

SUPPLEMENT TO THE GENUS CAREX IN MALAYSIA

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SUMMARY

This Supplement to the author's monograph "The genus *Carex* in Malaysia" enumerates several additional collections. Moreover, a revised description of *Carex pycnothyrsos* Kukenth. is given, while *C. teinogyne* Boett., *C. formosensis* Lev. & Van. (?), and *C. gajorum* Nelm., three species not dealt with in the main work, are fully treated.

Part of the important collection of *Carex* made by Dr. C. G. G. J. van Steenis in Sumatra in 1937 came into my hands too late to be included in "The Genus *Carex* in Malaysia" (*in* Reinwardtia 1: 221-450. 1951). With them, from Bogor, were included other Malaysian *Carex*; some collected by Van Steenis earlier (1934) in Sumatra, others by Enderb in Borneo, Buwalda in Java, and Eyma in New Guinea and the Moluccas.

While I was considering the question of publishing the determinations of these plants, Dr. van Steenis sent me a request to borrow from Florence, for my work on the *Carex* of Malaysia, specimens from Erbario Beccari (Sarawak and Sumatra), Erbario Webb (mainly Zollinger type numbers), and others preserved in the Erbario Centrale, especially early Merrill numbers from the Philippines. Incidentally, to help me in identifying these Philippine plants, ten sheets were borrowed from Washington. Some of the specimens cited are already to be found in the main work and are given here as from additional herbaria.

Thus it became clear, with all this hitherto mainly undetermined material, that publication was desirable.

In the enumeration which follows B = Bogor, F = Florence, and W = the U.S. National Museum herbarium at Washington. The species are numbered as in the main publication.

1. CAREX OLIGOSTACHYA Nees ex Hook.

PHILIPPINE ISLANDS: Luzon; Bontoc, 15 March 1914, *Vanoverbergh* 323 (F)!

NEW GUINEA: Netherlands New Guinea; probably Dempta, Oct. 1939, *Anang* (B)!

LESSER SUNDA ISLANDS: Sumbawa; *Zollinger* 3447 (F)!

* Royal Botanic Gardens, Kew, England.

9. CAREX RAMOSII Kükenth.

PHILIPPINE ISLANDS: Luzon; Rizal, Antipolo, June 1910, *Ramos 556* (F)!

10. CAREX NODIFLOKA Boeck.

PHILIPPINE ISLANDS: Luzon; Laguna, Los Bafios, April 1906, *Elmer 8306* (F)!; *ibid.*, June—July 1917, *Elmer 17,781* (F)!

12. CAREX PALAWANENSIS Kükenth.

PHILIPPINE ISLANDS: Palawan; Puerto Princosa, Pulgar, May 1911, *Elmer 1S,H6* (F)!

13. CAREX BLEPHAROLEPIS Nelmès.

JAVA: *Zollinger 125h* (F)!—Bogor (Buitenzorg); West Priangan, Tjampaka, near Tjidadap, Mt. Beser, forest, 1000—1800 m, 25 Dec. 1937, *Buwakla 31,76* (B)!

15. CAREX HORSFIELDII Boott

JAVA: Rembang; Mt. Lasem, Dec. 1940, *van Stenis 11,we* (B) <

16. CAREX INDICA L.

JAVA: *Zollinger SIS* (F)!

17. CAREX DIETRICHIAE Boeck.

BORNEO: Sarawak; on the coast at Tankalau, Nov. 1866, *Beccari 2741* (F)!; *ibid.*, coast or edge of Entabei, Oct. 1867, *Beccari 387S* (F)! — Eastern Division; W. Kutai, Kiham Batu Bong, steep river-slope, locally common, 20m, 25 July 1925, *Endert 2197* (B)!

NEW GUINEA: Netherlands New Guinea; probably Dempta, Oct. 1939, *Anang* (B, K)!

18. CAREX ORUCIATA Wahlenb.

SUMATRA: Atjeh; between Takingeun (Takengon) and Baleg, forest margins, 1600 m, 30 Aug. 1934, *van Stenis BOSS* (B, K)! — West Coast; Air Mantjur, ± 360 m, Aug. 1878, *Beccari sine num.* (F)!

21. CAREX PYCNOTHYRSOS Kükenth.

Carex pycnothyrsos Kükenth. in Philipp. Journ. Sci. 6: 60. 1911. — Philippine Islands, *Merrill 563*.

Loosely tufted. *Rhizome* descending, woody, clothed with large reddish or blackish-red scales, fraying into fibres. *Stems* erect, trigonous, 55—90 cm tall, 1.25—2 mm thick below, smooth, increasingly hispidulous upwards, especially below the secondary panicles, surrounded, below the leaves, by short, dark-reddish or vinaceous cataphylls or leafless **sheaths**.

Leaves basal, with 1—3 spaced higher on the stem, shorter or longer than the stems, 2.5—5 mm wide, flat or flattish, stiff, apices longly attenuated, upper surface sometimes pale-dotted, under-surface sometimes hispidulous; *sheaths* short, conspicuously reddish or vinaceous, tending to split into herring-bone shaped fibres. *Inflorescence* a narrow, simple or compound, interrupted panicle, occupying the upper 7.5—20 cm of the stem; *secondary panicles* 3—5, single, oblong-lanceolate, or upper ovate to obovate, 0.8—3.5 cm long, 4—10 mm broad, upper approximate or subapproximate, lowest more or less distant, dense, lower branches again branched into 2—several simple spikes, the few upper branches in the form of simple spikes, erect to patulous, upper panicles sessile or on scarcely to very shortly, lower on shortly to longly, exerted peduncles; *peduncles* trigonous, slender, sometimes smooth below, sparsely to densely setulose above. *Bracts* mostly foliaceous, lower exceeding the whole inflorescence, upper much reduced, lower rather shortly, upper scarcely to very shortly, sheathing; *sheaths* often reddish at the nodes. *Spikes* androgynaeceous, 4—9 mm long, subdense-flowered, sessile, male and female parts equal or male shorter. *Bracteoles* glumiform but small, glabrous or hispidulous, aristate. *Cladophylls* more or less utriculiform. *Female glumes* ovate to triangular, cymbiform, apex obtuse to subrotund, 1.4—2.3 mm long, 1.2—2 mm wide, glabrous, pale to rich reddish-brown, whitish-hyaline margined, nervose, midrib usually excurrent in a mucro or awn up to 1 mm long. *Utricles* cuneate-obovoid or ellipsoid, trigonous, 3.5—5 mm long, 1—1.5 mm broad, subcoriaceous, usually strongly pluri- to multinerved, narrowly marginate, usually glabrous to sparsely subadpressed hispidulous below, hispidulous above, especially on nerves and margins, straight to recurved, becoming patulous, pale to reddish above, pale below, scarcely or very shortly stipitate, gradually or subabruptly beaked above; *beak* tapering, plano-convex, 1.25—1.75 mm long, narrowly marginate, densely hispid on the margins, dark reddish, bidentulate; *mouth* not oblique; *teeth* 0.2—0.4 mm long, straight or slightly converging. *Achene* ellipsoid to ellipsoid-obovoid, trigonous, 2—2.75 mm long, about 1 mm broad, stramineous, very shortly stipitate and beaked, beak straight or slightly bent. *Style-base* scarcely or slightly thickened. *Stigmas* 3.

PHILIPPINE ISLANDS: Luzon; Nueva Eeija, Mt Umingan, Aug.—Sept. 1916, Ramos & Edaiio (*Bur. Sci. se,SOS*) (W)!; *ibid.*, Bontoc, Mt. Masapilid, March 1920, Ramos & Edaiio (*Bur. Sei. 37,881*) (F)!; *ibid.*, Rizal, Mt. Irig, Feb. 1923, Ramos (*Bur. Sci. 41,944*) (W)! — Negros; Canlaon Volcano, April 1910, Merrill *Phil. PL 543* (F, W)!

Endemic.

In my main work Ramos & Edaiio (*Bur. Sci. 37,881*) is erroneously given as the type of *C. pycnothyrsos* instead of Merrill 543. As this latter plant, and other gatherings which I have recently seen and have cited above, bring considerable additional variation, I have written the above emended description of the species.

22. CAREX BUENNEMEIJERI Nelmes.

SUMATRA: 1878, *Becmri 21* (F)! — Atjeh; Bur ni Geredong, forest below Laut Pupandji, 1650 m, 3—5 Sept. 1934, *van Steenis 6460* (B)!

JAVA: B o g o r (Buitenzorg); Puntjak Pass, edge of secondary forest, one plant, ± 1100 m, 27 April 1941, *Buwalda Son* (B) !

23. CAREX SEMIGLOMERATA Kükenth.

SUMATRA: Atjeh; Laut Pupandji, slightly north-east of Takingeun (Takengon), swampy meadow, forest-margin, 1000 m, 3 Sept. 1934, *can Steenis 6SSS* (B)!

BORNEO: Eastern Division; W. Kutai, Kiau, low sandy river bank, 700 m, 25 Oct. 1925, *Ender 1,567* (B)!

25. CAREX RAFFLESIANA Boott

SUMATRA: Atjeh; Takingeun (Takengon), Bur ni Lintang, forest, 1800m, 1 Sept. 1934, *van Steenis 6S12* (B)!

Var. MACROTHYRSA (Miq.) Kükenth.

PHILIPPINE ISLANDS: 1841, *earning 936* (F)! — Mindanao; Davao, Todaya, Mt. Apo, Aug. 1909, *Elmer 11,551*, (F)!; *ibid.*, Sept. 1909, *Elmer 11.S07* (F) ! — Luzon; Bontoc, Sept. 1913, *Vaiwverbergh Oil*, (F) !; *ibid.*, Laguna, Los Baños, Mt. Maquiling, June—July 1917, *Elmer 17,692* (F)!

MOLUCCAS: Ternate; in an ancient crater, Nov. 1874, *Beccari sine num.* (F)!

26. CAREX GEMBOLENSIS C. B. Clarke

JAVA: July 1858, *Zollinger II, 9* (F) ! — Madiun; Mt. Lawu, open sunny ground, common, ± 3000 m, 17 June 1941, *Bawalda S1SS* (B)! — B e s u k i; Idjen Jits., Mt. Merapi, top zone, in sand, 2700 m, 1—2 May 1940, *van Steenis 12,100* (B) !; *ibid.*, Mt. Pendil, flat grassy country, 1700 m, 3 May 1940, *van Steenis 12,142a* (B) !

28. CAREX CONTINUA C. B. Clarke

PHILIPPINE ISLANDS: Luzon; Benguet, June 1911, *Merrill 56i* (F)! — Mindanao; Davao, Todayo, Mt. Apo, May 1909, *Elmer 10,782* (F)!

31. CAREX FILICINA Nees var. ANGUSTIFOLIA Nelmes

SUMATRA: Atjeh; Gajo Lands, camps 6 to 8, Mt. Leuser (Losir), middle peak, east-summit and slope, mountain heaths, 2950—3500 m, 5—6 Feb. 1937, *van Steenis 8059* (B, K) !

PHILIPPINE ISLANDS: N e g r o s; Canlaon Volcano, April 1910, *Merrill SU, 51,5* (F)!

38. CAREX CERAMICA Nelmes

MOLUCCAS: Ceram; Ulompuku, near Mt. Binaja, high alt., 1937, *Eyina* (B, K)!

40. CAREX BACCANS Nees

SUMATRA: West Coast; Mt. Singgalang, \pm 1700m, June—July 1878, *Beccari 21*, and *sine num.* (F)!; *ibid.*, Karobatak plateau, 1938, *Kerling* (B)!

PHILIPPINE ISLANDS: Luzon; Benguet, Bagnio, March 1907, *Elmer 5355* (F)!; *ibid.*, Benguet, June 1911, *Merrill 567* (F)!

JAVA: Malang; Tengger Mts., Kletak, by hilly tracks, 1500 m, 1911, *Mmisset sine num.* (F)!

41. CAREX MYOSURUS Nees

JAVA: Priangan; Mt. Papaniajan, Tepral Paku, in forest, 2200m, 30 June 1940, *van Steenis 12g67* (B, K)!

42. CAREX LONSEBRACTEATA Steud.

SUMATRA: Atjeh; Gajo Lands, summit of Mt. Lenvbuh, by a rivulet in moss-forest, locally common, \pm 3000 m, 21—22 Feb. 1937, *van Steenis 9136* (B, K)!

JAVA: Priangan; Mt. Fapandajan, Tegal Paku, in forest, 2200 m, 30 June 1940, *van Steenis 12,268* (B, K)!

46. CAREX MERRILLII Kiienth.

PHILIPPINE ISLANDS: Luzon; Benguet, June 1911, *Merrill 555* (F)!

49. CAREX VERTICILLATA Zoll. & Mor.

SUMATRA: 1880, *Forbes Hti* (F)! — Atjeh; Gajo Lands, Mt. Leuser (Losir), middle peak, camp fi, mountain heath, 3300—3400 m, 4 Feb. 1937, *van Steenis 86H* (B, K)!; *ibid.*, Mt. Kemiri, east side, camp 2, near summit, forested slope on plateau, in under-wood, 2900—3314m, 7 March 1937, *van Steenis 1062i* (B, K)! — West Coast; Mt. Singgalang (Singalan), Padang highlands, \pm 1700m, June—July 1878, *BeccaH sine num.* (F)!

JAVA: *Zollinger 1792* (F)!

53. CAREX KINABALUENSIS Stapf

BORNEO: Sarawak; Gunong Foe, Aug. 1866, *Beccari 2434i* (F)! — Eastern Division; W. Kutai, Kemul, mountain-slope, primary forest, rare, 1200m, 27 Sept. 1925, *Endert 3632* (B)!; *ibid.*, heavy mountain country, common in marshy spots, 1800 m, 19 Oct. 1925, *Endert 4372* (B)!

58. CAREX BRUNNEA Thunb.

PHILIPPINE ISLANDS: Luzon; Laguna, Mt. Maquiling, Sept. 1911, *Ramos 1010* (F)! — Mindanao; Davao, Todaya, Mt. Apo, Aug. 1909, *Elmer 11,49* (F)!

NEW GUINEA: Netherlands New Guinea; Sorong, Misool Island, tip, in primitive forest, many specimens together, 80 m, 23 Sept. 1948, *Pleyte 1009* (B, K)!

JAVA: Besuki; Mt. Pendil, near Djampit, flat grassy country, 1700 m, 3 May 1940, *van Steenis 12,142* (B, K)! — Madion; Mt. Lawu, open sunny ground, common, \pm 3000 m, 17 June 1941, *Buwalda* (B)!

Var. DOLICHOCARPA Nelmes.

JAVA: Besuki; Ijang plateau, Taman Hidup, forest, common alone; the forest road to the lake, 1700—2100 m, 25 April 1940, *van Steenis 11,91,8* (B, K)!

58a. CABEX TEINOGYNA Boott

Cm-ex teinogyne Boott, Illustr. 1: 60 (. 158. 1858; Kükenth. in Engl. Pflanzenr. IV 20: 602 t. 102, F-H. 1909. — India, *Hooker et Thomson*.

Tufted. *Rhizome* very short, slender, woody. *Stems* more or less erect, trigonous, 20—60 cm tall, 0.5—1 mm thick, smooth throughout or angles scaberulous on the upper part of the rhachis, surrounded at the base, below the leaves, by spadiceous sheaths or cataphylls, which ultimately fray into persistent fuscous fibres. *Leaves* basal and subbasal, rather numerous, shorter to slightly longer than the stems, 1.5—4 mm wide, flat to conduplicate, stiff, green, upper surface thinly covered with pale asperous protuberances, especially above, apices longly attenuated; *sheaths* dark brown in front and at the concave mouth. *Spikes* in fascicles of 1—3 at each of about 3—6 nodes, erect or slightly flexuous, androgynaeous, 0.5—2.5 cm long, lax-flowered, mostly simple but some sometimes bearing 1—few smaller spikes, female part exceeding, usually much exceeding, the male part, upper fascicles subapproximate and overlapping, lower at more widely spaced nodes, upper on scarcely to very shortly-, lower on very shortly to rather longly exerted peduncles; *peduncles* of each fascicle unequal in length, slender, smooth. *Bracts* of the lower fascicles subfoliaceous, mostly longer than their fascicles but usually shorter than the whole inflorescence, longly sheathing, upper bracts much reduced, shortly sheathing. *Female glumes* oblong-lanceolate or slightly obovate-oblong with an acuminate apical part, incurved at the base, otherwise cymbiform, apex acute or sometimes obtuse, 3.5—5 mm long, 1.2—1.8 mm wide, translucent, glabrous, castaneous, sometimes narrowly pale-hyaline on the apical margins, slenderly nervose, muticous or awned, awn up to 1 mm long. *Utricles* elliptic, plano-convex to compressed-biconvex, 3.5—4(—4.5), less frequently 5 mm long, 1—1.4 mm broad, membranaceous, slenderly or very slenderly multinerved, not or very narrowly marginate, minutely whitish and subadpressed-hispidulous, straight or straightish, erect to patulous, castaneous, up to about 0.4 (0.5) mm, cuneate-stipitate, subabruptly beaked; *beak* compressed, slightly tapering, 1.25—2 mm long, more or less subadpressed-hispidulous, bidentate or bidentulate; *mouth* not oblique; *teeth* straight. *Athene* elliptic or oblong-elliptic, subplano-convex or compressed-biconvex, 1.8—2.5 mm long, 1—1.25 mm broad, becoming dark brown, not stipitate, scarcely to rather shortly beaked. *Style-base* slightly thickened. *Stigmas* 2, about 7—10 mm long, curved and flexuous, persistent.

SUMATRA: Atjeh; Gajo Lands, foot of Mt. Kemiri, camp 1, between Gumpang and Kungke, shore of the Lae Alas (river) among stones, region of high water, \pm 700 m, 12 March 1937, *van Steenis* 9804 (B, K)!; *ibid.*, Sanger Valley at camp 2, above Elang Kedjeren, ravine on forested slope, rocky streamlet-valley, region of high waters, 1050—1150 m, 19 March 1937, *van Steenis* 9839 (B, K)!

India, Indo China.

I disagreed with Kükenthal's determination of Backer 13,298 from Java as *C. teinogyna* Boott (*in* Bull. Jard. Bot. Buitenz., sér. 3, lfi: 320. 1940) and I thought that Van Steenis 9804 and 9839 from Sumatra, cited with Backer's plant, might also be misidentifications, I therefore excluded the species from my account of *Carex* in Malaysia. When, however, the two Van Steenis numbers eventually reached me, I found that my assumption was erroneous and that Kükenthal had correctly determined the Sumatran plant as *C. teinogyna*.

59. CAREX BURUENSIS Nelmes

NEW GUINEA: Netherlands New Guinea; Wissel Lake Region, camp on a stony ledge of a ridge on slope before the summit, 31 July 1939, *Eyma* 4991 (B, K)!

This collection represents a new variety or perhaps a new species.

61. CAREX CRYPTOSTACHYS Brongn.

SUMATRA: Atjeh; Takegeun (Takengon), Bur ni Bias, wooded slope, 1300—1400 m, 31 Aug. 1934, *van Steenis* 6175 (B)!

BORNEO: Sarawak; Pinindgiao, Nov. 1805, *Bcceari* !/SI (F)!

PHILIPPINE ISLANDS: Luzon; Sorsogon, Irosin, Mt. Bulusan, Oct. 1915, *Elmer* U,S9S (F) !; *ibid.*, May 1916, *Elmer* 16,110 (F) !

SUMATRA: BANGKA; Lobok-besar, primary forest, sandy soil, 20m, 7 Oct. 1949, *A-nta* (*Exp. Kostermans*) 1101 (B, K)!

JAVA: *Zollinger* 1152 (F)! — Bogor (Buitenzorg); Telagawarna, near Puntjak Pass, forest, one plant, 1475 m, 3 Sept. 1939, *van Steenis* 11,521 (B)!; *ibid.*, West Priangan, Tjampaka, Mt. Beser, 1000—1300 m, 25 Dec. 1937, *Buvmla* 3470 (B, K)!

63. CAREX RHYNCHACHAENIUM C. B. Clarke ex Merrill

PHILIPPINE ISLANDS: Luzon; Pampanga, Mt. Arayat, Feb. 1906, *Merrill* 512 (F)!

63a. CAREX ?FOKMOSENSIS Lév. & Van.

Carex formosciensis Lév. et Van. *in* Mem. Soc. Nat. Sci. Nat. et Math. Cherbourg, SB: 216. 1905. — Formosa, *Fuurie* 527.

Carex ligata Boott var. *formosensis* (Lév. et Van.) Kükenth. *in* Engl. Pflanzenr., IV 20: 474. 1909.

Tufted. *Stems* erect or slightly curved, central, obtusely or compressed-trigonal, 10–25 cm tall, 0.5–0.8 mm thick, weak, smooth. Leaves basal, shorter to longer than the stems, 2–3.5 mm wide, flat to flattish, apex longly attenuated; *sheaths* spadiceous, becoming fuscous-brown. *Spikes* 3–5, subapproximate and subfastigate, or lowest more distant, cylindrical, erect to suberect, subdense-flowered, terminal usually male, paler than the others, 1–2 cm long, 2–3 mm thick, lateral spikes female, 1.5–2 cm long, 3.75–5 mm thick, on shortly (upper) to rather longly (lower) exerted peduncles; *peduncles* obtusely trigonal, slender, smooth. *Bracts* of the lower spikes foliaceous or subfoliaceous, much longer than the whole inflorescence to scarcely exceeding their own spikes, upper bracts much reduced, sheathing, upper shortly. *Female glumes* more or less oblong to oblong-ovate, flattish to cymbiform, sometimes with slight involute margins below, apex rounded, truncate, or bilobed-emarginate, 1.5–2 mm long, 0.5–1 mm wide, white, thin, and nerveless except a thicker, greenish, strongly 3-nerved central stripe which is excurrent in a wide, tapering, ciliolate-hispidulous-margined awn, 0.5–1.1 mm long; *male glumes* longer, paler. *Utricles* rhomboid and slightly lageniform, trigonal, 3.3–3.5 mm long, about 1 mm broad at the rounded girdling ridge 1–1.4 mm from the base, with a scarcely to slightly inflated apex, 1 mm above, caused by the apex of the achene, membranaceous or subcoriaceous, multinerved, scarcely marginate, sparsely or very sparsely puberulous, straight, suberect to patulous, stramineous below, light greenish above, curved tapering from the ridge to a shortly stipitate base, gradually tapering above except for the slight upper inflation which may be considered the apex; *beak* slightly tapering, compressed, about 1 mm long, light greenish, bidentate; *mouth* not oblique; *teeth* straight, 0.2–0.4 mm long. *Achene* rhomboid, trigonal, faces deeply concave above and below a central horizontal ridge, 1.75–2 mm long, about 1 mm broad, curved-tapering below to a scarcely or shortly stipitate base, gradually tapering above to a slightly constricted apex and then slightly expanded into a scarcely cylindrical neck but rather discoid-annulate apex, 0.3–0.4 mm in diameter. *Style* slender, its scarcely thickened base centred in the slightly hollow apex of the achene. *Stigmas* 3.

PHILIPPINE ISLANDS: Luzon; Benguet, June 1911, Merrill Phil. PL SOS (F, W)!

Korea, Japan, Formosa.

I have not seen the type of *C. formosensis* and the species is not represented in the herbarium at Kew. Merrill's number 562 does not altogether agree with the descriptions of it, but there does not seem sufficient variation to warrant the proposal of a second species. At present, therefore, there is some doubt as to whether *C. formosensis* belongs to the Malaysian flora.

64. CAEEX BREVISCAPA C. B. Clarke

NEW GUINEA: Netherlands New Guinea; Jappen Island, Biak, Wamiami, near Serui, 1 Aug. 1939, Act cl Idjau (Exp. L. J. van Dyk) 235 (B, K)!

65. CAREX MULTIFOLIA Ohwi

PHILIPPINE ISLANDS: Luzon; Kalinga, Lubuagan, Feb. 1920, *Ramos & Edano* (*Bur. Sci.* 37An) (W) !; *ibid.*, Rizal, Mt. Angilog, Apr. 1922, *Ramos* (*Bur. Sci.* 40,765) (W) !

70. CAREX ?RUGATA Ohwi

PHILIPPINE ISLANDS: Luzon; Benguet, June 1911, *Merrill Sel* (F) !

75. CAREX LOHERI C. B. Clarke

PHILIPPINE ISLANDS: Luzon; Benguet, Baguio, March 1907, *Elmer* 8582 (F) !; *ibid.*, Benguet, June 1911, *Merrill* 563 (F) !

76. CAREX LATERALIS Kiiikenth.

PHILIPPINE ISLANDS: Luzon; Benguet, Baguio, March 1907, *Elmer* 8iU (F) ! (A specimen of *C. loheri* C. B. Clarke has been mounted in error on this sheet.)

77. CAREX SPECIOSA Kunth

SUMATRA: Atjeh; Takingeun (Takengon) Bur ni Oentella, edge of forest, 1400 m, 29 Aug. 1934, *van Steenis* 5918 (B, K) !

81. CAREX OEDORRHAMPHA Nelmes

SUMATRA: Atjeh; Gajo Lands, Leuser (Losir) massif, camps 2 to 3 (Lau Alas, upper course), wet places near streamlet on heathy ground, 2100—2250m, 29 Jan. 1937, *ran Steenis* 8431(B, K) !

JAVA: Priangan; Mt. Papandajan, Tegal Pandjang, grassland, close tufts, 2040 m, 30 June 1940, *van Steenis* 12,253 (B) !

83. CAREX DONIANA Spreng

SUMATRA: Atjeh; Laut Pupandji, north-east of Takingeun (Takengon), heath-bog around the lake, 1900 m, 3 Sept. 1934, *van Steenis* 6375a (B, K) \

84. CAREX SUBTRANSVERSA C. B. Clarke

PHILIPPINE ISLANDS: Luzon; Benguet, May 1914, *Merrill* 17G3 (W) !; *ibid.*, Pauai, Apr.—June 1918, *Santos* (*Rm: Sri.* 31,684) (W) !; *ibid.*, Apr.—June 1918, *Santos* (*Bur. Sci.* 31,958) (W) !

86. CAREX CAPILLACEA Boott

PHILIPPINE ISLANDS: Luzon; Benguet, Pauai, May 1909, *Merrill* 505 (F) !

94. CAREX PHILIPPINENSIS Nelmes

PHILIPPINE ISLANDS: Luzon; Benguet, Baguio, March 1907, *Elmer* 5552 (F) !; *ibid.*, Benguet, June 1911, *Merrill see* (F) !; *ibid.*, Bontoc, May 1913, *Vmwvver*

bergh 441 (F)! — Negroes; Dumaguete, Cuernos Mts., April 1908, *Elmer 9842* (F)! — Mindanao; Davao, Todaya, Mt. Apo, Aug. 1909, *Elmer 11,590* (F)!

98. CAREX PHACOTA Spreng.

SUMATRA: Atjeh; Bur ni Pupandji, slightly north-east of Takegeun (Takegong), 1600 m, 2 Sept. 1934, *van Steenis 6375* (B)!; *ibid.*, Laut Pupandji, north-east of Takegeun (Takegong), lake-side swamp, 1900 m, 3 Sept. 1934, *van Steenis 6381* (B)!

PHILIPPINE ISLANDS: Luzon; Benguet, June 1911, *Merrill 565* (F)!

100. CAREX LACERANS Kiikenth.

NEW GUINEA: Netherlands New Guinea; Enarotali, Wissel Lake Region, near Lake Paniai, forming a closed cover on open sandy bank at mouth of rivulet Enaro, locally common, 25 Jan. 1939, *Eytma UOS* (B, K)!

102. CAREX NIIBIGENA D. Don

JAVA: *Zollinger 2554* (F)!

105. CAREX ALTA Boott

JAVA; *Zollinger 3192* (F)!; *ibid.*, 1880-82, *Forbes 1120* (P)!

107a. CAREX GAJONUM Nelmes

Carex gajonum Nelmes in Kew Bull. 1952: 84. 1952. — Sumatra, *van Steenis 8591*.

Tufted. Stems erect, obtusely trigonous, smooth, scaberulous at the apex, just below the inflorescence, 20—90 cm tall, 1—2 mm thick below, ribbed and striate. Leaves few, subbasal, shorter to longer than the stems, 1.25—2.5 mm wide, flattish-ecaliculate, margins often recurved, apices longly attenuated, lower leaves reduced to bladeless or nearly bladeless sheaths. Spikes 5—8, gynaeandrous, but male flowers so few that spikes appear wholly female, ellipsoid in flower, obovoid or oblanceoloid in fruit, 5—10 mm long, 3—5 mm thick in fruit, dense-flowered, suberect to patulous, sessile, all crowded or approximate, or, sometimes, lowest at a node up to 14 mm from that next above, forming a terminal, slenderly or more stoutly oblong or, less commonly, ovoid head, 1.5—4.25 cm long and 4—Sum thick. Bracts of the lowest 1, less commonly 2, spike(s) setaceous to subfoliaceous, remaining spikes ebracteate or bracts represented by large and longly awned glumes. Female glumes ovate or ovate-lanceolate, cymbiform, base incurved, apex acute, 3 mm long, 2 mm wide, translucent, very slenderly plurinerved and bright castaneous, nerveless on the thinner, wide, whitish-hyaline margins, midrib and 2 adjacent nerves which coalesce with it above more or less extending to the acute whitish-hyaline apex. Utricles broadly ovate, or sometimes suborbicular, excluding the beak, plano-convex, or concavo-convex owing to spongy-thickened margins and base which are slightly ventrally incurved, 3.25—3.5 mm long, about 2 mm broad, slenderly but distinctly 8—12-nerved

on the dorsal face and about 6-nerved on the ventral face, broadly spongy-thickened marginate, glabrous, smooth, straight or straightish, suberect at first, becoming patulous, becoming dark brown, extremely spongy-thickened on each side of the non-stipitate base which thus becomes cordate, subgradually to subabruptly passing above into a *beak* which is gradually tapering, plano-convex, 1—1.5 mm long, broad, sparsely or very sparsely scaberulous and rather broadly spongy-marginate, with a dark brown dorsal median groove, bidentulate; *mouth* not or scarcely oblique; *teeth* pale, often becoming erose. *Achene* (only 1 of few utricles opened) slightly quadrate-ovate, compressed biconvex, 1.75 mm long, 1.4 mm broad, becoming light brownish, scarcely stipitate or beaked. *Style*-base much thickened, persistent on the apex of the achene. *Stigmas* 2.

SUMATRA: A t j e h; Gajo Lands, middle peak of Mt. Leuser (Losir), camp 6, forming the vegetation of meadows in a streamlet-valley, 3300 m, 2 Feb. 1937, *van Steenis* 8591 (B, K)!; *ibid.*, summit-plateau of Mt. Kemiri, wet mountain fields, 3150—3314 m, 8—9 March 1937, *van Steenis* 9673, 9679 (B, K)!

Endemic.

These Van Steenis numbers were misidentified by Kükenthal (*in* Bull. Jard. Bot. Buitenz., sér. 3, 16: 314, 1940) as *C. nubigena* D. Don var. *fallax* (Steud.) C. B. Clarke, which belongs to the androgynaeceous section, Section *Multiflorae* Kunth, whereas the spikes of these Sumatran plants are gynaeandrous and the species belongs to Section *Stellulatae* Kunth.

The Mount Leuser plant was made the type because it alone had fully mature utricles. The specimens from Mount Kemiri have shorter stems and longer, more slender, and more bracteate heads of spikes than the type, but their utricles are too young for one to decide whether they merit varietal status.
