This variety differs from the typical form of the species in having its branches, petioles, both leaf-surfaces, peduncles, rachis, bracts, and calyxes densely white-villous; the leaves also are more uniformly small, oblong-lanceolate, 2--2.5 cm. long, 6--8 mm. wide, and subsessile.

The type of the variety was collected by Gert Hatschbach (*no. 44170*) -- in whose honor it is named -- at Corrego Serra Negro, municipality of Oliveira dos Berjinhos, Bahia, Brazil, on October 12, 1981, and is deposited in the Lundell Herbarium at the University of Texas.

SYNGONANTHUS DROUETII var. *PARVICEPS* Mold., var. nov.

Haec varietas a forma typica speciei capitulis parvioribus ca. 2 mm. latis recedit.

This variety differs from the typical form of the species in its smaller flowering heads, which are only about 2 mm. wide, mostly without conspicuous widely spreading white bracts.

The type of the variety was collected by William Wayt Thomas (*no. 2638*) in a small disturbed savanna with pH 3.5, north of the first creek at the northern edge of Maroa, Amazonas, Venezuela, on November 15, 1979, and is deposited in the Lundell Herbarium at the University of Texas.

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ADDITIONAL NOTES ON THE *ERIOCAULACEAE*. LXXXIX

Harold N. Moldenke

ERIOCAULON SUBULATUM N. E. Br.

Additional bibliography: Mold., Phytologia 53: 479. 1983.

Greenway found this plant both in flower and in fruit in September in Zimbabwe.

Additional citations: ZIMBABWE: *Greenway 8809* (E--1748592); *H. Wild 6740* (E--1781921). SOUTH AFRICA: Transvaal: *Fabes 828* (E--2792508). MOUNTED ILLUSTRATIONS: Mold. in Humbert, Fl. Madag. 36: [7], fig. 24--27. 1955 (Ld).

ERIOCAULON SUISHAENSE Hayata

This taxon is now known as *E. merrillii* var. *suishaense* (Hayata) Chang, which see.

ERIOCAULON SUMATRANUM Ruhl.

Additional bibliography: Mold., Phytologia 25: 81. 1972; Mold., Phytol. Mem. 2: 315 & 605. 1980.

ERIOCAULON TAKAE Koidz.

Additional bibliography: Mold., Phytologia 41: 458. 1979; Mold., Phytol. Mem. 2: 301 & 605. 1980.

Additional citations: MOUNTED ILLUSTRATIONS: Satake, Bull. Tokyo Sci. Mus. 4: pl. 6, fig. 11. 1940 (Ld--photo of type); Koidz. in Matsum., Icon. Pl. Koisikav. 1: 157, pl. 79. 1913 (W).

ERIOCAULON TANAKAE Ruhl.

Additional bibliography: Mold., Phytologia 25: 81. 1972; Mold., Phytol. Mem. 2: 301 & 605. 1980.

ERIOCAULON TAQUETII H. Lecomte, Notul. Syst. 1: 192. 1909.

Additional & emended bibliography: H. Lecomte, Notul. Syst. 1: 191 & 192. 1909; Mold., Phytologia 25: 81. 1972; Mold., Phytol. Mem. 2: 299 & 605. 1980.

The original publication of this binomial is often cited as "1910", but appears actually to have been published in 1909.

Additional citations: MOUNTED CLIPPINGS: H. Lecomte, Notul. Syst. 1: 192. 1910 (W).

ERIOCAULON TENUIFOLIUM Klotzsch

Additional bibliography:Knuth, Feddes Repert. Spec. Nov. Beih. 43: [Init. Fl. Venez.] 179. 1927; Mold., Phytologia 41: 458. 1979; Mold., Phytol. Mem. 2: 115, 122, 142, & 605. 1980; Mold., Phytologia 53: 271 & 314. 1983.

Recent collectors have described this plant as 30--40 cm. tall, the heads gray or grayish-white and "white-tomentose", the bracts green at the apex, and the anthers black. They have found it growing in moist sand among rocks, even referring to it as "frequent or very common on wet savannas", at 100 m. altitude, in both flower and fruit in February and October. Huber refers to it as "casi dominante en sabana arenosa".

The species is certainly very closely related to *E. atabapense* Mold. of the same region, and the *Huber 1529,* cited below, was previously regarded by me as representing that taxon.

Material of *E. tenuifolium* has been misidentified and distributed in some herbaria as *Syngonanthus* sp. as well as the very similar *E. atabapense* Mold. On the other hand, the *Goodland 515, Herb. Forest Dept. Br. Guian. G.641* [record 7656], *Maas & Westra 4029, Maguire, Wurdack, & Keith 41890, Prance, Steward, Ramos, & Farias 9177,* and *A. C. Smith 2280,* distributed as and previously cited by me as *E. tenuifolium,* seem better regarded as representing the very similar and closely related *E. klótzschii* Mold.

Additional & emended citations: VENEZUELA: Amazonas: *O. Huber 1529* (Ld), *1545* (Ld), *1597* (Ve), *1598* (Ld), *3086* (Ld); *B. Maguire 29256* (N, Ve, W--2046473). State undetermined: *Herb. Nac. Venez. s.n.* (N).

ERIOCAULON TENUIFOLIUM f. *VIVIPARUM* Mold.

Additional bibliography: Mold., Phytologia 41: 458. 1979; Mold., Phytol. Mem. 2: 142 & 605. 1980.

ERIOCAULON TENUISSIMUM Nakai

Additional bibliography: Mold., Phytologia 36: 491. 1977; Mold., Phytol. Mem. 2: 299 & 605. 1980.

Citations: MOUNTED CLIPPINGS: Nakai, Bot. Mag. Tokyo 31: 97. 1917 (W); Satake, Bull. Tokyo Sci. Mus. 4: pl. 7, fig. 14. 1940 (Ld--photo of type).

ERIOCAULON TEPICANUM Mold.

Additional bibliography: Mold., Phytologia 33: 17. 1976; Mold., Phytol. Mem. 2: 62 & 605. 1980.

ERIOCAULON TEUSCZII Engl. & Ruhl.

Additional bibliography: Mold., Phytologia 41: 458--459. 1979; Mold., Phytol. Mem. 2: 212, 224, 226, 233, 235, 237, 240, 242, 404, & 605. 1980; Mold., Phytologia 53: 267 & 271. 1983.

Giess describes this plant as having its peduncles (scapes) 5.8--8 cm. tall, the basal leaves 2--3.5 cm. long and 4 mm. wide, the heads gray or black, 4 mm. in diameter, and the anthers black. He encountered it both in flower and fruit in April. Phillips describes the plant as 8 inches tall, with white "flowers", and found it growing in grass on wet grasslands, at 4000--4300 feet altitude, in both flower and fruit in June and July.

Material of *E. teusczii* has been misidentified and distributed in some herbaria as *E. amboense* Schinz and *E. aristatum* H. Hess.

Additional citations: MALAWI: *E. Phillips 2531* (Ba--379219), *3492* (Ba--378962). NAMIBIA: *Giess 15099* (Mu), *15193* (Mu), *15217* (Ld, Mu). MOUNTED ILLUSTRATIONS: H. Hess, Bericht. Schweiz. Bot. Gesell. 65: 128, fig. 1--3. 1955 (La).

ERIOCAULON TEXENSE Körn.

Additional bibliography: Raf., Autikon Bot., imp. 1, 189 (1840) and imp. 2, 189. 1943; Kral in Godfrey & Wooten, Aquat. Wetl. Pl. Southeast. U. S. 505, 507, 508, 513, & 515, fig. 294. 1979; Mold., Phytologia 41: 459. 1979; J. T. & R. Kartesz, Syn. Checklist Vasc. Pl. 2: 197. 1980; Mold., Phytol. Mem. 2: 25, 41, 48, 404, & 605. 1980; Duncan & Kortesz, Vasc. Fl. Ga. 36. 1981; Mold., Phytologia 50: 236 (1982) and 53: 282 & 342. 1983.

Additional illustrations: Kral in Godfrey & Wooten, Aquat. Wetl. Pl. Southeast. U. S. 507, fig. 294. 1979.

Recent collectors have found this plant growing in clumps in boggy areas near lakes, in boggy places of creek-bottoms, and on seepage slopes in longleaf pine areas, in both flower and fruit in May. Kral (1979) describes the species as "A clump former, perennating by means of short lateral offshoots".

It seems very probable that Rafinesque (1840) included this species in the Texas portion of his description of *E. brevifolium* Raf., although the New Jersey portion evidently applied to a form of *E. pellucidum* Michx. (cfr. under *E. pellucidum*).

Material of *E. texense* has been misidentified and distributed in some herbaria as *E. compressum* Lam., *Lachnocaulon anceps* (Walt.) Morong, and *Lachnocaulon* sp.

Additional citations: ALABAMA: Washington Co.: *R. Kral 26602* (Mi). LOUISIANA: Beauregard Par.: *R. Kral 20158* (W--2470408); *Kral & Ricks 16992* (W--2470345). Sabine Par.: *Carroll 1736* (Ne--

181486). Vernon Par.: *R. Kral 20078* (W--2470342); *Kral & Ricks 16772* (W--2470343). TEXAS: Angelina Co.: *Correll & Ogden 25168* (N). Henderson Co.: *Correll, Correll, & Crutchfield 30952* (N). Houston Co.: *E. J. Palmer 13185* (W--1602635). MOUNTED ILLUSTRATIONS: Kral, Sida 2: 304. 1966 (Ld); Kral in Godfrey & wooten, Aquat. Wetl. Pl. Southeast. U. S. 507, fig. 294. 1979 (Ld).

ERIOCAULON THAILANDICUM Mold.

Additional bibliography: Mold., Phytologia 34: 493. 1976; Mold., Phytol. Mem. 2: 285 & 605. 1980.

ERIOCAULON THOUARSII H. Lecomte

Additional bibliography: Mold., Phytologia 29: 233. 1974; Mold., Phytol. Mem. 2: 250 & 605. 1980.

ERIOCAULON THUNBERGII Wikstr.

This taxon is now reduced to synonymy under *E. latifolium* J. E. Sm.

ERIOCAULON THWAITESII Körn.

Additional bibliography: Fyson, Indian Sp. Erioc. 29. 1923; C. E. C. Fischer, Kew Bull. Misc. Inf. 1930: 160. 1930; Worsdell, Ind. Lond. Suppl. 1: 376. 1941; Anon., Kew Bull. Gen. Ind. 111. 1959; Amaratunga, Ceyl. Journ. Sci. Biol. 12: 189. 1977; Mold., Phytologia 41: 459. 1979; Mold., Phytol. Mem. 2: 262, 268, 404, & 605. 1980.

Additional illustrations: Fyson, Journ. Indian Bot. 2: 202. 1921; Fyson, Indian Sp. Erioc. 29. 1923.

Recent collectors have found this plant growing as a "weed" in unplowed paddy fields, at 40--1700 m. altitude, in both flower and fruit in September.

Additional citations: SRI LANKA: *Davidse & Sumithraarachchi 7956* (W--2808538); *Huber 300* (W--2891318); *Nooteboom & Huber 3139* (W--2757465). MOUNTED CLIPPINGS: Fyson, Kew Bull. Misc. Inf. 1914: 331. 1914 (W).

ERIOCAULON TOFIELDIFOLIUM Schinz

Additional bibliography: Mold., Phytologia 29: 234. 1974; Mold., Phytol. Mem. 2: 242, 245, & 605. 1980.

Giess describes this plant as having peduncles (scapes) to 20 cm. tall, the basal leaves fleshy, to 8 cm. long and basally 1.5 cm. wide, and the flower-heads oval (not round), to 5 mm. long and 7 mm. wide.

Additional citations: NAMIBIA: *Giess 15231* (Mu). MOUNTED ILLUSTRATIONS: H. Hess, Bericht. Schweiz. Bot. Gesell. 65: 265. 1955 (Ld).

ERIOCAULON TOGOËNSE Mold.

Additional bibliography: H. Lecomte, Notul. Syst. 1: 192. 1909; Mold., Phytologia 41: 459--462. 1979; Mold., Phytol. Mem. 2: 200, 207, 210--212, 404, & 606. 1980.

Additional citations: MALI: Soudan: *Raynal & Raynal 5204* (Ld--

drawings).

ERIOCAULON TONKINENSE Ruhl.
Additional bibliography: Mold., Phytologia 25: 83. 1972; Mold., Phytol. Mem. 2: 292 & 606. 1980.

ERIOCAULON TORTUOSUM F. Muell.
Additional bibliography: T. B. Muir, Muelleria 2: 140. 1972; Mold., Phytologia 33: 17. 1976; Mold., Phytol. Mem. 2: 336 & 606. 1980.

ERIOCAULON TOUMOUENSE Mold.
This taxon is now relegated to the synonymy of *Mesanthemum albidum* H. Lecomte, which see.

ERIOCAULON TRANSVAALICUM N. E. Br.
Additional bibliography: Mold., Phytologia 41: 460. 1979; Mold., Phytol. Mem. 2: 200, 205, 222, 224, 226, 233, 240, 245, 402, 404, 443, & 606. 1980.
Additional citations: MOUNTED ILLUSTRATIONS: H. Hess, Bericht. Schweiz. Bot. Gesell. 65: 148, fig. 3. 1955 (Ld).

ERIOCAULON TRANSVAALICUM var. *HANNINGTONII* (N. E. Br.) Meikle
Additional bibliography: Mold., Phytologia 41: 460. 1979; Mold., Phytol. Mem. 2: 200, 205, 224, 226, 240, 402, 443, & 606. 1980.
Katende encountered this plant in permanent swamps, at 1100 m. altitude, in both flower and fruit in May.
Additional citations: UGANDA: *Katende K.1695* (E--2450519).

ERIOCAULON TRILOBATUM Ruhl.
Additional bibliography: Mold., Phytologia 29: 235. 1974; Mold., Phytol. Mem. 2: 250 & 606. 1980.
Additional citations: MOUNTED ILLUSTRATIONS: Mold. in Humbert, Fl. Madag. 36: [23], fig. 3 (10--16). 1955 (Ld).

ERIOCAULON TRILOBATUM var. *GLABRESCENS* Mold.
Additional bibliography: Mold., Phytologia 25: 84. 1972; Mold., Phytol. Mem. 2: 250 & 606. 1980.

ERIOCAULON TRISECTOIDES Satake
Additional bibliography: Mold., Phytologia 25: 84--85. 1972; Mold., Phytol. Mem. 2: 257 & 606. 1980.
Citations: MOUNTED ILLUSTRATIONS: Satake in Hara, Bull. Univ. Mus. Univ. Tokyo 2: fig. 12. 1971 (Ld--photo of type).

ERIOCAULON TRISECTUM Satake
Synonymy: *Eriocaulon nantoense* var. *trisectum* (Satake) Chang, Fl. Taiwan 5: 187. 1978.
Additional bibliography: Huang, Taiwania 15: 152, pl. 45, fig. 3. 1970; Mold., Phytologia 26: 465. 1973; Chang, Fl. Taiwan 5: [179] & 187 (1978) and 6: 654 & 663. 1980; Mold., Phytol. Mem. 2: 304 & 606. 1980.

Additional illustrations: Huang, Taiwania 15: 152, pl. 45, fig. 3. 1970.

Chang (1978) avers that this species is endemic to wet lowlands on Taiwan. He cites *Yamamoto 27309* and *Yamamoto & Mori s.n.* (the type collection). He states that "According to the original description of *Eriocaulon trisectum*, the author claimed that it was close to *E. nantoense*, differing from it by the glabrous receptacle and deeply trifid apices of the staminate calyx. However, after examining the specimens of the two species, it was found that there is no difference between the two except for the glabrous receptacles of the former." Huang (1970) illustrates the pollen grains of *E. trisectum* and describes them as 23--24 mu wide, based on *Hashioka s.n.* and *Hibino & al. s.n.* from Taiwan.

ERIOCAULON TRUNCATUM Hamilt.

Additional bibliography: Craib, Kew Bull. Misc. Inf. 1912: 421. 1912; Fyson, Indian Sp. Erioc. 26. 1923; Worsdell, Ind. Lond. Suppl. 1: 376. 1941; Hundley & Ko in Lace, List Trees Shrubs Burma, ed. 3, 293. 1961; Huang, Taiwania 15: 153. 1970; Soerjani in Vanshney & Rzőska, Aquat. Weeds S. E. Asia 64. 1973; Holm, Pancho, Herberger, & Plucknett, Geogr. Atlas World Weeds 148. 1979; Mold., Phytologia 41: 460. 1979; Mold., Phytol. Mem. 2: 262, 268, 270, 272, 278, 281, 283, 285, 288, 289, 292, 293, 296, 298, 301, 304, 307, 315, 353, 401, & 606. 1980; Mold., Phytologia 53: 280, 293, & 462. 1983.

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

Recent collectors refer to this plant as a common annual herb under 6 inches tall with "black" heads and narrow basal leaves, growing in full exposure to the sun or in partial shade on dry ground and in sandy areas in semi-evergreen forests. They have also encountered it in shallow pools on mountain tops, on moist savannas over sandstone, and "common in moist grassy places", at 800--1300 m. altitude, flowering in July and September, in fruit in December, and in both flower and fruit in January and September. Congdon refers to it as an herb, 16 cm. tall, common in damp ground in Thailand, with "white bracts", in both flower and fruit in August.

Huang (1970) describes the pollen grains of *E. truncatum* as 34 mu wide, on the basis of *Yamamoto s.n.* from Taiwan. Lecomte (1912) cites only *Lecomte & Finet s.n.* from Cambodia, unnumbered collections of Godefroy, of Pierre, and of Thorel from Cochinchina, and unnumbered collections of Balansa and of Bon from Tonkin, Vietnam.

The *Bernardi 15816*, distributed as *E. truncatum*, seems, rather, to be *E. cinereum* R. Br., while *Faden & Faden 77/194* is *E. quinquangulare* L.

Additional citations: INDIA: Karnataka: *Jarrett & Saldanha HFP. 744* (Ld); *Jarrett, Saldanha, & Ramamoorthy HFP.675* (W--2797026); *Saldanha 15328* (W--2797025). SRI LANKA: *Nooteboom 3385* (E--2686502); *Sohmer & Sumithraarachchi 9914* (E--2581977). CHINA: Kiangsu: *Chiao 22344* (It). THAILAND: *Beusekom, Phengkglai, Geesink, & Wongwan 4590* in part (E--2359030). MALAYA: Singapore: *J. Sinclair*

6366 (W--2937277). TAIWAN: *Boufford, Wood, & Lei 19444* (N); *Congdon 869* (Ac). GREATER SUNDA ISLANDS: Brunei: *Van Niel 3474* (E--2403463). Sumatra: *Toroes 4441* (Mi), *4572* (Mi), *5024* (Mi). NEW GUINEA: Territory of New Guinea: *Pullen 6648*(E--2365381). MOUNTED CLIPPINGS & ILLUSTRATIONS: Backer, Onkruidfl. 1: Handb. Suiker.-Cult. 7: pl. 187. 1928 (Ld); Ridl., Journ. Fed. Mayal States Mus. 10: 155. 1920 (W).

ERIOCAULON TRUNCATUM var. *DISEPALUM* Fyson

Additional bibliography: Mold., Phytologia 25: 85. 1972; Mold., Phytol. Mem. 2: 262, 268, 272, 296, & 606. 1980.

ERIOCAULON TRUNCATUM var. *MALACCENSE* Hook. f.

Additional bibliography: Mold., Phytologia 34: 495. 1976; Mold., Phytol. Mem. 2: 296 & 606. 1980.

ERIOCAULON TRUNCATUM var. *QUADRICOSTATUM* H. Lecomte

Additional bibliography: Mold., Phytologia 25: 86. 1972; Mold., Phytol. Mem. 2: 293 & 606. 1980.

ERIOCAULON TUBERIFERUM Kalkarni & Desai

Additional bibliography: Mold., Phytologia 33: 18--19. 1976; Mold., Phytol. Mem. 2: 262 & 606. 1980.

Citations: MOUNTED ILLUSTRATIONS: Kulkarni & Desai, Journ. Bomb. Nat. Hist. Soc. 67: 134/135, fig. 1--8. 1970 (Ld) and 71: 81, fig. 1--19. 1974 (Ld).

ERIOCAULON TUBIFLORUM Van Royen

Additional bibliography: Mold., Phytologia 33: 19. 1976; Van Royen, Alpine Fl. N. Guin. 2: 824--826, fig. 281 A--F. 1979; Mold., Phytol. Mem. 2: 326 & 606. 1980.

Van Royen (1979) lists this species only from the Lake Habbema area of western New Guinea, where it inhabits boggy alpine grasslands and the edges of pools and bogs, at 3225 m. altitude, flowering and fruiting in August. He cites as the holotype *Brass 9288* in the New York Botanical Garden herbarium and nothing else.

Additional citations: MOUNTED ILLUSTRATIONS: Van Royen, Alpine Fl. N. Guin. 2: 824, fig. 281 A--F. 1979 (Ld).

ERIOCAULON TUTIDAE Satake

Additional bibliography: Mold., Phytologia 36: 492. 1977; Mold., Phytol. Mem. 2: 301 & 606. 1980.

Citations: MOUNTED ILLUSTRATIONS: Satake, Journ. Jap. Bot. 49: 181. 1974 (Ld--photo of type).

ERIOCAULON TUYAMAE Satake

Additional bibliography: Mold., Phytologia 36: 492. 1977; Mold., Phytol. Mem. 2: 290 & 606. 1980.

Citations: MOUNTED ILLUSTRATIONS: Satake, Journ. Jap. Bot. 49: 239, fig. 3 & 4. 1974 (Ld--photo of type).

ERIOCAULON UBONENSE H. Lecomte

Additional bibliography: Mold., Phytologia 26: 41. 1973; Mold., Phytol. Mem. 2: 286, 289, 293, & 606. 1980.

Lecomte (1912) cites for this species only an unnumbered Pierre collection from Cambodia and a Thorel collection from Laos.

Citations: MOUNTED ILLUSTRATIONS: H. Lecomte, Journ. de Bot. 21: 109, fig. 1. 1908 (W); Koyama, Philip. Journ. Sci. 84: pl. 5 C. 1956 (W).

ERIOCAULON ULAEI Ruhl.

Additional bibliography: Mold., Phytologia 36: 492--493. 1977; Mold., Phytol. Mem. 2: 142, 404, & 606. 1980.

ERIOCAULON ULAEI var. *RADIOSUM* Ruhl.

Additional bibliography: Mold., Phytologia 36: 493. 1977; Mold., Phytol. Mem. 2: 142 & 606. 1980.

ERIOCAULON USSURIENSE Körn.

Additional & emended bibliography: Komarov & Klobukova-Alisova, Key Pl. Far East. USSR [Opred. Rast. Dal'nevosk. Kr.] 1: 340, pl. 105. 1931; Vasinger-Alektorova, Bull. Appl. Bot. Leningrad 25 (4): 121. 1931; Worsdell, Ind. Lond. Suppl. 1: 376. 1941; Mold., Phytologia 25: 86. 1972; Mold., Phytol. Mem. 2: 198 & 606. 1980.

Additional illustrations: Komarov & Klobukova-Alisova, Key Pl. Far East. USSR [Opred. Rast. Dal'Nevosk. Kr.] 1: pl. 105. 1931; Vasinger-Alektorova, Bull. Appl. Bot. Leningrad 25 (4): 121. 1931.

ERIOCAULON VANHEURCKII Muell.-Arg.

Additional & emended bibliography: Fyson, Journ. Indian Bot. 2: 139, 318, & 320, fig. 7 (1921) and 2: pl. 41. 1922; Fyson, Indian Sp. Erioc. pl. 41. 1923; Worsdell, Ind. Lond. Suppl. 1: 376. 1941; Anon., Kew Bull. Gen. Ind. 111. 1959; Mold., Phytologia 29: 236. 1974; Bole & Almeida, Journ. Bomb. Nat. Hist. Soc. 74: 226. 1977; Mold., Phytol. Mem. 2: 262, 267, & 606. 1980.

Additional & emended illustrations: Fyson, Journ. Indian Bot. 2: 139, fig. 7 (1921) and 2: pl. 41. 1922; Fyson, Indian Sp. Erioc. pl. 41. 1923.

Santapau & Shah (1969) record this species from Salsette Island, India.

Additional citations: INDIA: Maharashtra: *Vartak RD.27* (Ld). MOUNTED CLIPPINGS: Fyson, Journ. Indian Bot. 2: 318. 1921 (W).

ERIOCAULON VANHEURCKII f. *MINIMUM* Mold.

Additional bibliography: Mold., Phytologia 25: 87. 1972; Bole & Almeida, Journ. Bomb. Nat. Hist. Soc. 74: 227. 1977; Mold., Phytol. Mem. 2: 262. 1980.

ERIOCAULON VAUPESENSE Mold.

Additional bibliography: Mold., Phytologia 25: 87. 1972; Mold., Phytol. Mem. 2: 108 & 606. 1980.

Additional citations: COLOMBIA: Vaupés: *Schultes, Baker, & Cabrera 18274* (W--2198898--isotype).

ERIOCAULON VITTIFOLIUM H. Lecomte

This taxon is now regarded as a synonym of *E. latifolium* J. E. Sm., which see.

ERIOCAULON VOLKENSII Engl.

Additional bibliography: Ruhl., Wiss. Ergebn. Deutsch. Zentralafr. Exped. 2 (1): 57--58. 1910; Domin, Ann. Jard. Bot. Buitenz. 24 [ser. 2, 9]: 247. 1911; Fedde & Schust., Justs Bot. Jahresber. 39 (2): 10. 1913; Wangerin, Justs Bot. Jahresber. 39 (1): 550. 1913; Fedde, Justs Bot. Jahresber. 39 (2): 1387. 1916; Mold., Phytologia 29: 237. 1974; Mold., Phytol. Mem. 2: 224, 226, 230, & 606. 1980.

Wilde has encountered this plant growing in small, open, peaty places, at 4000 m. altitude. He describes it as forming mats and dense clumps and as having hard, coriaceous, bright-green leaves and grayish inflorescences.

Additional citations: ETHIOPIA: *Wilde 9068* (E--2261724).

ERIOCAULON WALKERI Hook. f.

Additional bibliography: Mold., Phytologia 41: 461. 1979; Mold., Phytol. Mem. 2: 268 & 606. 1980.

Townsend has found this plant in both flower and fruit in March.

Additional citations: SRI LANKA: *Townsend 73/261* (Ac).

ERIOCAULON WELWITSCHII Rendle

Additional bibliography: Mold., Phytologia 34: 495. 1976; Mold., Phytol. Mem. 2: 200, 227, 233, 235, 237, 242, 245, 404, & 606. 1980.

ERIOCAULON WHANGII Ruhl.

Additional bibliography: Mold., Phytologia 26: 42. 1973; Mold., Phytol. Mem. 2: 278 & 606. 1980.

ERIOCAULON WIGHTIANUM Mart.

Additional bibliography: Fyson, Indian Sp. Erioc. pl. 21 & 22. 1923; Worsdell, Ind. Lond. Suppl. 1: 376. 1941; Hundley & Ko in Lace, List Trees Shrubs Burma, ed. 3, 293. 1961; Mold., Phytologia 41: 461. 1979; Mold., Phytol. Mem. 2: 262, 268. 270, 272, 274, 275, 286, 404, & 606. 1980.

Additional illustrations: Fyson, Indian Sp. Erioc. pl. 21 & 22. 1923.

Additional citations: MOUNTED CLIPPINGS: Kunth, Enum. Pl. 3: 568. 1841 (W); Mart. in Wall., Pl. As. Rar. 3: 29. 1832 (W).

ERIOCAULON WIGHTIANUM var. *HELFERI* Hook. f.

Additional bibliography: Hundley & Ko in Lace, List Trees Shrubs Burma, ed. 3, 293. 1961; Mold., Phytologia 29: 238. 1974; Mold., Phytol. Mem. 2: 274 & 606. 1980.

ERIOCAULON WIGHTIANUM f. *VIVIPARUM* Mold.

Additional bibliography: Mold., Phytologia 25: 88. 1972; Mold., Phytol. Mem. 2: 262 & 606. 1980.

ERIOCAULON WILLDENOVIANUM Mold.

Additional bibliography: Miq., Fl. Ind. Bat. Suppl. 1: 268. 1860; Mold., Phytologia 41: 461. 1979; Mold., Phytol. Mem. 2: 250, 252, 268, 273, 274, 278, 283, 286, 289, 293, 296, 307, 311, 315, 320, 326, 336, 402--404, & 606. 1980; Mold., Phytologia 50: 253 (1982) and 53: 473 & 474. 1983.

Recent collectors have encountered this plant among grasses in ricefields in hilly country and in marshes at 15--1800 m. altitude, in flower in August and both in flower and fruit in February, June, and October. They refer to it as an herb to 35 cm. tall, the flower-heads semi-globose, the bracts "powdery-white", and the seeds elliptic, with hairy ribs.

Fosberg, in Madagascar, reports the species "common in open wet places in dense forests of small trees on rolling white sand, the stems erect" and "occasional in marshy seeps on gentle slopes with *Sphagnum* [this collection exhibits remarkably short leaves and may actually represent *E. sexangulare* L.]". In Papua Pullen refers to it as a "locally common erect tussocky herb with scapes rising to 27 inches tall, the leaf base rather fleshy, and the flower-heads white" and found it growing in thin sand of open seasonally wet grass-sedge plain over clay. In Sumatra it is described as forming tussocks, the inflorescence emergent and whitish, in half-shaded damp places by pools with water to 25 cm. deep over a peaty bottom.

Miquel (1860) records the vernacular name, "rompot-krah", for this plant.

Lecomte (1912) cites for this species only unnumbered collections of Lefevre, of Pierre, and of Thorel from Cochinchina and of Alleizette from Tonkin, Vietnam.

Material of *E. willdenovianum* has been misidentified and distributed in many herbaria as the very similar *E. sexangulare* L. On the other hand, the *Ahmad SA.1407* and *Sinclair 4977*, distributed as *E. willdenovianum*, actually are *E. sexangulare* L., while *Cushing & Cushing 356* and *Volkens 406* are *E. sexangulare* var. *micronesicum* Mold.

Additional citations: MADAGASCAR: *Fosberg 52535* (W--2922838), *52555* (W--2922822). SRI LANKA: *Bremer & Bremer 816* (W--2877268). THAILAND: *Congdon 989* (Ac); *Koyama, Phengklai, O'Connor, & Niyondham 15229* (Ac, N). MALAYA: Singapore: *J. Sinclair 8732* (W--2937281). GREATER SUNDA ISLANDS: Sumatra: *Wilde & Wilde-Duyfjes 19126* (E--2940228). NEW GUINEA: Papua: *Pullen 7154* (E--2365374). MOUNTED ILLUSTRATIONS: Mold. in Humbert, Fl. Madag. 36: 14 & 15, fig. 21--27. 1955 (Ld).

ERIOCAULON WILLDENOVIANUM var. *FERGUSONII* Mold.

Additional bibliography: Mold., Phytologia 41: 461. 1979; Mold., Phytol. Mem. 2: 268, 404, & 606. 1980.

ERIOCAULON WILLDENOVIANUM f. *VIVIPARUM* Mold.

Additional bibliography: Mold., Phytologia 34: 491, 495, & 496. 1976; Mold., Phytol. Mem. 2: 296, 315, & 606. 1980.

ERIOCAULON WILLIAMSII Mold.

Additional bibliography: Mold., Phytologia 25: 89. 1972; Mold., Phytol. Mem. 2: 74, 83, & 606. 1980.

Whitefoord encountered this plant in damp sand along paths through secondary vegetation in Belize, describing the leaves as green and the inflorescences as gray.

Additional citations: BELIZE: *Whitefoord 2376* (N).

ERIOCAULON WOODII N. E. Br.

Additional bibliography: Mold., Phytologia 34: 496. 1976; Mold., Phytol. Mem. 2: 224, 237, 245, & 606. 1980.

ERIOCAULON WOODII var. *MINOR* Ruhl.

Additional bibliography: Mold., Phytologia 25: 89. 1972; Mold., Phytol. Mem. 2: 245 & 606. 1980.

ERIOCAULON WOODSONIANUM Mold.

Additional bibliography: Mold., Phytologia 25: 89. 1972; Mold., Phytol. Mem. 2: 83 & 606. 1980.

Recent collectors refer to this plant as an herb with white flower-heads and have found it growing in "wet areas with standing water and mud", in both flower and fruit in February. The *Stern & al. 1701* collection bears a label reading "voucher specimen for wood USw", obviously in error.

Additional citations: PANAMA: Herrera: *Stern, Eyde, & Ayensu 1701* (E--2773097). MOUNTED CLIPPINGS: Mold. in Woodson & Schery, Ann. Mo. Bot. Gard. 27: 268--269. 1940 (W).

ERIOCAULON XENOPODION T. Koyama

Additional bibliography: Mold., Phytologia 41: 461. 1979; Mold., Phytol. Mem. 2: 286 & 606. 1980.

Additional citations: MOUNTED ILLUSTRATIONS: T. Koyama, Philip. Journ. Sci. 84: pl. 4. 1956 (Ld, W).

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

Additional synonymy: *Eriocaulon xeranthemum* Mart. apud Kunth, Enum. Pl. 3: 555. 1841.

Additional bibliography: H. Lecomte, Notul. Syst. 1: 192. 1909; Fyson, Indian Sp. Erioc. 28. 1923; Worsdell, Ind. Lond. Suppl. 1: 376. 1941; Hundley & Ko in Lace, List Trees Shrubs Burma, ed. 3, 293. 1961; Mold., Phytologia 41: 453 & 461--462. 1979; Mold., Phytol. Mem. 2: 257, 262, 270, 273, 286, 296, 315, 404, & 606. 1980; Mold., Phytologia 53: 348 & 469. 1983.

Additional illustrations: Fyson, Indian Sp. Erioc. 28. 1923.

Padhye reports that this is a plant of high altitudes. Material of it has been misidentified and distributed in some herbaria as *E. sedgwickii* Fyson.

Additional citations: INDIA: Maharashtra: *Padhye 9* (Ld). MOUNTED CLIPPINGS: Dalz., Journ. Bot. Kew Misc. 3: 281. 1851 (W); Mart. in Wall., Pl. Asiat. Rar. 3: 29. 1832 (W).

ERIOCAULON YAOSHANENSE Ruhl.

Additional bibliography: Mold., Phytologia 26: 42. 1973; Mold., Phytol. Mem. 2: 279 & 606. 1980.

ERIOCAULON YOSHINOI Nakai

Additional bibliography: Mold., Phytologia 25: 89. 1972; Mold., Phytol. Mem. 2: 301 & 606. 1980.

ERIOCAULON YUNNANENSE Mold.

Additional bibliography: Mold., Phytologia 25: 89. 1972; Mold., Phytol. Mem. 2: 279 & 606. 1980.

Forrest found this plant growing in moist pastures, in both flower and fruit in May, describing it as 10—20 inches tall, with grayish-white flowers.

Additional citations: CHINA: Yünnan: *Forrest 7878* (Ba), *8454* (Ba).

ERIOCAULON ZAMBESIENSE Ruhl.

Additional bibliography: Hocking, Excerpt. Bot. A.23: 389. 1974; Mold., Phytologia 41: 462. 1979; Mold., Phytol. Mem. 2: 212, 222, 227, 235, 239, & 606. 1980.

Wilde encountered this plant, in Ethiopia, along small creeks and in open places in marshy land with muddy soil or in shallow, slowly streaming water, at 1800 m. altitude, both in flower and fruit in February, describing it as having white roots and grayish-white inflorescences.

Additional citations: ETHIOPIA: *Wilde 9260* (E--2265833), *10148* (E--2256273).

ERIOCAULON ZOLLINGERIANUM Körn.

Additional bibliography: Stapf, Ind. Lond. 3: 90. 1930; Mold., Phytologia 41: 462. 1979; Mold., Phytol. Mem. 2: 286, 293, 307, 315, 326, & 606. 1980.

Lecomte (1912) cites for this species only an unnumbered Pierre collection from Cochinchina, Vietnam, and one of Thorel from Laos.

Additional citations: MOUNTED ILLUSTRATIONS: H. Lecomte, Fl. Gén. Indo-chine 7: 17, fig. 2. 1912 (Ld).

ERIOCAULON ZYOTANII Satake

Additional bibliography: Mold., Phytologia 34: 497. 1976; Mold., Biol. Abstr. 63: 2461. 1977; Hocking, Excerpt. Bot. A.31: 17. 1978; Mold., Phytol. Mem. 2: 301, 310, & 606. 1980.

Additional citations: MOUNTED ILLUSTRATIONS: Satake, Bull. Tokyo Sci. Mus. 4: pl. 11, fig. 3. 1940 (Ld--photo of type).

LACHNOCAULON Kunth

Additional & emended bibliography: Endl., Spl. 2: 12. 1842; Meisn., Pl. Vasc. Gen. 1: 407 (1842) and 2: 312. 1843; Spach, Vég. Phan. 13: 140. 1846; Pfeiffer, Nom. Bot. 2 (1): 5, 6, & 15. 1874; Durand, Ind. Gen. Phan. 454. 1888; Post & Kuntze, Lexicon 312 & 623. 1904; Lotsy, Vortr. Bot. Stammesges. 3 (1): 707. 1911; J. C. Willis, Dict. Flow. Pl., ed. 5, 359 (1925), ed. 6, imp. 1, 359

(1931) and ed. 6, imp. 2, 359. 1948; Lawrence, Taxon. Vasc. Pl., imp. 1, 405 & 800. 1951; J. C. Willis, Dict. Flow. Pl., ed. 6, imp. 3, 359 (1951) and ed. 7, 418 & 611. 1966; Rouleau, Guide Ind. Kew. 103 & 270. 1970; Lawrence, Taxon. Vasc. Pl. , imp. 2, 405 & 800. 1971; Hocking, Excerpt. Bot. A.23: 292 & 389. 1974; Thanikaimoni, Inst. Franc. Pond. Trav. Sect. Scient. Techn. 13: 129 & 285. 1976; Giulietti, Bol. Bot. Univ. S. Paulo 6: 63. 1978; Hocking, Excerpt. Bot. A.31: 17 & 18. 1978; Monteiro-Scanavacca & Mazzoni, Revist. Bras. Bot. 1: [59]. 1978; Benson, Pl. Classif., ed. 2, 373. 1979; Kral in Godfrey & Wooten, Aquat. Wetl. Pl. Southeast. U. S. 503, 518, & 520--529, fig. 302--307. 1979; Mold., Phytologia 41: 411, 419, 459, 462--467, & 508 (1979), 42: 41 & 507 (1979), and 45: 40 & 507. 1980; J. T. & R. Kartesz, Syn. Checklist Vasc. Fl. 2: 197. 1980; Mold., Phytol. Mem. 2: 14, 16--19, 22, 25, 26, 32, 41, 48, 89, 91, 213, 413, & 606--607. 1980; Duncan & Kortesz, Vasc. Fl. Ga. 36. 1981; Geesink, Leeuwenb., Ridsdale, & Veldkamp, Thonn. Analyt. Key 11. 1981; Mold., Phytologia 50: 234, 236, 261, & 508 (1982) and 52: 111 & 112. 1982; Wunderlin, Guide Vasc. Pl. Cent. Fla. 125--126. 1982; Mold., Phytologia 52: 506 (1983) and 53: 280, 286, 344, 463, & 504. 1983.

The *Correll, Correll, & Crutchfield 30952,* distributed as *Lachnocaulon* sp., actually is *Eriocaulon texense* Körn., while *Poole 1616* is *Paepalanthus subtilis* Miq.

Wunderlin (1982) provides a very useful key to the Florida species:

1. Trichomes of apex of receptacular bracts opaque white; head appearing gray to white.
   2. Leaves narrowly linear; mature heads 3.5--4 mm. wide; seeds smooth, lustrous.....*L. beyrichianum.*
   2a. Leaves linear; mature heads 4--7 mm. wide; seeds with distinct longitudinal lines, dull.....*L. anceps.*

1a. Trichomes of apex of receptacular bracts translucent; head showing brown color of bractlets.
   3. Scapes with ascending hairs; heads dull gray-brown..... ..... *L. minus*
   3a. Scapes glabrous; heads red-brown or chocolate-brown..... .....*L. engleri.*

LACHNOCAULON ANCEPS (Walt.) Morong

Additional & emended bibliography: Pfeiffer, Nom. Bot. 2 (1): 5. 1874; Hocking, Excerpt. Bot. A.23: 292 & 389 (1974) A.31: 17. 1978; Kral in Godfrey & Wooten, Aquat. Wetl. Pl. Southeast. U. S. 520, 521, 523, 524, & 529, fig. 303. 1979; Mold., Phytologia 41: 459, 462--464, & 466. 1979; Pursh, Fl. Amer. Sept., imp. 2, [ed. Ewan], 92. 1979; J. T. & R. Kortesz, Syn. Checklist Vasc. Fl. 2: 197. 1980; Mold., Phytol. Mem. 2: 14, 16--19, 22, 25, 26, 32, 41, 48, 91, 413, & 606. 1980; Duncan & Kortesz, Vasc. Fl. Ga. 36. 1981; Mold., Phytologia 50: 234 & 236 (1982) and 52: 111--113. 1982; Wunderlin, Guide Vasc. Pl. Cent. Fla. 125 & 126. 1982; Mold., Phytologia 53: 280. 1983.

Additional illustrations: Kral in Godfrey & Wooten, Aquat. Wetl. Pl. Southeast. U. S. 523, fig. 303. 1979.

Recent collectors describe this plant as growing "in large clumps in sand", "in clumps on savannas", in "broad shallow roadside ditches with *Carex longii, C. vexans,* and *Juncus elliottii*", in "savanna-evergreen shrub bog areas", in flatwoods ditches, in sandy peat in pineland bogs and recently burned bogs, in sandy-peaty bogs on pine-palmetto flats, in seepage bogs on sandy peat, in exposed wet sand of seepage bogs, in sandy peat of cypress-gum flatwoods, in hillside bogs on longleaf pine-covered hills, and around small lakes, describing the heads as grayish, in both flower and fruit from April to June and August.

Wunderlin (1982) refers to the species as common on the margins of ponds and in wet pinelands throughout central Florida. He follows Kral in reducing *L. floridanum* Small and *L. glabrum* Körn. to synonymy under *L. anceps.* Haynes refers to it as "abundant in wet soil of road embankments" in Alabama. One plant of the *Thomas & Grelen 71890* collection, cited below, exhibits viviparous fruiting-heads!

Material of *Lachnocaulon anceps* has been misidentified and distributed in some herbaria as *Eriocaulon cinereum* R. Br. On the other hand, the *Gregory & Eiten 23* and *Kral 20204* & *28694,* distributed as typical *L. anceps,* actually represent its f. *glabrescens* Mold., while *Kral 17855, 17969,* & *18418* are *L. glabrum* Körn. *Thomas, Allen, & Bot. 403 Class 47817* is *Eriocaulon cinereum* R. Br,, and *Carroll 1736* is *E. texense* Körn.

Additional citations: VIRGINIA: Greensville Co.: *Smith & Hodgdon Pl. Exsicc. Gray. 1028* (It, Mi). James City Co.: *Baldwin 17221* (Ne--125572). Prince George Co.: *Fernald, Long, & Smart 5698* (It). NORTH CAROLINA: Beaufort Co.: *Wiegand & Manning 682* (It). Bladen Co.: *R. Kral 14672* (Mi), *27185* (Mi). Brunswick Co.: *Thomas & Bio. 451 Class 53100* (Ne--134247). Carteret Co.: *Marx 2983* (Ne--124147). Columbus Co.: *Rodgers, Compton, Green, & Hudson 73501* (Ne--83566). Lenoir Co.: *Randolph & Randolph 785* (It). Moore Co.: *Wiegand & Manning 683* (It). New Hanover Co.: *Sieren 288* (Ne--105944), *1323* (Ne--134946). Onslow Co.: *Biernacki 400* (N); *Randolph & Randolph 947* (It); *Thomas & Bio. 451 Class 53061* (Ne--139201). Richmond Co.: *Wiegand & Manning 684* (It). Scotland Co.: *Wiegand & Manning 685* (It). SOUTH CAROLINA: Albemarle Co.: *K. Hunt 33b* (It). Chesterfield Co.: *Radford 12435* (Mi). Georgetown Co.: *Godfrey & Tryon 51* (It). Hampton Co.: *Wiegand & Manning 686* (It). GEORGIA: Baker Co.: *Thorne 4851* (It). Berrier Co.: *R. Kral 24253* (Mi). Calhoun Co.: *Thorne 4571* (It), *4684* (It). Charlton Co.: *Wright, Wright, Harper, & Pirnie 129* (It). Clay Co.: *Thorne 3669* (It). Colquitt Co.: *R. Kral 24231* (Mi). Cook Co.: *R. Kral 24237* (Mi). Decatur Co.: *Thorne & Muenscher 7857* (It); *Thorne, Muenscher, & Smith 3021* (It). Dodge Co.: *R. Kral 28744* (Mi). Early Co.: *Thorne 4070* (It). Lanier Co.: *R. Kral 24266* (Mi). Liberty Co.: *R. Kral 24211* (Mi). Lowndes Co.: *Breland s.n.* [13 May 1970] (Ne--120653); *Rowley 7* (Ne--120632). Macon Co.: *Pyron & McVaugh 498* (It). Miller Co.: *Thorne 4426* (It). Ware Co.: *R. Kral 19236* (Mi). FLORIDA: Baker Co.: *MacDaniels s.n.* [April 13, 1936] (It). Bay Co.: *R. Kral 15657* (Mi), *15668* (Mi). Bradford Co.: *Wiegand & Manning 687* (It). Duval Co.: *Curtiss 3021* (It), *4861* (It); *R. Kral 18568* (Mi). [to be continued]