallery forests and in wet places on wet campos, at 500--550 meters altitude, flowering and fruiting in May and June.

Additional citations: BRAZIL: Mato Grosso: Irwin, Grear, Souza, & Reis dos Santos 15956 (N, Rf); Irwin, Souza, Grear, & Reis dos Santos 17428 (N, Z).

ERIOCAULON STRIATUM Lam., Encycl. Méth. Bot. 3: 275, pl. 50, fig. 1. 1789.

Additional bibliography: Moldenke, Phytologia 20: 18, 20, & 21. 1970; Moldenke, Fifth Summ. 1: 261, 264, & 265 (1971) and 2: 494, 514, & 942. 1971.

The "Linnaea 27: 272. 1856" reference given previously in the bibliography of this species appears to be an error. I can find no mention of this plant on that page of the work in question, nor on the "p. 60" sometimes cited.

The species was collected at 1200 meters altitude by Bogner, flowering and fruiting in November.

Additional citations: MADAGASCAR: Bogner 350 (Mu).

ERIOCAULON STRICTUM Milne-Redhead in Hook., Icon. Fl. 34: pl. 3388. 1939.

Additional bibliography: Moldenke, Phytologia 19: 449--450. 1970; Moldenke, Fifth Summ. 1: 210, 237, 246, & 248 (1971) and 2: 942. 1971.

ERIOCAULON STUHLMANNI N. E. Br. in Thiselt.-Dyer, Fl. Trop. Afr. 8: 255. 1901.

Additional bibliography: Moldenke, Phytologia 19: 450--451. 1970; Moldenke, Fifth Summ. 1: 214, 216, & 237 (1971) and 2: 514 & 942. 1971.

ERIOCAULON SUBGLAUCUM Ruhl. in Engl., Pflanzenreich 13 (4-30): 68. 1903.

Additional bibliography: Moldenke, Phytologia 2: 377 & 379 (1947) and 19: 451. 1970; Moldenke, Fifth Summ. 1: 281 (1971) and 2: 494, 501, 517, & 942. 1971.

Fyson (1922) seems to regard E. subglaucum as synonymous with E. atratum var. major Thwaites.

ERIOCAULON SUBMERSUM Welw. ex Rendle, Cat. Afr. Fl. Welw. 2 (1): 100--101. 1899.

Additional bibliography: Moldenke, Phytologia 19: 451--452. 1970; Moldenke, Fifth Summ. 1: 243 (1971) and 2: 942. 1971.

ERIOCAULON SUBULATUM N. E. Br. in Thiselt.-Dyer, Fl. Trop. Afr. 8:

255. 1901.

Additional bibliography: Moldenke, *Phytologia* 19: 452--453. 1970; Moldenke, *Fifth Summ.* 1: 246, 248, 251, & 261 (1971) and 2: 942. 1971.

ERIOCAULON SUISHAENSE Hayata, *Icon. Pl. Formos.* 10: 55--56, fig. 31. 1921.

Additional synonymy: Eriocaulon nigrum var. suishaense Hals. & Koyuma ex Tomlinson in C. R. Metcalfe, *Anat. Monocot.* 3: 191. 1969.

Additional bibliography: Moldenke, *Phytologia* 3: 143. 1949; Tomlinson in C. R. Metcalfe, *Anat. Monocot.* 3: 191. 1969; Moldenke, *Phytologia* 19: 453. 1970; Moldenke, *Fifth Summ.* 1: 312 & 313 (1971) and 2: 507, 514, & 942. 1971.

ERIOCAULON SUMATRANUM Ruhl. in Engl., *Pflanzenreich* 13 (4-30): 88. 1903.

Additional bibliography: Moldenke, *Phytologia* 19: 453--454. 1970; Moldenke, *Fifth Summ.* 1: 324 (1971) and 2: 942. 1971.

ERIOCAULON TAKAE Koidz. in Matsumura, *Icon. Pl. Koisikav.* 1: 157, pl. 79. 1913.

Additional bibliography: Ohwi, *Fl. Jap.*, [Jap. ed.], 262, 265, & 1296. 1953; Koyama in Ohwi, *Fl. Jap.*, [Engl. ed.], 266 & 267. 1965; Moldenke, *Phytologia* 19: 454. 1970; Moldenke, *Fifth Summ.* 1: 310 (1971) and 2: 942. 1971.

Koyama (1965) records the vernacular variant "azuma-hoshi-kusa" for this plant and avers that the species occurs only in Iwashiro province on Honshu island, Japan.

ERIOCAULON TANAKAE Ruhl. in Engl., *Pflanzenreich* 13 (4-30): 84. 1903.

Additional bibliography: Moldenke, *Phytologia* 19: 454. 1970; Moldenke, *Fifth Summ.* 1: 310 (1971) and 2: 942. 1971.

ERIOCAULON TAQUETII H. Lecomte, *Not. Syst.* 1: 192. 1910.

Additional bibliography: Moldenke, *Phytologia* 19: 454. 1970; Moldenke, *Fifth Summ.* 1: 308 (1971) and 2: 942. 1971.

ERIOCAULON TENUIFOLIUM Klotzsch in M. R. Schomb., *Faun. & Fl. Brit. Guian.* 1116, hyponym (1848); Körn. in Mart., *Fl. Bras.* 3 (1): 496. 1863.

Additional synonymy: Eriocaulon tenuifolium Eden, McGill Univ. *Savan. Res. Ser.* 1: 144, sphalm. 1964.

Additional bibliography: N. E. Br., *Trans. Linn. Soc. Lond. Bot.*, ser. 2, 6: 69. 1901; Eden, McGill Univ. *Sava. Res. Ser.* 1: 144. 1964; Moldenke, *Phytologia* 20: 21. 1970; Oberwinkler, *Pterid. & Sperm. Venez.* 7 & 52. 1970; Moldenke, *Fifth Summ.* 1: 123, 129, & 150 (1971) and 2: 514 & 942. 1971.

This species has been found growing at 120--500 meters altitude, flowering and fruiting in January, March, and October.

Additional citations: VENEZUELA: Bolívar: Hertel & Oberwinkler 15214 (Mu).

ERIOCAULON TENUISSIMUM Nakai, Bot. Mag. Tokyo 31: 97. 1917.

Additional bibliography: Moldenke, Phytologia 3: 143 (1949) and 19: 456. 1970; Moldenke, Fifth Summ. 1: 308 (1971) and 2: 506 & 942. 1971; Moldenke, Phytologia 24: 464. 1972.

ERIOCAULON TEPICANUM Moldenke, N. Am. Fl. 19: 36. 1937.

Synonymy: Eriocaulon tropicanum Tomlinson in C. R. Metcalfe, Anat. Monocot. 3: 186, sphalm. 1969.

Additional & emended bibliography: Moldenke, Phytologia 1: 327, 350, & 360. 1939; Tomlinson in C. R. Metcalfe, Anat. Monocot. 3: 186 & 191. 1969; Moldenke, Phytologia 19: 456—457. 1970; Moldenke, Fifth Summ. 1: 69 (1971) and 2: 515 & 942. 1971.

ERIOCAULON TEUSCZII Engl. & Ruhl. ex Ruhl. in Engl., Bot. Jahrb. 27: 77—78. 1899.

Additional & emended bibliography: H. Hess, Bericht. Schweiz. Bot. Gesell. 65: 128, 129, 135, 141, 144, 145, 151—155, 157, 167, & 182, fig. 1—3, & pl. 7, fig. 10—12. 1955; Moldenke, Phytologia 3: 143. 1949; Moldenke, Phytologia 19: 457—459 & 470. 1970; C. C. Townsend, Excerpt. Bot. A. 15: 418. 1970; Moldenke, Fifth Summ. 1: 222, 237, 243, 246, 248, 251, & 253 (1971) and 2: 503, 504, 513, & 943. 1971.

ERIOCAULON TEXENSE Körn., Linnaea 27: 594. 1856.

Additional bibliography: Moldenke, Phytologia 20: 22, 41, & 42. 1970; Moldenke in Correll & Johnston, Man. Vasc. Pl. Tex. [Contrib. Tex. Res. Found. Bot. 6:] 353, 354, & 1824. 1970; Cusick, Castanea 35: 323. 1970; N. F. Good, Biol. Abstr. 52: 8223. 1971; Anon., Biol. Abstr. 52 (15): B.A.S.I.C. S.86. 1971; Moldenke, Fifth Summ. 1: 48 & 55 (1971) and 2: 943. 1971; Thieviet, La. Soc. Hort. Res. 13: 13. 1972; Moldenke, Phytologia 24: 473. 1972.

Cusick (1970) records this species "from two Louisiana Parishes, Washington County, Alabama, and George County, Mississippi (Kral, 1966). The author's collection in Jackson County [Mississippi] is a logical addition to this known range. It was collected on March 18, 1968, in a wet sphagnous area beside St. Rt. 63, 1 mile north-east of Orange Grove. Drosera capillaris Poir. and Sarracenia alata Wood occur at the same station. Perhaps the early blooming period accounts for the scarcity of records. Supposedly the plants have disappeared by summer. The soft heads and dark involucre bracts, together with the blooming date, readily distinguish this taxon from the commoner E. decangulare L." I suspect that the plant here referred to is E. lineare Small, as the other Mississippi (George Co.) record seems to be.

Thieret (1972) calls E. texense the "Texas pipewort". The Tharp 4434c, distributed as E. texense, is actually E. decangulare var. minor Moldenke

ERIOCAULON THAILANDICUM Moldenke, Phytologia 7: 88. 1959.

Additional bibliography: Moldenke, Phytologia 19: 461. 1970; Moldenke, Fifth Summ. 1: 296 (1971) and 2: 943. 1971.

ERIOCAULON THOUARSII H. Lecomte, Bull. Soc. Bot. France 55: 571--573. 1908.

Additional bibliography: Moldenke, Phytologia 19: 461--462. 1970; Moldenke, Fifth Summ. 1: 261 (1971) and 2: 943. 1971.

ERIOCAULON THUNBERGII Wikstr. ex Körn., Linnaea 27: 677--679. 1856.

Additional bibliography: Tomlinson in C. R. Metcalfe, Anat. Monocot. 3: [146]. 1969; Moldenke, Phytologia 20: 22. 1970; Moldenke, Fifth Summ. 1: 218 (1971) and 2: 507 & 943. 1971.

ERIOCAULON THWAITESII Körn., Linnaea 27: 627--628. 1856.

Additional bibliography: Fyson, Journ. Indian Bot. 1: 50 & 53. 1919; Rao & Kumari, Bull. Bot. Surv. India 9: 189. 1967; Moldenke, Phytologia 20: 22. 1970; Moldenke, Fifth Summ. 1: 275 & 281 (1971) and 2: 505, 514, 515, & 943. 1971; Moldenke, Phytologia 23: 422. 1972.

ERIOCAULON TOFIELDIFOLIUM Schinz, Bull. Herb. Boiss., sér. 2, 1: 779. 1901.

Additional bibliography: H. Hess, Bericht. Schweiz. Bot. Ges. 67: 87 & 89. 1957; Moldenke, Phytologia 19: 464--467, 469, & 470. 1970; Moldenke, Fifth Summ. 1: 254 & 256 (1971) and 2: 514 & 943. 1971.

Kers reports finding this species to be "very local among rich swamp vegetation at a spring, growing with Lobelia sp." in South-west Africa.

Additional citations: NAMIBIA: Kers 755 (S).

ERIOCAULON TOGOENSE Moldenke, Known Geogr. Distrib. Erioc. 20, 21, & 41, nom. nud. (February 9, 1946), Phytologia 2: 134. July 8, 1946.

Additional bibliography: Moldenke, Phytologia 19: 467--468 (1970) and 20: 28. 1970; Moldenke, Fifth Summ. 1: 209, 210, 216, 219, 221, & 222 (1971) and 2: 494, 516, & 943. 1971.

Salisbury (1953) erroneously cites the original publication of this binomial to page "42", where it does not occur.

ERIOCAULON TONKINENSE Ruhl. in Engl., Pflanzenreich 13 (4-30): 72. 1903.

Additional bibliography: Moldenke, Phytologia 19: 468. 1970; Moldenke, Fifth Summ. 1: 301 (1971) and 2: 943. 1971.

ERIOCAULON TORTUOSUM F. Muell., Fragm. 1: 91--92. 1859.

Additional bibliography: Moldenke, Phytologia 2: 376 (1947) and 19: 468. 1970; Moldenke, Fifth Summ. 1: 346 (1971) and 2: 943. 1971.

ERIOCAULON TOUMOUENSE Moldenke, Résumé Suppl. 17: 4 & 10, nom. nud. (1968), Phytologia 19: 468. 1970.

Additional bibliography: G. Taylor, Ind. Kew. Suppl. 14: 54. 1970; Moldenke, Biol. Abstr. 51: 9629. 1970; Moldenke, Phytologia 19: 468—469 (1970) and 20: 281. 1970; Anon., Biol. Abstr. 51 (17): B.A.S.I.C. S. 72. 1970; Anon., Assoc. Etud. Tax. Fl. Afr. Trop. Index 1970: 25. 1971; Moldenke, Excerpt. Bot. A.18: 445. 1971; Moldenke, Fifth Summ. 1: 217 (1971) and 2: 502 & 943. 1971.

ERIOCAULON TRANSVAALICUM N. E. Br. in Thiselt.-Dyer, Fl. Cap. 7: 54. 1897.

Additional bibliography: H. Hess, Bericht. Schweiz. Bot. Ges. 67: 87 & 89. 1957; Moldenke, Phytologia 20: 22. 1970; C. C. Townsend, Excerpt. Bot. A.15: 418. 1970; Moldenke, Fifth Summ. 1: 223, 237, 243, & 256 (1971) and 2: 943. 1971; Lewalle, Bull. Jard. Nat. Belg. 42 [Trav. Univ. Off. Bujumb. Fac. Sci. C.20]: 43, 46, & [237]. 1972.

Lewalle (1972) describes the leaves of this plant as producing rosettes, and the flowers as gray. He found it growing at 800 m. altitude, flowering in October. He cites his no. 1419.

Additional citations: BURUNDI: Lewalle 6176 (Z).

ERIOCAULON TRANSVAALICUM var. *HANNINGTONII* (N. E. Br.) Meikle, Kew Bull. 22: 142. 1968.

Additional bibliography: Moldenke, Phytologia 19: 462 & 471. 1970; C. C. Townsend, Excerpt. Bot. A.15: 418. 1970; Moldenke, Fifth Summ. 1: 237 & 251 (1971) and 2: 495, 502, & 943. 1971.

ERIOCAULON TRILOBATUM Ruhl. in Engl., Bot. Jahrb. 27: 811. 1899.

Additional bibliography: Moldenke, Phytologia 19: 471—472. 1970; Moldenke, Fifth Summ. 1: 261 (1971) and 2: 943. 1971.

Additional citations: MADAGASCAR: Bogner 336 (Mu).

ERIOCAULON TRILOBATUM var. *GLABRESCENS* Moldenke, Phytologia 3: 417. 1951.

Additional bibliography: Moldenke, Phytologia 19: 472. 1970; Moldenke, Fifth Summ. 1: 261 (1971) and 2: 943. 1971.

ERIOCAULON TRISECTOIDES Satake in Hara, Univ. Mus. Univ. Tokyo Bull. 2: 159—160, fig. 12. 1971.

Bibliography: Satake in Hara, Univ. Mus. Univ. Tokyo Bull. 2: 159—160, fig. 12. 1971; Moldenke, Phytologia 23: 422. 1972.

Illustrations: Satake in Hara, Univ. Mus. Univ. Tokyo Bull. 2: 160, fig. 12. 1971.

Satake (1971) describes the type locality and collection as "Nepal. Mul Pokhari-Dumhan, 2100—700 m (H. Hara, H. Kanai, S. Kurosawa, G. Murata, M. Togashi & T. Tuyama, Oct. 30, 1963 — holotype in TI)" and cites also "Dumhan-Taplejung, 700—2000 m (Nov. 1, 1963); Khebang-Bharomdin, 1700—1000 m (Nov. 24, 1963); Chyangthaphu-Birwa, 1200—2400 m (Nov. 27, 1963)." He comments that "The new species resembles Eriocaulon nepalense, but differs

from it in having male sepals deeply trisected and subglabrous. The plant is near, on the other hand, to E. trisectum described from Formosa in trisected male sepals, however, the latter has pilose male and female sepals and glandulose female petals."

ERIOCAULON TRISECTUM Satake, Journ. Jap. Bot. 15: 144, fig. 2. 1939.

Additional bibliography: Moldenke, Phytologia 3: 144 (1949) and 19: 473. 1970; Satake in Hara, Univ. Mus. Univ. Tokyo Bull. 2: 160. 1971; Moldenke, Fifth Summ. 1: 313 (1971) and 2: 943. 1971.

ERIOCAULON TRUNCATUM Hamilt. ex Mart. in Wall., Pl. Asiat. Rar. 3: 29. 1832.

Additional bibliography: Fyson, Journ. Indian Bot. 1: 50. 1919; Hare, Journ. Linn. Soc. Lond. Bot. 53: 443. 1950; Darlington & Wylie, Chrom. Atl., pr. 1, 340 (1956) and pr. 2, 340. 1961; Burkill, Dict. Econ. Prod. Malay Penins. 1: 590. 1966; Santapau, Excerpt. Bot. A.11: 176. 1967; Hansen, Excerpt. Bot. A.12: 520. 1967; Mitra, Elem. Syst. Bot. Angiosp., ed. 2 abrdg., 165. 1967; Rao & Verma, Bull. Bot. Surv. India 11: 412. 1969; Tomlinson in C. R. Metcalfe, Anat. Monocot. 3: 186 & 191. 1969; Bolkh., Grif, Matvej., & Zakhar., Chrom. Numb. Flow. Pl. 274. 1969; Moldenke, Phytologia 20: 22, 23, 28, & 31. 1970; Satake in Hara, Univ. Mus. Univ. Tokyo Bull. 2: 156. 1971; Moldenke, Fifth Summ. 1: 268, 275, 281, 283, 289, 292, 293, 296, 298, 301, 305, 307, 310, 316, 324, & 362 (1971) and 2: 496, 501, 505, 515, & 943. 1971; Moldenke, Phytologia 24: 459. 1972.

Brooke found this plant growing in poor wet soil on an airfield. Burkill (1966) records the vernacular names "rumput darya" (river-grass) and, erroneously, "rumput durian". Jarrett & Saldanha call it a "common herb in shallow pools", while Saldanha refers to it as "locally common herb with white heads in slightly marshy soil" in Mysore, India. It has been found growing at altitudes up to 1100 meters in open wet grasslands. Datta & Majumdar (1966) describe it as a "Submerged aquatic herb. Leaves subulate. Receptacle glabrous. Male and female flowers with 2 sepals. Flowering from September to November. Indigenous to India."

Material of this species has been misidentified and distributed in some herbaria under the name E. gracile Mart.

Additional citations: INDIA: Kerala: Manilal 4 (Ac). Mysore: Jarrett & Saldanha HFP.744 (W); Saldanha 15327 (W). THAILAND: Charoenphol, Larsen, & Warncke 4684 (Ac). GREATER SUNDA ISLANDS: Sarawak: W. M. A. Brooke 10796 (W-2332133). Sumatra: Boeea 6138 (N).

ERIOCAULON TRUNCATUM var. DISEPALUM Fyson, Journ. Indian Bot. 2: 199. 1921.

Additional bibliography: Moldenke, Phytologia 19: 476 & 479. 1970; Moldenke, Fifth Summ. 2: 943 & 969. 1971.

ERIOCAULON TRUNCATUM var. MALACCENSE Hook. f., Fl. Brit. India 6:

578. 1893.

Additional bibliography: Moldenke, *Phytologia* 19: 477 & 479—480. 1970; Moldenke, *Fifth Summ.* 1: 305 (1971) and 2: 943. 1971.

ERIOCAULON TRUNCATUM var. *QUADRICOSTATUM* H. Lecomte, *Not. Syst.* 2: 214—215 (as "quadricostata"). 1912.

Additional & emended bibliography: H. Lecomte, *Not. Syst.* 2: 214—215. 1912; Moldenke, *Phytologia* 19: 480. 1970; Moldenke, *Fifth Summ.* 1: 301 (1971) and 2: 515 & 943. 1971.

ERIOCAULON TUBIFLORUM Van Royen, *Nov. Guin., new ser.*, 10: 35. 1959.

Additional bibliography: K. U. Kramer, *Excerpt. Bot. A.6:* 33. 1963; Moldenke, *Phytologia* 19: 480—481. 1970; G. Taylor, *Ind. Kew. Suppl.* 14: 54. 1970; Moldenke, *Fifth Summ.* 1: 336 (1971) and 2: 495 & 943. 1971.

ERIOCAULON UBOENSE H. Lecomte, *Journ. de Bot.* 21 [sér. 2, 1]: 89 & 109, fig. 1. 1908.

Additional bibliography: Moldenke, *Phytologia* 2: 376. 1947; Tomlinson in C. R. Metcalfe, *Anat. Monocot.* 3: 171 & 189. 1969; Moldenke, *Phytologia* 19: 481—482 (1970) and 20: 26. 1970; Moldenke, *Fifth Summ.* 1: 296 & 301 (1971) and 2: 515 & 943. 1971.

ERIOCAULON ULAEI Ruhl. in Engl., *Pflanzenreich* 13 (4-30): 47—48. 1903.

Additional & emended bibliography: Ruhl. in Ebg., *Pflanzenreich* 13 (4-30): 4, 17, 18, 42, 47—48, & 287. 1903; Ruhl. in Urb., *Engl. Bot. Jahrb.* 37: 519. 1906; Moldenke, *Phytologia* 19: 482 (1970) and 21: 276. 1971; Moldenke, *Fifth Summ.* 1: 150 (1971) and 2: 515, 773, & 943. 1971.

The Ule 1689, identified by Ruhland as "Eriocaulon Ulei Ruhl.", is actually the type collection of E. magnificum Ruhl.

ERIOCAULON ULAEI var. *RADIOSUM* Ruhl. in Engl., *Pflanzenreich* 13 (4-30): 48. 1903.

Additional bibliography: Moldenke, *Phytologia* 19: 482. 1970; Moldenke, *Fifth Summ.* 1: 150 (1971) and 2: 515 & 943. 1971.

ERIOCAULON USSURIENSE Körn. in Regel, *Tent. Fl. Ussur.* 157. 1861.

Additional bibliography: Körn. in Mart., *Fl. Bras.* 3 (1): 503. 1863; Moldenke, *Phytologia* 19: 482—483. 1970; Moldenke, *Fifth Summ.* 1: 208 & 289 (1971) and 2: 943. 1971.

ERIOCAULON VANHEURCKII Muell.-Arg. ex Muell.-Arg. & Van Heurck in Van Heurck, *Obs. Bot.* 98. 1870.

Additional synonymy: Eriocaulon vanheurckii Muell.-Arg. apud Santapau & Shah, *Journ. Bombay Nat. Hist. Soc.* 66: 440, sphalm. 1969.

Additional & emended bibliography: Fyson, *Journ. Indian Bot.* 1: 50, 51, & 53, fig. 7. 1919; Moldenke, *Phytologia* 2: 376. 1947; San-

tapau & Shah, Journ. Bombay Nat. Hist. Soc. 66: 440. 1969; Moldenke, Phytologia 19: 483—484. 1970; Moldenke, Fifth Summ. 1: 276 & 280 (1971) and 2: 503, 514, 516, & 943. 1971.

Additional illustrations: Fyson, Journ. Indian Bot. 1: 51, fig. 7. 1919.

Fyson (1919) implies in his text that his fig. 7 represents E. sexangulare L., but its legend plainly states that it is meant to illustrate E. thomasi Fyson (now regarded as E. vanheurckii).

ERIOCAULON VANHEURCKII f. MINIMUM Moldenke, Phytologia 5: 84. 1954.

Additional bibliography: Moldenke, Phytologia 19: 484. 1970; Moldenke, Fifth Summ. 1: 276 (1971) and 2: 943. 1971.

ERIOCAULON VAUPESENSE Moldenke, Bot. Mus. Leaflet. Harvard Univ. 18: 124. 1958.

Additional bibliography: Hocking, Excerpt. Bot. A.5: 436. 1962; Anon., Excerpt. Bot. A.6: 458. 1963; Moldenke, Phytologia 19: 484—485. 1970; Moldenke, Fifth Summ. 1: 116 (1971) and 2: 943. 1971.

ERIOCAULON VITTIFOLIUM H. Lecomte, Bull. Soc. Bot. France 55: 645—646. 1909.

Additional & emended bibliography: H. Hess, Bericht. Schweiz. Bot. Ges. 67: 89 & 90. 1957; Moldenke, Phytologia 19: 485—487. 1970; Moldenke, Fifth Summ. 1: 217, 230, 243, & 246 (1971) and 2: 943. 1971.

ERIOCAULON VOLKENSII Engl., Pflanzenw. Ost-Afr. C: 133. 1895.

Additional bibliography: Moldenke, Phytologia 2: 375 & 379 (1947) and 19: 487—488. 1970; Moldenke, Fifth Summ. 1: 234, 237, & 241 (1971) and 2: 943. 1971.

ERIOCAULON WALKERI Hook. f., Fl. Brit. India 6: 583. 1893.

Additional bibliography: Moldenke, Phytologia 19: 488. 1970; Moldenke, Fifth Summ. 1: 281 (1971) and 2: 510 & 943. 1971.

Ruhland (1903), as usual, dates the original publication of this binomial as "1894", but pages 449—672 of Hooker's work were actually published and issued in 1893.

ERIOCAULON WELWITSCHII Rendle, Cat. Afr. Pl. Welw. 2 (1): 97—98. 1899.

Additional bibliography: Moldenke, Phytologia 19: 452 & 488—489. 1970; Moldenke, Fifth Summ. 1: 210, 237, 243, 248, 254, & 256 (1971) and 2: 509, 516, & 943. 1971.

ERIOCAULON WHANGII Ruhl., Notizbl. Bot. Gart. Berlin 10: [1040]—1041. 1930.

Additional bibliography: Moldenke, Phytologia 19: 490. 1970; Moldenke, Fifth Summ. 1: 289 (1971) and 2: 943. 1971.

ERIOCAULON WIGHTIANUM Mart. in Wall., Pl. Asiat. Rar. 3: 28. 1832.

Additional bibliography: Mart., Nov. Act. Physico-med. Acad. Caes. Leopold.-Carol. 17 (1): 29. 1835; Fyson, Journ. Indian Bot.

1: 50. 1919; Moldenke, *Phytologia* 20: 22. 1970; Hocking, *Excerpt. Bot. A.18*: 444. 1971; Moldenke, *Fifth Summ.* 1: 268, 276, 281, 283, & 285 (1971) and 2: 508, 511, 512, 516, & 943. 1971.

The 1835 Martius reference cited above is often cited by authors as "1833", the date of submission of the manuscript to the Academy. According to the late Dr. J. H. Barnhart, it was not actually published until 1835.

Recent collectors have encountered this species on wet flooded grasslands, flowering and fruiting in November.

The Nicolson, Saldanha, & Ramamoorthy HFP.39, distributed as E. wightianum, is actually E. polycephalum Hook. f.

Eriocaulon wightianum has been recorded from Ceylon on the basis of Thwaites C.P.3382 from the Ambagamowa District. However, Thwaites & Hooker (1864) actually were of the opinion that this collection represents a variety which they did not name but which they described as "var. capitulis nigro-cinereis parce pilosis".

Additional citations: INDIA: Kerala: Cook & Gut 235 (Rf).

ERIOCAULON WIGHTIANUM var. HELPERI Hook. f. ex Fyson, *Journ. Indian Bot.* 2: 266, pl. 22. 1921.

Additional bibliography: Fyson, *Journ. Indian Bot.* 1: 50. 1919; Moldenke, *Phytologia* 19: 492. 1970; Moldenke, *Fifth Summ.* 1: 285 (1971) and 2: 502 & 943. 1971.

ERIOCAULON WIGHTIANUM f. VIVIPARUM Moldenke, *Phytologia* 18: 342. 1969.

Additional bibliography: Moldenke, *Biol. Abstr.* 50: 12948. 1969; Moldenke, *Phytologia* 19: 492. 1970; Hocking, *Excerpt. Bot. A.18*: 444. 1971; Moldenke, *Fifth Summ.* 1: 276 (1971) and 2: 943. 1971.

ERIOCAULON WILLDENOVIANUM Moldenke, *Phytologia* 19: 492--496. 1970.

Additional synonymy: Eriocaulon willdenowianum Moldenke, *Excerpt. Bot. A.18*: 445, sphalm. 1971.

Additional bibliography: Fyson, *Journ. Indian Bot.* 1: 50. 1919; Tomlinson in C. R. Metcalfe, *Anat. Monocot.* 3: 172, 184--186, 189, & 191. 1969; Moldenke, *Biol. Abstr.* 51: 9629. 1970; Moldenke, *Phytologia* 20: 22--24. 1970; Moldenke, *Excerpt. Bot. A.18*: 445. 1971; Moldenke, *Fifth Summ.* 1: 261, 264, 281, 283, 285, 289, 294, 296, 301, 305, 316, 320, 324, 330, 336, & 338 (1971) and 2: 492, 500, 503, 505, 512, 792, 943, & 972. 1971; Moldenke, *Phytologia* 23: 431 (1972) and 24: 339, 345, & 350. 1972.

The record of this species from Sudest island, as noted by me in my 1970 and 1971 works, was based on Brass 28178, which, however, now has proved to be E. australe R. Br. instead.

ERIOCAULON WILLDENOVIANUM f. VIVIPARUM (Moldenke) Moldenke, *Phytologia* 20: 24. 1970.

Additional bibliography: Moldenke, *Phytologia* 20: 24. 1970; Moldenke, *Fifth Summ.* 1: 324 (1971) and 2: 505 & 943. 1971.

Brooke found this plant growing in pools in the sand at the

edge of an airfield, flowering and fruiting in April.

Additional citations: GREATER SUNDA ISLANDS: Sarawak: W. M. A. Brooke 8357 (W--2319632).

ERIOCAULON WILLIAMSII Moldenke, N. Am. Fl. 19: 36. 1937.

Additional bibliography: Moldenke, Phytologia 20: 24--25. 1970; Moldenke, Fifth Summ. 1: 81 & 90 (1971) and 2: 943. 1971.

ERIOCAULON WOODII N. E. Br. in Thiselton-Dyer, Fl. Cap. 7: 57. 1897.

Additional bibliography: Moldenke, Phytologia 20: 25--26. 1970; Moldenke, Fifth Summ. 1: 256 (1971) and 2: 501, 507, & 943. 1971.

ERIOCAULON WOODII var. MINOR Ruhl. in Engl., Pflanzenreich 13 (4-30): 70. 1903.

Additional bibliography: Moldenke, Phytologia 20: 25--26. 1970; Moldenke, Fifth Summ. 1: 248 & 256 (1971) and 2: 943. 1971.

ERIOCAULON WOODSONIANUM Moldenke in Woodson & Schery, Ann. Mo. Bot. Gard. 27: 268--269. 1940.

Additional bibliography: Moldenke, Phytologia 20: 26. 1970; Moldenke, Fifth Summ. 1: 90 (1971) and 2: 943. 1971.

ERIOCAULON XENOPODIUM Koyama, Philip. Journ. Sci. 84: 374--375, pl. 4. 1956.

Additional bibliography: Moldenke, Phytologia 20: 26. 1970; Moldenke, Fifth Summ. 1: 296 (1971) and 2: 516 & 944. 1971.

ERIOCAULON XERANTHEMUM Mart. in Wall., Pl. Asiat. Rar. 3: 29. 1832.

Additional synonymy: Eriocaulon xeranthemum Mart. ex Fyson, Journ. Indian Bot. 1: 50, sphalm. 1919.

Additional bibliography: Fyson, Journ. Indian Bot. 1: 50 & 52. 1919; Moldenke, Phytologia 20: 26--28, 413, 414, & 417 (1970) and 21: 428. 1971; Moldenke, Fifth Summ. 1: 268, 270, 276, 283, 305, & 324 (1971) and 2: 509, 516, & 944. 1971.

Additional citations: INDIA: Kerala: Manilal 2 (Ac).

ERIOCAULON YAOSHANENSE Ruhl., Notizbl. Bot. Gart. Berlin 10: 1043--1044. 1930.

Additional bibliography: Moldenke, Phytologia 20: 28. 1970; Moldenke, Fifth Summ. 1: 289 (1971) and 2: 944. 1971.

ERIOCAULON YOSHINOI Nakai, Bull. Géogr. Bot. 21: 139--140. 1911.

Additional & emended bibliography: Nakai, Bull. Géogr. Bot. 21: 139--140. 1911; Moldenke, Phytologia 20: 29. 1970; Moldenke, Fifth Summ. 1: 289 & 310 (1971) and 2: 944. 1971.

This species is based on Z. Yoshino s.n., collected at Hongomura, in the province of Bitchua, Honshu, Japan, in October, 1910.

ERIOCAULON YUNNANENSE Moldenke, Phytologia 2: 221. 1970.

Additional bibliography: Moldenke, Phytologia 20: 29. 1970; Moldenke, Fifth Summ. 1: 289 (1971) and 2: 944. 1971.

ERIOCAULON ZAMBESIENSE Ruhl. in Engl., Bot. Jahrb. 27: 75--76. 1899.

Additional bibliography: Moldenke, Phytologia 20: 29. 1970; Moldenke, Fifth Summ. 1: 222, 237, 246, & 249 (1971) and 2: 517 & 944. 1971.

Lewalle describes the leaves of this species as forming a rosette and the flowers as gray, and found the plant growing in marshes at 1800 meters altitude, flowering in June.

Additional citations: BURUNDI: Lewalle 5937 (Z).

ERIOCAULON ZOLLINGERIANUM Körn., Linnaea 27: 682--683. 1856.

Additional bibliography: Tomlinson in C. R. Metcalfe, Anat. Monocot. 3: 161, 162, 171, 173, & 189. 1969; Moldenke, Biol. Abstr. 51: 5887. 1970; Moldenke, Phytologia 20: 29--31. 1970; Hocking, Excerpt. Bot. A.19: 43. 1971; Moldenke, Fifth Summ. 1: 296, 301, 316, 324, & 336 (1971) and 2: 492 & 944. 1971.

Additional citations: THAILAND: K. Larsen 8070 (S).

ERIOCAULON ZYOTANII Satake, Bot. Mag. Tokyo 51: 287--288, fig. 2. 1937.

Additional bibliography: Ohwi, Fl. Jap., [Jap. ed.], 262--264 & 1296. 1953; Koyama in Ohwi, Fl. Jap., [Engl. ed.], 265 & 267. 1965; Moldenke, Phytologia 20: 31--32. 1970; Moldenke, Biol. Abstr. 51: 11903. 1970; Moldenke, Excerpt. Bot. A.18: 445. 1971; Moldenke, Fifth Summ. 1: 311 (1971) and 944. 1971.

Koyama (1965) records the vernacular variant "izu-no-shima-hoshi-kusa" for this species.

LACHNOCAULON Kunth, Enum. Pl. 3: 497. 1841.

Additional & emended bibliography: J. F. Gmel. in L., Syst. Nat., ed. 13, 2: 206. 1791; Arech., Anal. Mus. Montevid. 4 (1): 19. 1902; Saunders, Ann. Bot. 39: 157 & 158, fig. 68. 1925; Tharp, Veg. Tex. 47. 1939; A. C. Martin, Am. Midl. Nat. 36: 533 & 654, pl. 4. 1946; Hocking, Excerpt. Bot. A.11: 552. 1967; Tomlinson in C. R. Metcalfe, Anat. Monocot. 3: 147--149, 154--158, 162, 163, 168--170, 173, 175--177, 180, 181, 184, & 187--190, fig. 32 L, 33 M, 35 H, 36 E & F, & 38 E & F. 1969; Moldenke, Biol. Abstr. 51: 11903. 1970; Correll & Johnston, Man. Vasc. Pl. Tex. [Contrib. Tex. Res. Found. Bot. 6:] 1806, 1838, & 1856. 1970; Moldenke in Correll & Johnston, Man. Vasc. Pl. Tex. [Contrib. Tex. Res. Found. Bot. 6:] 353 & 354. 1970; Anon., Biol. Abstr. 51 (21): B.A.S.I.C. S.122. 1970; Britton & Br., Illustr. Fl., ed. 2, pr. 5, 1: 453, 455--456, & 679, fig. 1145 (1970) and ed. 2, pr. 5, 3: 575, 581, & 625. 1970; Moldenke, Phytologia 20: 8, 9, 32--52, 80--83, 252, 296, & 417 (1970) and 20: 508 & 511. 1971; Moldenke, Fifth Summ. 1: 21--24, 26, 28, 29, 31, 32, 48, 55, 96, 99, & 293 (1971) and 2: 499, 505, 509, 516, 517, 533, 534, 746, & 944. 1971; Moldenke, Biol. Abstr. 52: 1321. 1971; Anon., Biol. Abstr. 52 (3): B.A.S.I.C. S.78 & S.129. 1971; Long & Lakela, Fl. Trop. Fla. 259, 260, 262, 931, & 944. 1971; Moldenke, Excerpt. Bot. A.18: 445 (1971) and A.19: 43. 1971; Thieret, La. Soc. Hort. Res. 13: 18 & 41. 1972.

Martin (1946) confirms the fact that the seeds in this genus do

have endosperm. Tharp (1939) avers that in Texas it occurs only in the longleaf pine region. Long & Lakela (1971) give "bog buttons" as the common name for the genus as a whole.

LACHNOCAULON ANCEPS (Walt.) Morong, Bull. Torrey Bot. Club 18: 360. 1891.

Additional synonymy: Eriocavlon anceps Raeusch., Nom. Bot. 30. 1797.

Additional & emended bibliography: J. F. Gmel in L., Syst. Nat., ed. 13, 2: 206. 1791; Saunders, Ann. Bot. 39: 157 & 158, fig. 68. 1925; Hocking, Excerpt. Bot. A.6: 455. 1963; Tomlinson in C. R. Metcalfe, Anat. Monocot. 3: 162, 189, & 190. 1969; Moldenke, Biol. Abstr. 51: 11903. 1970; Moldenke, Phytologia 20: 8, 9, 35--48, 51, 52, 82, 83, & 417. 1970; Correll & Johnston, Man. Vasc. Pl. Tex. [Contrib. Tex. Res. Found. Bot. 6:] 1806, 1838, & 1856. 1970; Moldenke in Correll & Johnston, Man. Vasc. Pl. Tex. [Contrib. Tex. Res. Found. Bot. 6:] 353 & 354. 1970; Britton & Br., Illustr. Fl., ed. 2, pr. 5, 1: 455--456, fig. 1145. 1970; Long & Lakela, Fl. Trop. Fla. 260, 262, & 938. 1971; Moldenke, Excerpt. Bot. A.18: 445. 1971; Moldenke, Fifth Summ. 1: 21, 22, 24, 26, 28, 31, 32, 48, 55, 99, & 293 (1971) and 2: 516, 517, 533, 534, & 944. 1971; Thieret, La. Soc. Hort. Res. 13: 18. 1972.

Additional & emended illustrations: Saunders, Ann. Bot. 39: 158, fig. 68. 1925; Britton & Br., Illustr. Fl., ed. 2, pr. 5, 1: 456, fig. 1145. 1970.

The Lundells describe this plant as a "perennial". Cory describes it as having "scapes thrice as long as leaves, to 1.5 dm. tall, forming mats in wet sandy places in open woods".

Material of this species has been misidentified and distributed in herbaria as Eriocaulon kornickianum Van Heurck & Muell.-Arg.

Additional citations: TEXAS: Hardin Co.: Cory 52778 (M1); Lundell & Lundell 11152 (Au--288872).

LACHNOCAULON ANCEPS f. GLABRESCENS Moldenke, Phytologia 8: 160. 1962.

Additional bibliography: Moldenke, Phytologia 20: 41, 45, & 48. 1970; Moldenke, Fifth Summ. 1: 29 (1971) and 2: 944. 1971.

LACHNOCAULON BEYRICHLIANUM Sporleder ex Körn., Linnaea 27: 567--568. 1856.

Additional bibliography: Tomlinson in C. R. Metcalfe, Anat. Monocot. 3: 189. 1969; Moldenke, Phytologia 20: 35, 36, 41, 45--48, 52, 82, & 83. 1970; Moldenke, Fifth Summ. 1: 23, 24, 26, & 29 (1971) and 2: 944. 1971.

LACHNOCAULON CUBENSE Ruhl. in Fedde, Repert. Spec. Nov. 22: 34. 1925.

Additional bibliography: Moldenke, Phytologia 20: 47. 1970; Moldenke, Fifth Summ. 1: 96 (1971) and 2: 944. 1971.

LACHNOCAULON DIGYNUM Körn., Linnaea 27: 570--571. 1856.

Additional bibliography: Tomlinson in C. R. Metcalfe, *Anat. Monocot.* 3: 189. 1969; Moldenke, *Phytologia* 20: 36, 39, 41, 45, & 47-48. 1970; Moldenke, *Fifth Summ.* 1: 29, 31, & 32 (1971) and 2: 499, 533, & 944. 1971.

Additional citations: ALABAMA: Mobile Co.: F. W. Pennell 4474 (Mi).

LACHNOCAULON ECILIATUM Small, *Fl. SE. U. S.*, ed. 1, 235 & 1328. 1903.

Additional bibliography: Moldenke, *Phytologia* 20: 36, 48-50, 52, & 82. 1970; Long & Lakela, *Fl. Trop. Fla.* 262 & 938. 1971; Moldenke, *Fifth Summ.* 1: 29 (1971) and 2: 944. 1971.

LACHNOCAULON EKMANNII Ruhl. in Fedde, *Repert. Spec. Nov.* 22: 34. 1925.

Additional bibliography: Moldenke, *Phytologia* 20: 49. 1970; Moldenke, *Fifth Summ.* 1: 96 (1971) and 2: 533 & 944. 1971.

LACHNOCAULON ENGLERI Ruhl. in Engl., *Pflanzenreich* 13 (4-30): 241. 1903.

Additional bibliography: Tomlinson in C. R. Metcalfe, *Anat. Monocot.* 3: 148, 149, 162, 168, 169, 180, 181, 184, 187, & 190, fig. 35 H & 38 E & F. 1969; Moldenke, *Phytologia* 20: 36, 49-52, 82, & 252. 1970; Moldenke, *Fifth Summ.* 1: 29 (1971) and 2: 499, 505, 509, 533, & 944. 1971.

Additional illustrations: Tomlinson in C. R. Metcalfe, *Anat. Monocot.* 3: 168 & 180, fig. 35 H & 38 E & F. 1969.

LACHNOCAULON FLORIDANUM Small, *Fl. SE. U. S.*, ed. 1, 235 & 1328. 1903.

Additional bibliography: Moldenke, *Phytologia* 20: 36, 40, 41, 51, & 52. 1970; Long & Lakela, *Fl. Trop. Fla.* 262 & 938. 1971; Moldenke, *Fifth Summ.* 1: 29 (1971) and 2: 944. 1971.

LACHNOCAULON GLABRUM Körn., *Linnaea* 27: 568-569. 1856.

Additional bibliography: Tomlinson in C. R. Metcalfe, *Anat. Monocot.* 3: 173, 187, & 189. 1969; Moldenke, *Phytologia* 20: 81 & 82. 1970; Moldenke, *Biol. Abstr.* 51: 11903 (1970) and 52: 1321. 1971; Anon., *Biol. Abstr.* 52 (3): B.A.S.I.C. S.129. 1971; Long & Lakela, *Fl. Trop. Fla.* 262 & 938. 1971; Moldenke, *Excerpt. Bot.* A.18: 445 (.971) and A.19: 43. 1971; Moldenke, *Fifth Summ.* 1: 29 & 31 (1971) and 2: 944. 1971.

LACHNOCAULON MINUS (Chapm.) Small, *Fl. SE. U. S.*, ed. 1, 235 & 1328. 1903.

Additional bibliography: Tomlinson in C. R. Metcalfe, *Anat. Monocot.* 3: 149, 154-157, 162, 163, 176, 177, 184, 187, & 190, fig. 32 L, 33 M, & 36 E & F. 1969; Moldenke, *Phytologia* 20: 81-83 & 252. 1970; Moldenke, *Biol. Abstr.* 52: 1321. 1971; Anon., *Biol. Abstr.* 52 (3): B.A.S.I.C. S. 129 & S.131. 1971; Long & Lakela, *Fl. Trop. Fla.* 260, 262, & 938. 1971; Moldenke, *Excerpt. Bot.* A.19: 43. 1971; Moldenke, *Fifth Summ.* 1: 23, 24, 26, & 29

Figure 7. Distribution of Lachnocaulon minus in the United States
 [mapping by counties by Andrew R. Moldenke; curators of herbaria having material of this species from additional counties are asked to send it to the author]



(1971) and 2: 533 & 944. 1971.

Additional illustrations: Tomlinson in C. R. Metcalfe, *Anat. Monocot.* 3: 154, 156, & 176, fig. 32 L, ss M, & 36 E & F. 1969.

LEIOTHRIX Ruhl. in Engl., *Pflanzenreich* 13 (4-30): 225--239. 1903
[not *Leiothrix* Swainson, 1832 (*Aves*)].

Additional & emended bibliography: J. F. Macbr., *Field Mus. Publ. Bot.* 13 (363): 492. 1936; Kunth, *Enum. Pl.* 3: 522--524, 526, 530, 538, 539, 572, 574, 575, 577, 578, & 580. 1841; Burkill, *Trans. Linn. Soc. Lond. Bot.*, ser. 2, 6: 13. 1901; N. E. Br., *Trans. Linn. Soc. Lond. Bot.*, ser. 2, 6: 69 & 70. 1901; Arech., *Anal. Mus. Montevid.* 4 (1): 24. 1902; Ruhl. in Engl., *Pflanzenreich* 13 (4-30): 2, 3, 8, 14--16, 19--22, 25--30, 121, 165, 223, 225--239, & [283]--291, fig. 33 & 34. 1903; Beauverd, *Bull. Herb. Boiss.*, sér. 2, 8: 296--299, fig. 12 B 14--21 & C 22--29. 1908; J. A. Steyerl., *Act. Bot. Venez.* 1: 15, 22, 69, 98, & 208. 1966; Dau, *Excerpt. Bot. A.* 7: 520. 1964; Hocking, *Excerpt. Bot. A.* 11: 450. 1967; Tomlinson in C. R. Metcalfe, *Anat. Monocot.* 3: 147, 149, 158--162, 166--168, 170, 173--179, 182--188, 190, & 191, fig. 35 F, 36 G & H, 37 H & K--M, & 39 K. 1969; Angely, *Fl. Anal. Fitogeogr. Est. S. Paulo* 2: xxxiii. 1970; Reitz, *Sellowia* 22: 80. 1970; Moldenke, *Phytologia* 20: 82--120, 248--265, 294, 296, & 355 (1970), 20: 508 & 511 (1971), and 21: 352 & 508. 1971; Moldenke, *Biol. Abstr.* 52: 719, 1321, & 10547. 1971; Anon., *Biol. Abstr.* 52 (2): B.A.S.I.C. S.133 (1971), 52 (3): B.A.S.I.C. S.129 & S.131 (1971), and 52 (19): B.A.S.I.C. S.143 & S.196. 1971; Hocking, *Excerpt. Bot. A.* 19: 43. 1971; Moldenke, *Excerpt. Bot. A.* 19: 43. 1971; Moldenke, *Fifth Summ.* 1: 124, 129, 130, 142, 153--155, 183, 189, & 478--487 (1971) and 2: 492, 496, 497, 499--502, 504, 506, 508, 509, 511, 513, 515, 516, 546--548, 569, 577--592, 632, 633, 644, 739--743, 748, 789, 944--946, & 968. 1971; Moldenke, *Phytologia* 23: 418, 454, & 508 (1972) and 24: 498 & 510. 1972.

As indicated above, there is a genus of birds [in the family *Timaliidae*, the "babbling thrushes" or "babblers", of the *Passeriformes*], *Leiothrix* Swainson [W. Swainson in Swainson & Richardson, *Fauna Boreali Americana* 2: 490. 1832 ["1831"]], consisting of 7 species ranging from the Himalayan foothills west through southern China (not north to Peking), Burma, etc., including *L. lutea*, the Pekin Robin, from the Himalayas and southern China, and *L. argenteauris*, the Silver-eared Mesia, from the Himalayas to Indochina. The former is often called the "Pekin Nightingale", but is actually not a nightingale and does not sing like one. It is now established in Hawaii, where it swarms in the brush of the mountains but does not occur in the lowland backyards or towns.

The Vareschi & Foldats 4898, distributed as "*Leiothrix* sp.", is actually *Paepalanthus convexus* Gleason.

LEIOTHRIX AFFINIS Alv. *Silv., Fl. Mont.* 1: 286. 1928.

Additional bibliography: Moldenke, *Phytologia* 20: 86--87 & 260. 1970; Moldenke, *Biol. Abstr.* 52: 1321. 1971; Moldenke, *Excerpt. Bot. A.* 19: 43. 1971; Moldenke, *Fifth Summ.* 1: 153 (1971)

and 2: 546 & 944. 1971.

LEIOTHRIX AMAZONICA Moldenke, Résumé 91 & 484, nom. nud. (1959), Bol. Mus. Para. Goeldi, new ser., Bot. 3: 1. 1960.

Additional bibliography: Dau, Excerpt. Bot. A.7: 520. 1964; Moldenke, Phytologia 20: 87. 1970; Moldenke, Fifth Summ. 1: 153 (1971) and 2: 944. 1971.

LEIOTHRIX ANGUSTIFOLIA (Körn.) Ruhl. in Engl., Pflanzenreich 13 (4-30): 231. 1903.

Emended synonymy: Paepalanthus angustifolius Körn. in Mart., Fl. Bras. 3 (1): 424-425. 1863.

Additional & emended bibliography: Ruhl. in Engl., Pflanzenreich 13 (4-30): 228, 231, [283], 288, & 289. 1903; Moldenke, Phytologia 20: 87. 1970; Moldenke, Fifth Summ. 1: 153 (1971) and 2: 478, 546, 577, & 944. 1971.

LEIOTHRIX ARAXAËNSIS Alv. Silv., Fl. Mont. 1: 307-308, pl. 195. 1928.

Additional bibliography: Moldenke, Phytologia 20: 87-88. 1970; Moldenke, Fifth Summ. 1: 153 (1971) and 2: 546 & 944. 1971.

LEIOTHRIX ARECHAVALETAE (Körn.) Ruhl. in Engl., Pflanzenreich 13 (4-30): 238-239. 1903.

Emended synonymy: Paepalanthus arechavaletae Körn. ex Arech., Anal. Mus. Montevid. 4 (1): 24. 1902. Leiothrix arechavaletae Ruhl. in Engl., Pflanzenreich 13 (4-30): 238 1903. Paepalanthus arechavaletae Ruhl. in Engl., Pflanzenreich 13 (4-30): 8 & 289. 1903. Paepalanthus arechavataetae Körn. ex Moldenke, Résumé 323, in syn. 1959.

Additional & emended bibliography: Arech., Anal. Mus. Montevid. 4 (1): 24. 1902; Ruhl. in Engl., Pflanzenreich 13 (4-30): 8, 235, 238-239, 288, & 289. 1903; Prain, Ind. Kew. Suppl. 3: 101 & 126. 1908; Ruhl. in Engl. & Prantl, Nat. Pflanzenfam., ed. 2, 15a: 43 & 54. 1930; Tomlinson in C. R. Metcalfe, Anat. Monocot. 3: 178, 179, 185, 186, & 191, fig. 37 K & L. 1969; Moldenke, Phytologia 20: 88. 1970; Moldenke, Fifth Summ. 1: 189 (1971) and 2: 546, 577, & 944. 1971.

Illustrations: Tomlinson in C. R. Metcalfe, Anat. Monocot. 3: 178, fig. 37 K & L. 1969.

Unfortunately, in all my previous publications on this taxon I accredited it merely to Ruhland, but it now appears that Herter (1954) was correct in citing it as "(Körn.) Ruhl." Although Ruhland does not specifically say so, it would seem that his Leiothrix arechavaletae is based on a part of the same Arechavaleta collections on which Körnicke's Paepalanthus arechavaletae is based. Arechavaleta's original publication of Körnicke's binomial (1902) is prefaced by a description of the genus Paepalanthus as a whole and then the statement "Hasta el presente entre nosotros, solo se ha encontrado una especie de este género, determinada por el Sr. Koernicke con el nombre de:" Then follows a de-

tailed description of the species, terminated by "Vive en parages arenosos húmedos de la costa platense, orillas de bañados, sobre Sphagnum. Barra de Santa Lucía, Bañados de Carrasco, Pan de Azúcar. Florece en diciembre y fructifica en enero y febrero." An unnumbered specimen of Arechavaleta's collection, labeled merely "Carrasco", was photographed by Macbride in the Delessert Herbarium at Geneva as his type photograph number 25163, but probably is actually only a topotype.

LEIOTHRIX ARETIOIDES Ruhl. in Engl. & Prantl, Nat. Pflanzenfam., ed. 2, 15a: 41, nom. nud. 1930.

Additional bibliography: Moldenke, Phytologia 20: 88. 1970; Moldenke, Fifth Summ. 1: 153 (1971) and 2: 944. 1971.

LEIOTHRIX ARGENTEA Alv. Silv., Fl. Mont. 1: 296. 1928.

Additional bibliography: Moldenke, Phytologia 20: 88-89. 1970; Moldenke, Fifth Summ. 1: 153 (1971) and 2: 944. 1971.

LEIOTHRIX ARGYRODERMA Ruhl. in Engl., Pflanzenreich 13 (4-30): 227. 1903.

Additional bibliography: Hocking, Excerpt. Bot. A.6: 455. 1963; Moldenke, Phytologia 20: 89. 1970; Moldenke, Fifth Summ. 1: 153 (1971) and 2: 548 & 944. 1971.

The type collection of this species, Ule 3769, is from the Serra do Itatiaia, Minas Gerais, Brazil, collected on December 27, 1895 — not from Santa Catarina as was erroneously stated by me in Phytologia 20: 89 (1970). The introductory volume of the "Flora Brasiliensis" confirms that Ule was in the Serra do Itatiaia on the stated date. I am grateful to Dr. L. B. Smith for pointing out this fact to me.

The Eitens have found this plant growing at 2500 meters altitude in open marshy thin humus layer over a sloping rock face on a plateau of steep hilly terrain, many hills topped by mountainous quartz rocks and boulders, and a thin black almost pure humus soil supporting a periodically-burned natural tussock sedge-grassland with scattered low Chusquea bamboo and occasionally other shrubs; the lower valley sides often with dense Chusquea brakes, or brooks lined with a marsh of Cladium in tussocks or with "trunks" of massed rhizomes.

Emended citations: BRAZIL: Minas Gerais: Ule 3769 [Macbride photos 10666] (B—type, B—iso-type, N—photo of isotype, N—photo of isotype, W—photo of isotype, Z—iso-type). Rio de Janeiro: Eiten & Eiten 6606(We), 6608 (Rf); Strang 782 [A. Castellanos 25777; Herb. Brad. 49653] (Rf).

LEIOTHRIX ARGYRODERMA var. **BREVIPES** Moldenke, Phytologia 8: 162. 1962.

Additional bibliography: Moldenke, Phytologia 20: 89. 1970; Moldenke, Fifth Summ. 1: 153 (1971) and 2: 944. 1971.

LEIOTHRIX ARRECTA Ruhl. in Engl., Pflanzenreich 13 (4-30): 235—

236. 1903.

Additional bibliography: Moldenke, *Phytologia* 20: 89—90, 103, 110, & 261. 1970; Moldenke, *Fifth Summ.* 1: 153 (1971) and 2: 944. 1971.

LEIOTHRIX ARRECTA var. *SENAEANA* Ruhl. in Engl., *Pflanzenreich* 13 (4-30): 236. 1903.

Additional bibliography: Moldenke, *Phytologia* 20: 90. 1970; Moldenke, *Fifth Summ.* 1: 153 (1971) and 2: 944. 1971.

LEIOTHRIX BARREIRENSIS Alv. Silv., *Fl. Mont.* 1: 283—284. 1928.

Additional bibliography: Moldenke, *Phytologia* 20: 90, 94, & 113. 1970; Moldenke, *Fifth Summ.* 1: 153 (1971) and 2: 944. 1971.

LEIOTHRIX BECKII (Szyscz.) Ruhl. in Engl., *Pflanzenreich* 13 (4-30): 226. 1903.

Additional & emended bibliography: Beauverd, *Bull. Herb. Boiss.*, sér. 2, 8: 296—298, fig. 12 B 14—21. 1908; Tomlinson in C. R. Metcalfe, *Anat. Monocot.* 3: 162, 170, 173, & 189. 1969; Moldenke, *Phytologia* 20: 248 & 251. 1970; Moldenke, *Biol. Abstr.* 52: 719. 1971; Hocking, *Excerpt. Bot. A.19:* 43. 1971; Moldenke, *Fifth Summ.* 1: 153 (1971) and 2: 547, 569, 578, 584, & 944. 1971.

Recent collectors have found this plant in flower and fruit in July and December.

Additional citations: BRAZIL: Rio de Janeiro: Strang 813 [A. Castellanos 26103; Herb. Brad. 49651] (Ac), 836 [A. Castellanos 26126; Herb. Brad. 49650] (Rf).

LEIOTHRIX BECKII var. *FALCIFOLIA* Beauverd, *Bull. Herb. Boiss.*, sér. 2, 8: 296—298, fig. 12 B 14—21. 1908.

Additional & emended bibliography: Beauverd, *Bull. Herb. Boiss.*, sér. 2, 8: 296—298, fig. 12 B 14—21. 1908; Moldenke, *Phytologia* 20: 91. 1970; Moldenke, *Fifth Summ.* 1: 153 (1971) and 2: 547 & 944. 1971.

Emended illustrations: Beauverd, *Bull. Herb. Boiss.*, sér. 2, 8: 296, fig. 12 B 14—21. 1908.

LEIOTHRIX CELIAE Moldenke, *Mem. N. Y. Bot. Gard.* 9: 278—279. 1957.

Additional bibliography: Moldenke, *Phytologia* 20: 91—92. 1970; Moldenke, *Fifth Summ.* 1: 124 (1971) and 2: 944. 1971.

LEIOTHRIX CRASSIFOLIA (Bong.) Ruhl. in Engl., *Pflanzenreich* 13 (4-30): 228. 1903.

Additional bibliography: Tomlinson in C. R. Metcalfe, *Anat. Monocot.* 3: 190. 1969; Moldenke, *Phytologia* 20: 248. 1970; Moldenke, *Fifth Summ.* 1: 153 & 479 (1971) and 2: 497, 580, & 944. 1971.

Additional citations: BRAZIL: Minas Gerais: Hatschbach, Smith, & Ayensu 28777 (Rf).

LEIOTHRIX CURVIFOLIA (Bong.) Ruhl. in Engl., *Pflanzenreich* 13 (4-

30): 233. 1903.

Additional bibliography: Beauverd, Bull. Herb. Boiss., sér. 2, 8: 298--299. 1908; Tomlinson in C. R. Metcalfe, Anat. Monocot. 3: 149, 161--163, 174, 184--189, & 191. 1969; Moldenke, Phytologia 20: 248. 1970; Moldenke, Fifth Summ. 1: 153 (1971) and 2: 497, 508, 547, 579, 580, & 944. 1971.

Irwin and his associates describe this species as a tufted herb, the flower-heads light-gray, the plant growing on campos in areas of campo, cerrado on outcrops, and wooded valleys, flowering and fruiting in March.

Additional citations: BRAZIL: Minas Gerais: Irwin, Fonsêca, Souza, Reis dos Santos, & Ramos 28221 (N, Z); Irwin, Reis dos Santos, Souza, & Fonsêca 22230 (N).

LEIOTHRIX CURVIFOLIA var. GLABRESCENS Ruhl. in Engl., Pflanzenreich 13 (4-30): 233. 1903.

Additional bibliography: Moldenke, Phytologia 20: 94 & 95. 1970; Moldenke, Fifth Summ. 1: 153 (1971) and 2: 496, 580, & 944. 1971.

Additional citations: BRAZIL: Minas Gerais: Hatschbach, Smith, & Ayensu 28792 (Rf).

LEIOTHRIX CURVIFOLIA var. LANUGINOSA (Bong.) Ruhl. in Engl., Pflanzenreich 13 (4-30): 234. 1903.

Additional bibliography: Moldenke, Phytologia 20: 248 & 355. 1970; Moldenke, Fifth Summ. 1: 153 (1971) and 2: 504, 547, 585, & 944. 1971.

LEIOTHRIX CURVIFOLIA var. MICROPHYLLA Alv. Silv., Fl. Mont. 1: 296. 1928.

Additional bibliography: Moldenke, Phytologia 20: 95 & 97. 1970; Moldenke, Fifth Summ. 1: 153 (1971) and 2: 944. 1971.

The Eitens found this plant growing in fine sandy soil, at 1150 meters altitude, in fields with outcroppings of itacolomite quartzite slabs, flowering in November.

Additional citations: BRAZIL: Minas Gerais: Eiten & Eiten 6851 (Rf).

LEIOTHRIX CURVIFOLIA var. PLANTAGO (Mart.) Ruhl. in Engl., Pflanzenreich 13 (4-30): 234. 1903.

Additional & emended bibliography: Körn. in Mart., Fl. Bras. 3 (1): 426--427 & 507. 1863; Ruhl. in Engl., Pflanzenreich 13 (4-30): 234, 288, & 291. 1903; Moldenke, Phytologia 20: 94, 95, & 97--99. 1970; Moldenke, Fifth Summ. 1: 153 (1971) and 2: 588 & 944. 1971.

Hatschbach found this plant growing in rocky and wet sandy campos, at 1200 meters altitude, flowering and fruiting in September.

Additional citations: BRAZIL: Minas Gerais: Hatschbach 27354 (N, Rf); Hatschbach, Smith, & Ayensu 28797 (Rf).

LEIOTHRIX CURVIFOLIA var. *PROLIFICA* Ruhl. in Engl., Pflanzenreich 13 (4-30): 234. 1903.

Additional bibliography: Moldenke, *Phytologia* 20: 98. 1970; Moldenke, *Fifth Summ.* 1: 153 (1971) and 2: 945. 1971.

LEIOTHRIX CURVIFOLIA var. *SETACEA* Ruhl. in Engl., Pflanzenreich 13 (4-30): 234. 1903.

Additional bibliography: Tomlinson in C. R. Metcalfe, *Anat. Monocot.* 3: 191. 1969; Moldenke, *Phytologia* 20: 94 & 98--99. 1970; Moldenke, *Fifth Summ.* 1: 153 (1971) and 2: 547 & 945. 1971.

Recent collectors have found this plant growing on rocky or sandy campos, at 1100 meters altitude, flowering and fruiting in January.

Additional citations: BRAZIL: Minas Gerais: Hatschbach 27430 (Rf); Hatschbach, Smith, & Ayensu 28962 (Rf).

LEIOTHRIX CURVIFOLIA var. *SUBGLAUDESCENS* Ruhl. in Engl., Pflanzenreich 13 (4-30): 233--234. 1903.

Additional bibliography: Moldenke, *Phytologia* 20: 99--100. 1970; Moldenke, *Fifth Summ.* 1: 153 (1971) and 2: 945. 1971.

LEIOTHRIX CUSCUTOIDES Alv. Silv., Fl. Serr. Min. 71, pl. 27. 1908.

Additional bibliography: Moldenke, *Phytologia* 20: 100. 1970; Moldenke, *Fifth Summ.* 1: 153 (1971) and 2: 945. 1971.

Additional citations: BRAZIL: Minas Gerais: Hatschbach, Smith, & Ayensu 28822 (Rf).

LEIOTHRIX DIELSII Ruhl. in Engl., Pflanzenreich 13 (4-30): 231--232. 1903.

Additional bibliography: Tomlinson in C. R. Metcalfe, *Anat. Monocot.* 3: 184, 186, & 191. 1969; Moldenke, *Phytologia* 20: 248. 1970; Moldenke, *Fifth Summ.* 1: 153 (1971) and 2: 580 & 945. 1971.

LEIOTHRIX DISTICHOCLADA Herzog ex Luetzelburg, *Estid. Bot. Nord-ést.* 3: 147 & 150, hyponym (1923), and in Fedde, *Repert. Spec. Nov.* 20: 88. 1924.

Additional bibliography: Moldenke, *Phytologia* 20: 101--102. 1970; Moldenke, *Fifth Summ.* 1: 153 (1971) and 2: 945. 1971.

LEIOTHRIX DISTICHOCLADA f. *BRACTEOSA* Herzog ex Luetzelburg, *Estud. Bot. Nordést.* 3: 147 & 150 (as "*f. bracteata*"), hyponym (1923) and in Fedde, *Repert. Spec. Nov.* 20: 88. 1924.

Additional bibliography: Moldenke, *Phytologia* 20: 101 & 102. 1970; Moldenke, *Fifth Summ.* 1: 153 (1971) and 2: 547 & 945. 1971.

LEIOTHRIX DISTICHOCLADA var. *GLANDULOSA* Herzog in Fedde, *Repert. Spec. Nov.* 20: 88. 1924.

Additional bibliography: Moldenke, *Phytologia* 20: 102. 1970; Moldenke, *Fifth Summ.* 1: 153 (1971) and 2: 547 & 945. 1971.

[to be continued]