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FLORAE MALESIANAE PRAECURSORES XIII
Notes on Malaysian and some S. E. Asian Cyperaceae IV*

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SCIRPUS SUBCAPITATUS THW.

Beetle (*in* Am. J. Bot. 33: 664. 1946) classified the Malaysian allies of *Scirpus subcapitatus* Thw. as follows:

Culms terete, smooth

Spikelets single on culms; mucros of sheaths and of outer scale scabrous.
S. clarkei

Spikelets mostly 2—4; mucros of sheaths and of outer scale smooth.

S. subcapitatus

Culms trigonous (sometimes obscurely), scabrous on at least one angle (often obscurely). Scales 4mm long, lanceolate-acute; spikelets 1—3, rayed.

S. clarkei var. *pakapakensis*

The difficulties encountered in this group could not be solved by the application of this key to the numerous specimens I could study. In the type specimen of *Scirpus pakapakensis* Stapf from Borneo, Mt. Kinabalu, the stems are not trigonous. Although in Thwaites CP306 (type collection of *Scirpus subcapitatus*) the mucros of the leaf-sheaths and of the outermost glume are practically smooth, they are scaberulous in several Indian specimens otherwise quite agreeing with the type collection. In some specimens from Mt. Kinabalu the stems are slightly scaberulous at the top; for the rest they agree very well with the type of *Scirpus clarkei* Stapf.

I also fail to trace dividing lines in this group in the way Stapf did. He distinguished *S. clarkei* from *S. subcapitatus* by the very slender habit, the more advanced development of the lamina of the leaves, the solitary spikelets, and the more distinctly barbellate perianth-bristles. *Scirpus pakapakensis* was said to differ from *S. clarkei* by the inflorescence nearly always consisting of 2—3 spikelets and by the longer glumes, and from *S. subcapitatus* by the loose inflorescence and the more distinctly barbellate bristles. In his opinion the Sumatran and the Chinese specimens

* Part I *in* Reinwardtia 2: 97—130. 1952; II *in* Reinwardtia 3: 27—66. 1954; *HI* *in* Blumea 8: 11.0—109. 1955.

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would represent two other species, all very closely allied but geographically widely separated. As to *S. clarkei* and *S. paka/pakensis*, both from Mt. Kinabalu, the latter remark is obviously not true. In my opinion none of the characters mentioned by Stapf are reliable for specific separation.

The specimens from Mt. Pulog, Luzon, very slender and always 1-spiculate like *S. elarkei*, are obviously more clearly distinct by the quite smooth perianth-bristles about as long as the nut. They may be distinguished as a geographical race. A still more pronounced taxon is represented by the specimens from Latimodjong Range, S. W. Celebes, with almost filiform stems, very small solitary spikelets 3—5 mm long and 1—2 mm wide, much smaller ovate to broadly ovate glumes 1%—2 mm long and 1/2—1 mm wide, unequal bristles (the outer ones flat and almost straight, the inner ones filiform and strongly flexuous, all strongly papillose, 2—3 mm long), and small nuts (1.25—1.5 X 0.75—0.9 mm). Although they make the impression to represent a separate species, it seems better to treat them also as a geographical race of *Scirpus subcapitatus* considering the extraordinary polymorphy of this species.

Scirpus subcapitatus Thw. ssp. *pulogensis* (Merr.) Kern, *stat. nov.*

Scirpus pulogensis Merr. in Philip. J. Sci., Bot. 5: 333. 1910; Enum. Philip. Fl. PL 1: 118. 1923.—Merrill 6650 (US).

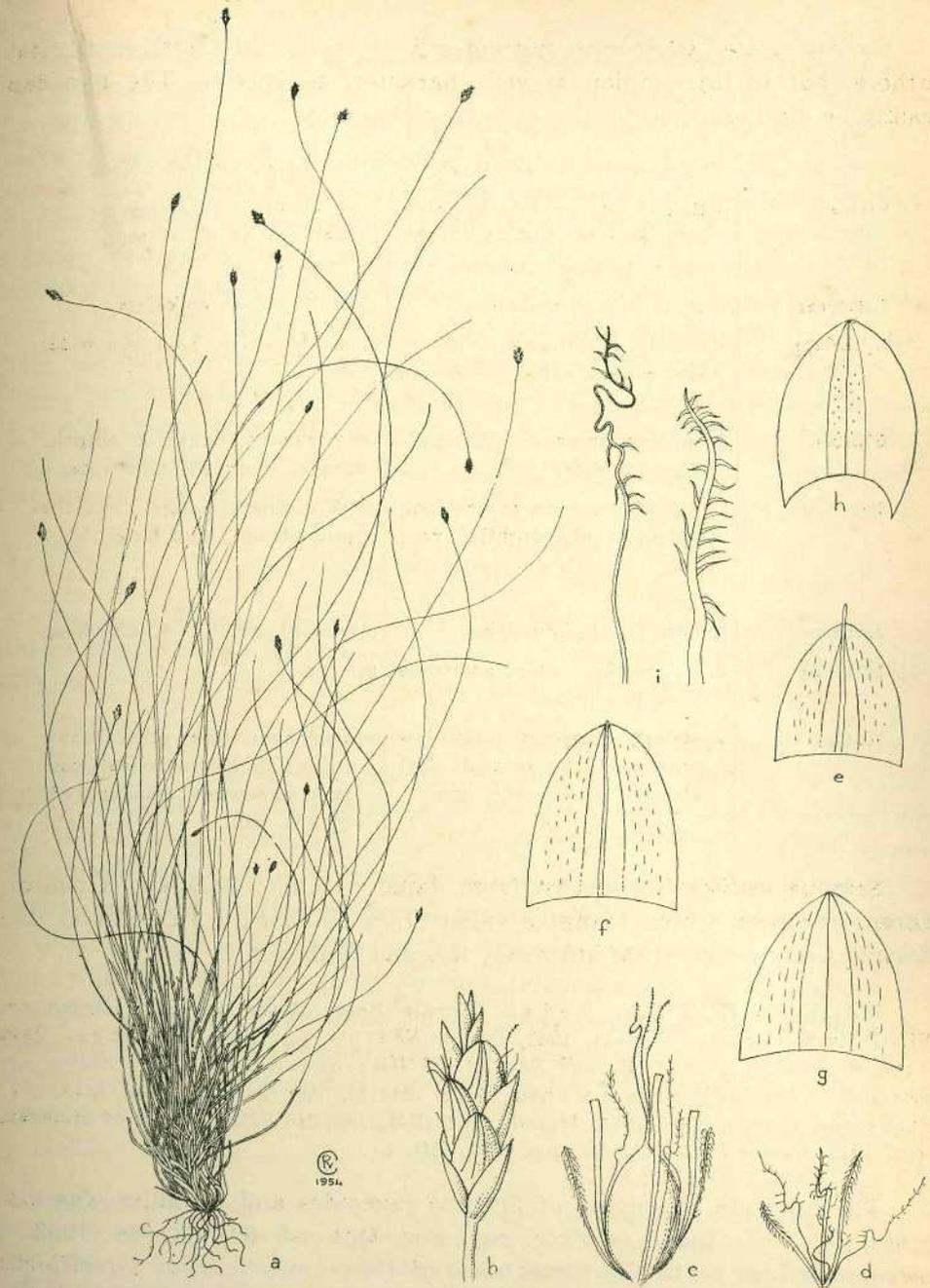
Scirpus subcapitatus Thw. ssp. *eelebicus* Kern, *subspec. nov.*—Fig. 1

Culmi graciles, filiformes, obtuse trigoni, (10—) 15—25 cm alti, c. 1/3 mm crassi. Spicula solitaria, 3—5 mm longa, 1—2 mm lata. Glumae ovatae vel late ovatae, 1 3/4—2 mm longae, 1 1/2—1 3/4 mm latae. Setae perianthii 5—6, distincte papillosae, 2—3 mm longae, inaequales, exteriores planae, rectae vel subflexuosae, interiores filiformes, valde flexuosae. Antherae lineares, c. 1 mm longae. Nux 1 1/4—1 1/2 mm longa, 0.75—0.9 mm lata.

S. W. CELEBES. S-ubdiv. E-nrekang. Latimodjong Mts, B. Rante Mario, moist locality, alt. 2700 m, June 1929, *Kjellberg* 3729 (BO); Masimbollong, alt. 3000 m, June 25, 1937, *Eyma* 981 (type) (L); Pokapindjang, open sandy country just below summit, alt. 2800 m, June 16, 1937, *Eyma* 593 (BO, L).

SCIRPUS WALLICHII Nees and SCIRPUS JUNCOIDES Roxb.

Scirpus wallichii Nees in Wight, Contr. Bot. Ind. 112. 1834; Kunth, Enum. 2: 160. 1837; Steud., Syn. Pl. Glum. 2: 84. 1855; Ohwi in Mem. Coll. Sci., Kyoto Imp. Univ. B18: 113. 1943.—*Scirpus ereetus* var. *wallichii* (Nees) Beetle in Am. J. Bot. 29: 654. 1942.—Wallich 8468 (K)!



6 x c nil ^{ScfP} *subcapitatus* Thw. ssp. *eelebicus* Kern: a, habit, 1/2 X; b, spikelet, 12 x h 'fertile glume 12x perianth bristles, 12 x; e-g, lower (empty) glumes *Eyma* 981 (L) x i, two of the perianth bristles, strongly enlarged.—From

Closely related to *Scirpus juncooides* Roxb. and united with it by most authors, but in my opinion a well characterized, species. The two can readily be distinguished by the following characters :

	<i>Scirpus juncooides</i> Roxb.	<i>Scirpus wallichii</i> Nees
Stems	rather slender, terete, more rarely angular, 15—75(—120) cm X 1—2(—3) mm.	very slender, 4—5-angular, 10—40 cm X 3/4—1 mm.
Inflorescence	with (1—) 2—7 spikelets.	with 1—2(—3) spikelets.
Spikelets	obtusish, stramineous to brownish at maturity, 5—6 mm wide.	acute, greenish, 3—4 mm wide.
Glumes	firm, broadly ovate, obtuse, 3—3 1/2 mm wide.	membranous, ovate to elliptic, acute, about 2% mm wide.
Bristles	5—6, shorter than or the longest ones only slightly exceeding the nut, up to 2(—2 1/2) mm long.	4—5, distinctly longer than the nut, about 3 mm long.
Anthers	linear, 1—1 1/2 mm long.	oblong-linear, 1/2—3/4 mm long.
Stigmas	2, not rarely a short additional third one present.	2.
Nut	unequally biconvex (only low-convex on the ventral side), about 2 X 1 1/2—1 3/4 mm.	planoconvex (the-ventral side flat or slightly concave), usually somewhat smaller, 1 3/4 X 1/2 mm.

Scirpus wallichii is known from Japan (Hondo, Shikoku, Kiushiu), Korea, Formosa, China (Jangtze valley, *Lun Hung Fan s.n.*, SING), the Mergui Archipelago (*Griffith 6288*, K), and Malaysia.

MALAY PENINSULA. K e d a h. Kepala Batas, Nov. 10, 1941, *Corner s.n.* (SING); same locality, Nov. 11, 1941, *Corner SFS8108*, p.p. (L). **Malacca.** Batu Berendam, Jan. 28, 1918, *Burkill SFS112* (SING); Sawar, Nov. 1890, *Ridley s.n.* (SING). — PHILIPPINES. Luzon. Luzon central, Rio Tansa, *Loher ISU9* (K); Manila and vicinity, Dec. 1914, *Merrill 9797* (BM, BO, NY, US); prov. of Bulacan, Sept. 1913, *Ramos Phil. Pl. 1U1*, p.p. (BM, BO, L).

The intricate synonymy of *Scirpus juncooides* and its allies was discussed by S. T. Blake in *Proc. roy. Soc. Queensl.* 62: 83—88. 1952. I agree with him as to the correctness of the names *Scirpus lateriflorus* Gmel. and *S. juncooides* Roxb. for the Malaysian species hitherto generally known as *S. supinus* L. and *S. erectus* Poir. However, the citation *Isolepis* (?) *juncooides* (Roxb.) Miq. in the synonymy of *Scirpus juncooides* should.

read *Isolepis* (?) *juncooides* Miq., as this name is not based on Roxburgh's binomial. Moreover, it should be cited in the synonymy of *S. lateriflorus*, as appears from the type specimen in the Leyden Herbarium and from Miquel's unambiguous description.

Scirpus erectus Poir. and *Isolepis uninodis* Delile are cited by Blake in the synonymy of *Scirpus lateriflorus*. In my opinion they belong to a clearly distinct African species (correct name: *Scirpus erectus* Poir.), which differs from *S. lateriflorus* by the larger glumes, the more distinctly bristly connective of the anthers, the bifid style, and the larger biconvex nuts (see also Chermeson in *Arch. Bot.* 4: 26. 1931). *Scirpus juncooides* extends from India to China and Japan, and southward to tropical Australia; it is also known from Madagascar. The N. American *S. purshianus* Fern. (= *S. debilis* Pursh, non Lamk) is hardly different and in all probability not specifically distinct.

SCIRPUS SQUARROSUS L.

Scirpus squarrosus Linné, *Mant.* 2: 181. 1771.—*Lipocarpha microcephala* (non Kunth) Ridl., *Mat. FL Mai. Pen.* 3 (Monoe.): 82. 1907, p.p.; *Pl. Mai. Pen.* 5: 163. 1925, p.p.

The only record of this species for Malaysia is that in Schumann & Lauterbach, *Fl. deutschen Schutzgeb. Süds.*: 195. 1901: New Britain (Neu Pommern), Gazelle Peninsula, *Dahl s.n.* I have not seen this collection.

In the Malay Peninsula it has been confused with *Lipocarpha microcephala* (R. Br.) Kunth, to which it is very similar in habit. It can easily be distinguished by the involucre bracts, one of which is usually erect as though continuing the stem, the other if present patent to reflexed, and by the about 1/2 mm long, obovate, trigonous nut not surrounded by perianth-scales. In *Lipocarpha microcephala* both involucre bracts are patent to reflexed, and the narrow, cylindrical, 1 mm long nut is surrounded by two thinly membranous perianth-scales. The specimens of *Scirpus squarrosus* in the Singapore Herbarium were already recognized as such by Holttum in 1945.

MALAY PENINSULA. P e n a n g. Botanic Gardens, not cultivated, Feb. 17, 1919, *Moh. Nur SF4539* (K, SING); cultivated land near 11th mile Bayan Lepas Road, Oct. 11, 1951, *Sinclair SFS929S* (K, L, SING); Waterfall Gardens, Sept. 7, 1941, *Nauen s.n.* (SING). Singapore. Galang, 1899, *Ridley 10354* (SING); Geylang, in wet sandy spot, Nov. 1934, *Teruya 2447* (SING); off 8th mile West Coast Road, Pasir Panjang, Feb. 13, 1954, *Sinclair SF40197* (SING); nursery Bot. Gardens, weed of beds, alt. 70 ft, Feb. 8, 1955, *Purseglove P4047* (L, SING).

ELEOCHARIS PARVULA (R. & S.) Link *ex* Bluff, Nees & Schauer

Eleocharis parvula (R. & S.) Link *ex* Bluff, Nees & Schauer in Bluff & Fingerh., Comp. Fl. Germ., ed. Z, 11; 93. 1836; Svens. in Rhodora 31: 168, t. 189, f. 18. 1929.—*Seirpus parvulus* R. & S., Syst. Veg. 2: 124. 1817.

Eleocharis parvula shows a very remarkable distribution. It is known from salt or brackish stations along the Mediterranean coast of Europe and N. Africa, the Atlantic coast of Europe north to Norway, the Atlantic coast of North America from New Foundland to the West Indies, the Pacific coast from northern California to British Columbia, Brazil (Rio de Janeiro), and Japan (Kiushiu; see Ohwi in Mem. Coll. Sci., Kyoto Imp. Univ. B18: 35. 1943). Sometimes it occurs more inland in salt or brackish lakes. In Java it was already collected as early as 1927, but not recognized.

E. JAVA. Res. Pasuruan, Bangil, floating in saline lakes, abundant, July 1, 1927, Backer 37455 (L); Bangil, iodine wells, Oct. 12, 1929, Coert 805 (L).

ELEOCHARIS PHILIPPINENSIS Svens.

Eleocharis philippinensis Svens. in Rhodora 31: 155. 1929; S. T. Blake in Proc. roy. Soc. Queensl. 50: 98. 1939.—*Eleocharis variegata* var. *laxiflora* (non C. B. Clarke in Hook, f., Fl. Br. Ind. 6: 626. 1893) C. B. Clarke in Philip, J. Sci. 2 Bot.: 90. 1907.—*Eleocharis nuda* (non C. B. Clarke) Svens. in Rhodora 41: 8. 1939, p.p.

When Svenson described this species from the Philippines he supposed it might perhaps constitute a variety of the Australian *E. nuda* C. B. Clarke in Kew Bull., add. ser. 8: 21. 1908, into which species he merged it in 1939. After having seen the material of *E. nuda* in the Kew Herbarium, it seems to me that Blake is right in keeping the two apart. For the differentiating characters see Blake, *I.e.*, p. 101.

Up to the present *E. philippinensis* is known from Hainan (see Svenson, 1939), Siam (Bangkok, A.F.G. Kerr 11105 in BO, K, L), Western Australia, Queensland, New Caledonia (*Balansa* 3094 in L), and from Luzon. It appears to be widely distributed in Malaysia, but obviously it is very rare everywhere. I have seen the following Malaysian collections:

MALAY PENINSULA. Kedah. Telok Changai Padi Expt. Station, May 25, 1939, J. A. Baker s.n. (SING).—JAVA. W. Java. Djakarta, Sunter, inundated rice-field, abundant, alt. 5 m, April 10, 1903, Backer 32433 (BO); Djakarta, Kemajoran, inundated ricefield, abundant, alt. 5 m, March 27, 1904, Backer 324-34 (BO).—MADURA. Regency Pamekasan, dist. Bunder, desa Tambhung, experimental field, vern. name *lob-tolobhan*, June 1934, Ass. Advisory Agric. Expert of Pamekasan 6 (BO).—LESSER SUNDA ISLANDS. Sumba. Waikabubak, ricefield, alt. 400 m, May 31, 1950, Monod de Fr.oideville 1899 (BO). Tanimbar Islands (Timor Laut). P. Jamdena, about 15 km ENE. of Ottimer, *Melaleuca* forest surrounded by primary forest, low alt., March 31, 1938, Buwalda 4540 (BO, L, SING).—PHILIPPINES. Luzon. Luzon central, San Francisco del Monte, Loher 738 & 739 (K); prov. of

Bulacan, Sept. 1913, Ramos Phil. PL 1461 (BO, GH, L, NY, SING); prov. of Rizal, Caloocan, Oct. 1909, Merrill Phil. PI. 520 (Fl, GH); Bosoboso, June 1906, Ramos BS1112 (type coll.)¹ (BO, GH, SING); near Wack Wack Country Club 3 miles E of Manila, in water in rice paddies, Aug. 10, 1945, Rogerson 1014 (NY); Quezon City, University campus, low wet area, Dec. 18, 1949, Santos 4639 (L).

ELEOCHARIS VARIEGATA (Poir.) Presl

Eleocharis variegata (Poir.) Presl in Oken, Isis 21: 269. 1828; Svens. in Rhodora 41: 8, t. 5.87, f. 4- 1939.

Known from tropical Africa, Madagascar, Mauritius, and the Seychelles. As far as this can be judged in the herbarium, the stems of the Sumatran specimens cited below are obtusely quadrangular with one of the sides narrower than the other ones. They very well agree with the description of *Eleocharis calocarpa* Cherm. in Arch. Bot. Caen 4, Mém. 7: 4. 1931. According to Svenson *I.e.*, p. 9, the main distinguishing character of *E. calocarpa* seems to lie in the 4-angled stems as compared with the cylindrical stems of *E. variegata*. Therefore it is somewhat surprising to see that one of the specimens cited by Svenson under *E. calocarpa* is stated to have terete stems. I do not think the Sumatran plants can be separated specifically from the African specimens of *E. variegata* I have seen.

N. SUMATRA. S. foot of Mt. Piso-piso, NW of Toba Lake, swamp, not rare, alt. 1400m, Dec. 29, 1922, Lorzing 9874 (BO).

FIMBRISTYLIS HISPIDULA (Vahl) Kunth

Fimbristylis hispidula (Vahl) Kunth, Enum. Plant. 2: 227. 1837; Kern in Blumea 8: 120. 1955.

Very rare in Malaysia; only recorded from the Lesser Sunda Islands (Wetar) and the Philippines (Luzon). It was also collected in East Java.

There is some difference of opinion on the question which is the correct name of this species. Also the name *F. exilis* (Kunth) R. & S. is used for it. It must be admitted that there is no direct evidence that Kunth based his *Fimbristylis hispidula* on *Seirpus hispidulus* Vahl. However, he deliberately dropped his own earlier epithet *exilis* in favour of *hispidula*, and cited Vahl's type-locality "Guinea" as the first locality among his records. In accepting these facts as sufficient circumstantial evidence, we can avoid that Vahl's name would not be transferable to *Fimbristylis* on account of *Fimbristylis hispidula*. Kunth, which certainly belongs to the same species, and in all probability is even based on the same type.

E. JAVA. Res. Besukl. Situbondo, March 6, 1940, Buwalda, 7405 & 7406 (L),

Fimbristylis lawiana (Boeck.) Kern, *comb. nov.*

Fimbristylis lawiana (Boeck.) Kern., *comb. nov.*—*Trichelostylis digitata* Hook, f. & Thorns, in *sched.*—*Scii-[w&, lawianus* Boeck. in *Linnaea* 36: 497, 1869/70.—*Fimbristylis digitata* Boeck. in *Flora* 61: 35, 1878; C. B. Clarke in Hook, f., *Fl. Br. Ind.* 6: 648, 1893; in *J. Linn. Soc. Bot.* 34: 71, 1898.

Scirpus laivicmus Boeck. is based on "*Tricheiostylis digitata* Law in Hook, et Thorns, herb. Indie, or.", and *Fimbristylis digitata* Boeck. on "*Trichelostylis digitata* Dalz. in Hook, et Thomson hb. Ind. or." These collections are identical, and *Scirptts lawianus* and *Fimbristylis digitata* were rightly treated as synonymous by Clarke; The oldest legitimate name of the species being *Scirpus lawianus*, the correct name in *Fimbristylis* is *F. lawiana* (Boeck.) Kern.

FIMBRISTYLIS 'SIGNATA' S; T. Blake

Fimbristylis signata S. T. Blake in *J. Arn. Arb.* 35: 214, 1954.

Only known from northern Australia and Papua. Recently it was collected in the Philippines.

PHILIPPINES. Mindanao. Cotabato Prov., Marbel, along the side of Alah River, May 26, 1950, Santos 4.896 (L).

Fimbristylis psammophila Kern, *nom. nov.*

Fimbristylis psammophila Kern, *nom. nov.*—*Fimbristylis arenieola*, Kern in *Blumea* 8: 146, 1955.

When I published *Fimbristylis arenieola* from Siam (type: A. F. G. Kerr 21361), I unfortunately overlooked the existence of the name *Fimbristylis arenieola* Wiggins in *Contrib. Dudley Herb., Stanford Univ.* 4: 15, 1950 for a quite different species" from Sonora, Mexico. Therefore the above name is proposed to replace the illegitimate binomial.

LIPOCARPHA DEBILIS Ridl.

Lipocarpha debilis Ridl. in *Trans. Linn. Soc. II (Bot.)* »: 243, 1916.—Dutch New Guinea, Camp VI c, 5500 ft, *Boden Kloss* (BM; dupl. in K).

According to Ridley allied to *Lipocarpha microcephala* Kunth, but with no recurved point to the glumes, and a much weaker and more slender plant. In my opinion the type collection consists of poor young specimens of *Lipocarpha senegalensis* (Lamk) Th. & Hel. Durand = L.

RHYNCHOSPORA MALASICA C. B. Clarke

Rhynchospora malasica C. B. Clarke in Hook, f., *Fl. Br. Ind.* 6: 670, 1893; *Eidl. in J. Str.* Br. roy. as. Soc. 46: 225, 1906; C. B. Clarke, *Illustr. Cyp. t. 67, f. 1-4*, 1909; Merr., *Bibl. Enum. born. PL.* 63, 1921; Kiik. in *Bull. Jard. Bot. Buitenz. III*, 16: 303, 1940; in *Bot. Jahrb.* 74: 438, 1949.—*Rhynchospora nipponica* Makino in *Bot. Mag. Tokyo* 18: 145, 1904; Ohwi in *Mem. Coll. Sci., Kyoto imp. Univ.* B18: 17, 1943.

This rare species extends from Japan (Hondo, Kiushiu) through the Riu Kiu Islands (Okinawa) and Formosa to Malaysia (Malay Peninsula: Malacca, Singapore; Bangka; erroneously the record for Bangka was cited under Borneo by Kiikenthal, 1949). It was rightly recorded for Borneo by Clarke, Ridley, and Merrill; probably all these statements refer to *Motley 377*, after which the figures in Clarke's *Illustrations of Cyperaceae* were drawn. I have not seen this collection, but another one cited below.

BORNEO. Sarawak, Saribas, Sept. 1907, J. Hewitt s.n. (SAR).