NEW RECORD OF SOME CYPERACEAE TAXA IN INDIA

By

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This paper presents one new combination i.e. *Fimbristylis falcata* (Vahl) Kunth var. *latifolia* (Kunth) Naithani et Raizada and new records of 13 taxa of family Cyperaceae in India viz. (1) *Cyperus melanospermus* (Nees) Vaik. Sur., known from Nilgiri, Tamilnadu, Panchmarhi, Madhya Pradesh (Clarke, 1889), Panchgani, Maharashtra (Blatter and McCann, 1934), Travancore, Kerala (Kukenthal, 1936), is now a new record for Orissa from Kalahandi; (2) *Cyperus pulchellus* R. Br., reported from Tamilnadu, Karnataka, Konkan (Kern, 1954) and Madhya Pradesh (Saxena, 1973) is now being reported for Orissa from Sambhalpur and Gujarat from Chota Udaipur; (3) *Cyperus sanguinolentus* Vahl ssp. *melanocephalus* (Miq.) Kern, so for known only from Eastern India i.e. Sikkim and Khasi Hills (Kern, 1954) is now being reported as a new record for North India from Simbudra, Kashmir; (4) *Cyperus unioloides* R. Br., so far reported from Assam, Nilgiri Hills, Tamilnadu (Clarke, 1898) and Dehra Dun, Uttar Pradesh (Som Deva and Naithani, 1974) is now a new record for Central India from Bailadila, Bastar, Madhya Pradesh; (5) *Fimbristylis falcata* (Vahl) Kunth var. *latifolia* (Kunth) Naithani and Raizada comb. nov., known so far from only Tamilnadu, South India (Clarke, 1898) is now a new record for North India from Dhirassu, Tehri Garhwal, Uttar Pradesh; (6) *Fimbristylis pierotii* Miq., so far known only from North West Himalaya i.e. Simla and Kumaon (Clarke, 1898) is now a new record for Orissa from Koraput; (7) *Fimbristylis salbundia* (Nees) Kunth, known so far from Bengal and Assam (Clarke, 1898) is now being reported new for Central India from Bailadila, Bastar and Jashpur, Madhya Pradesh; (8) *Fimbristylis sieberiana* Kunth, so far known only from Gujarat State (Shah and Surayanaryana, 1969 and Shah & Yogi, 1974) is now being reported from North India : Saharanpur and Dehra Dun, Uttar Pradesh, Ajit Sagar, Rajasthan, South India : Nagpur, Maharashtra and Kurnool, Tamilnadu, (9) *Fimbristylis stolonifera* Clarke, known so far only from Khasi Hills and Manipur, Assam (Clarke, 1898) is now a new report for Central India from Surguja (Ambikapur) Madhya Pradesh; (10) *Fimbristylis velata* R. Br., known from Kodaikanal, Tamilnadu (Govindarajalu, 1974) and Salt Lake, Calcutta (Koriahalli, 1967) is now a new report for Karnataka from Biligiritangan Hills, (11) *Scleria biflora* Roxb., known from Bengal (Clarke, 1898), Konkan and North Kanara (Blatter and McCann, 1935), Orissa (Raizada, 1949), Dehra Dun, Uttar Pradesh (Saxena, 1967) is now being reported for Madhya Pradesh from Sagar; (12) *Scleria corymbosa* Roxb., known from Khasi Hills, Tamilnadu and Maharashtra (Clarke, 1898), Andhra Pradesh, Malabar and Travancore, Kerala (Blatter and McCann, 1935) is now a new record for North India from Bahraich, Uttar Pradesh; (13) *Scleria rugosa* R. Br., recently reported from Madhya Pradesh i.e. from Jagadalpur, Bastar (Govindarajalu, 1972; Sahni et al 1972) is now being reported for Orissa from Sambalpur.

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Notes on synonomy, description, distribution and distinction from allied species are provided. Species are arranged alphabetically. All specimens quoted are deposited in the Dehra Dun Herbarium (DD).

Cyperus melanospermus (Nees) Valk.—Sur. Hot. Gesl. Cyp. Mal. Arch. 50. t.2.f.8. 1898; Kukenthal in Engl. Pflanzenr. Heft. 101:583.1936; Blake, Journ. Arn. Arb. 28:225. 1947; Kern in Back. and Bakh. f. Fl. Java 3:470. 1968 et in Fl. Males. (Ser. I) 7 (3). 655. 1974.—*Kyllinga melanosperma* Nees in Wight, Contr. 91. 1834; Clarke in Hook. f. Fl. Brit. Ind. 6:588. 1893 et Journ. Linn. Soc. Bot. 34:10 1898.

Perennial with creeping rhizomes. *Stems* 0.35—1.5 m high, triquetrous. *Leaves* shortly to rather long-laminate, or reduced to membranous purplish sheaths. *Inflorescence* very dense 10–12×6 mm. *Involucral bracts* 3, upto 20 cm. *Spikelets* numerous, oblong-elliptic, 3–4.5 mm long. *Glumes* hyaline, ovate-lanceolate or elliptic-ovate, 1st and 2nd small, 3rd 2.5–3.5 mm with 3-4 nerves, 4th 3-4 mm with 2-nerves. *Stamens* 3. *Stigmas* 2. *Nut* biconvex, oblong ovate, brown to black, 1.5–2 mm long.

This species is known from Nilgiri, Tamilnadu, Panchmarhi, Madhya Pradesh (Clarke, 1898); Panchgini, Maharashtra (Blatter & McCann, 1934); Travancore, Kerala (Kukanthal, 1935).

New Record for Orissa

Specimen examined:—28 December, 1939, Kalahandi, *H.F. Mooney* 1235 !

Distribution:—India (Madhya Pradesh, Tamilnadu, Karnataka, W. Ghats), Ceylon, Tropical and Sub-tropical Africa and Malesia.

Cyperus pulchellus R. Br. Prodr. Fl. Nov. Holl. 213. 1810; Kern in Reinwardtia 3 (1): 30.f.5 dextr. 1954 and Fl. Males. (Ser. I) 7 (3): 632. 1974.—*C. sorostachys* Boeck. in Linnaea 35: 584. 1868.—*C. leucocephalus* (non Retz., obs. 5:11. 1789, *nec* Hausk.) sensu Nees in Hook. Journ. Bot. Kew Miscl. 6: 28. 1854; Clarke in Journ. Linn. Soc. Bot. 21:107. 1884 p.p. et in Hook. f. Fl. Brit. Ind. 6: 602. 1893 p.p.; Kukenthal in Engl. Pflanzenr. Heft 101: 278. 1936 p.p.

Perennial with short rhizome. *Stems* slender 10–20 cm high. *Leaves* 1–2, almost setaceous, smooth or scaberulous at tip. *Inflorescence* a single, globose, white or pale head. *Involucral bracts* 3, upto 10 cm. *Spikelets* numerous, ovate, compressed, 8–12—flowered. *Glumes* membranous, hyaline, 1 mm long, elliptic-oblong, obtuse, 3–nerved. *Stamens* 1. *Stigmas* 3. *Nut* trigonous, obovoid-oblong, yellowish to fuscous, 0.5–0.9 mm long.

Clarke (1893) and Kukenthal (1936) treated *C. leucocephalus* Retz. as synonym of *C. pulchellus* R. Br. Kern (1954) treated *C. leucocephalus* Retz. and *C. pulchellus* R. Br. specifically distinct. *C. pulchellus* R. Br. can be distinguished by the

characters given below :

Cyperus pulchellus R. Br.	*Cyperus leucocephalus* Retz.
1. Inflorescence globose	1. Inflorescence semiglobose.
2. Involucral bracts 3.	2. Involucral bracts 2.
3. Spikelets 1.5-2 mm broad.	3. Spikelets 3–4 mm broad.
4. Glumes short, 1 mm long, 3—nerved, apex obtuse.	4. Glumes large, 2.5 mm long, 5–nerved, apex semidenticulate.
5. Nut small, 0.5–0.9 mm long, yellow to fuscous	5. Nut large, 1.5–1.7 mm, black when ripe.

Recently Chavan & Sabnis (1959) reported the occurrence of *C. leucocephalus* Retz. from Chota Udaipur and Devgarh, Gujarat. A critical examination of Sabnis collection C. 81, collected from Chota Udaipur, available in Dehra Dun Herbarium proved that it is *C. pulchellus* R. Br. and not *C. leucocephalus* Retz.

This species in India is so far known only from Bengal, South India i.e. Tamilnadu, Karnataka, Kanara, Konkan (Kern, 1954) and Madhya Pradesh (Saxena, 1973).

New record to Orissa and Gujarat

Specimen examined :—Orissa : 2 July, 1949, Motigharan Hills, Sambalpur, *H F. Mooney* 3454 !

Gujarat : 27 July, 1958, Chota Udaipur, *S.D. Sabnis* C 81 !

Distribution :—India (Tamilnadu, Karnataka, Kanara, Konkan, Bengal, Madhya Pradesh, Orissa and Gujarat), Tropical Africa, Malesia and Australia.

Cyperus sanguinolentus Vahl ssp **melanocephalus** (Miq.) Kern in Rainwardtia 3 (1) : 55.t.9. 1954, in Back. and Bakh f. Fl. Java 3 : 471, 1968 et Fl. Males. (Ser. I) 7 (3) : 647. 1974.—*C. melanocephalus* Miq. Fl Ind Bat 3 : 259. 1856.—*C. sanguinolentus* Vahl f. *melanocephalus* Kukenthal in Engl. Pflanzenr Heft 101 : 387. 1936.

Annual or perennial. *Stems* very slender, often short. *Leaves* narrow, 1-1.5 mm wide. *Inflorescence* capitate, paucispiculate with 3-9 spikelets. *Involucral bracts* 2-3, the lower one usually erect or obliquely erect. *Spikelets* 2.7-3.5 mm wide. *Glumes* 2-2.5 mm long, without depression, dark castaneous to almost black except for a pale keel and narrow but distinct whitish hyaline margins. *Stamens* 2. *Stigmas* 2. *Nut* 1.2-1.5 mm long.

C. sanguinolentus Vahl ssp. *melanocephalus* (Miq.) Kern can be distinguished from *C. sanguinolentus* Vahl by the characters given below:

C. sanguinolentus Vahl ssp. *melanocephalus* (Miq.) Kern	*C. sanguinolentus* Vahl
1. Inflorescence capitate, pauci-spiculate.	1. Inflorescence contracted or capitate.
2. Lower involucral bract erect or obliquely erect.	2. Lower involucral bract not erect.
3. Glumes usually dark castaneous to black except keel and narrow, distinct whitish hyaline margin.	3. Glumes distinctly depressed on both sides with sanguineous bands.
4. Stamens 2.	4. Stamens 3.

The distribution of this sub-species in India is only from the East i.e. Sikkim and Khasi Hills, at high altitude, 1,600 m upwards.

New record for North India

Specimen examined:—20 September, 1940, Simbudra (Kashmir), *Range Officer* 19!

Distribution :—India (Sikkim, Khasi Hills and Kashmir), Java, Philippine and New Guinea.

Cyperus unioloides R. Br. Prodr. Fl. Nov. Holl. 216. 1810; Clarke in Journ. Linn. Soc. Bot. 21:60 1884; Kukenthal in Engl., Pflanzenr. Heft 101:338.f. 28, 4 E-G. 1936; Kern in Reinwardtia 2(1): 124.f.12. 1952. Back. Bakh.f. Fl. Java 3:471. 1968 et Fl. Males. (Ser. I) 7(3) :648 1974.—*C. angulatus* Nees in Wight Contr. 73.1834.—*Pycreus angulatus* Nees in Linnaea 9:283. 1834. Clarke in Hook. f. Fl. Brit. Ind. 6:593. 1893 et Ill. Cyp. t. 4.1909.

Annual or perennial with short rhizome. *Stems* tufted, triquetrous, 30-90 cm. *Leaves* half or two third as long as stem, flat. *Inflorescence* simple, 3-7×6-9 cm. *Involucral bracts* 2-4 upto 20 cm. *Spikelets* oblong-lanceolate, compressed, 10-20 flowered, yellow or reddish brown, 1.2-1.7 cm long. *Glumes* ovate-oblong, 3.7-4 mm long, usually mucronate, 3-nerved. *Stamens* 3. *Stigmas* 2. *Nut* biconvex, laterally compressed, elliptic-obovate, shining black, 1-1.5 mm long, epidermal cell isodimetric.

C. unioloides R. Br. closely resembles *C. diphanus* Sch. var. *latespicatus* (Boeck.) Kern syn. *C. latespicatus* Boeck., but can easily be distinguished from this species by the following characters:

C. unioloides R. Br.	*C. diphanus* Sch. var. *latespicatus* (Boeck.) Kern
1. Glumes 3.7–4×2.5–3 mm	1. Glumes 3×1.7–2 mm.
2. Stamens 3.	2. Stamens 2.
3. Nut the epidermal cells isodimetric.	3. Nut rugulose with transverse wavy lines, epidermal cells longitudinally oblong.

In India the species is known so far from Khasi Hills, Nilgiri, Tamilnadu (Clarke, 1898) and Dehra Dun, Uttar Pradesh (Som Deva & Naithani, 1974).

New record for Central India

Specimen examined :—9 October, 1940, Bailadila (Bastar), Madhya Pradesh, *H F. Mooney* 1526!

Distribution:—India (Assam, Tamilnadu, Uttar Pradesh and Madhya Pradesh) Pantropic.

Fimbristylis falcata (Vahl) Kunth var. **latifolia** (Kunth) Naithani et Raizada *comb. nov.*—*F. latifolia* Kunth, En. 2:239. 1837.—*F. junciformis* Kunth var. *latifolia* (Kunth) Clarke in Hook. f. Fl. Brit. Ind. 6:648. 1893 et Journ. Linn. Soc. Bot. 34:70. 1898.

Perennial with woody rhizome. *Stems* solitary or some what tufted, angular, glabrous, 10-55 cm *Leaves* shorter than stem, rigid, flat, curved or twisted, 1.25—2×0.3 cm. *Inflorescence* compound or decompound, 3-15 cm long. *Involucral bracts* 2–4, short, lower one 2.5 cm. *Spikelets* in cluster or solitary, brown castaneous, ovoid, angular, 3-4×1.5 mm. *Glumes* spiral, triangular-ovate, acute, minutely apiculate, 3-nerved, 2–2.7×2–2.5 mm. *Stamens* 3. *Stigmas* 3. *Nut* trigonous, obovoid, minutely stipitate, unbonulate, verruculose or smooth, white, 1 mm, epidermal cells transverely oblong.

This variety differs from *F. falcata* (Vahl) Kunth by leaves being broader 1.25–2× 0.3cm, flat, curved and twisted, spikelets rather many (rarely all) solitary.

Kern (1955) treated *F. junciformis* Kunth as conspesfic with *F. falcata* (Vahl) Kunth, and selected the later name as the correct one. Kern, however, did not transfer the variety *latifolia* (Kunth) Clarke from *F. junciformis* Kunth to *F. falcata* (Vahl) Kunth which is being done now.

This variety is endemic to South India i.e. Tamilnadu Peninsula (Clarke, 1898).

New record for North India

Specimen examined:—11 June, 1883, between Lalari and Dhairassu, Tehri Garhwal, Uttar Pradesh, *J.F. Duthie* 72 !

Distribution:—India : Tamilnadu and Tehri Garhwal.

Fimbristylis pierotii Miq. Ann. Ludg. Bat. 2:145. 1865; Clarke in Hook. f. Fl. Brit. Ind. 6:642. 1893 et Journ. Linn. Soc. Bot. 34:64. 1898; Collett in Fl. Siml. 561. 1921; Kern in Blumea 8 (1):112. 1955 et Fl. Males. (Ser. I) 7 (3):555. 1974.

Perennial with woody rhizomes. *Stem* solitary, 15-30 cm high, compressed and triquetrous. *Leaves* half the length of stem, flat or inrolled. *Inflorescence* simple or sub-compound, 1.5–4 cm long. *Involucral bracts* very short about 1.5 cm. *Spikelets* solitary, ovoid-lanceolate, angular, 7-15 mm long, castaneous. *Glumes* spiral ovate, acute or obtuse, 3-nerved, 4.5–6 mm long. *Stamens* 3, *Stigmas* 3. *Nut* trigonous, broadly, obovoid shortly stipitate, verruculose, 1-1.5 mm long.

Its distribution in India is so far only from North West Himalaya (Clarke, 1898).

New record for Orissa

Specimen examined:—:10th July 1950, Sirimanda Parbat, Koraput, *H.F. Mooney* 3832 !

Distribution:—India (Himachal Pradesh, Kumaon and Orissa), Japan, Korea and Philippines.

Fimbristylis salbundia (Nees) Kunth, En. Pl. 2:230. 1837; Clarke in Hook.f. Fl. Brit. Ind. 6:643. 1893 et Journ. Linn. Soc. Bot. 34:69. 1898; Blake in Journ. Arn. Arb. 35:216. 1954; Kern in Blumea 8:119.1955 et in Fl. Males. (Ser.I) 7(3):553. 1974. *Trichelostylis salbundia* Nees in Wight. Contr. 105. 1834.

Perennial with short rhizomes. *Stems* 45–90 cm, 4-5 angled. *Leaves* of the flowering stem reduced into bladeless sheaths. *Inflorescence* compound or decompound. *Involucral bracts* 2–5, very short, 1.5 cm. *Spikelets* solitary or some sub-aggregate, ellipsoid, ovoid, angular, 3–5 mm long. *Glumes* spiral, ovate, obtuse, 3-nerved, 2 mm long. *Stamens* 3. *Stigmas* 3. *Nut* 0.8–0.9 mm, obovoid, trigonous, smooth or sparsely verruculose.

Fimbristylis salbundia (Nees) Kunth is close to *F. aphylla* Steud. syn. *F. quinquangularis* (Vahl) Kunth var. *crassa* Clarke, and can be distinguished by the characters given in the following table.

F. salbundia (Nees) Kunth	*F. aphylla* Steud.
1. Spikelets 3–5×2 mm, castaneous black.	1. Spikelets, 2.5–3.5×1.5–2 mm, brown.
2. Glumes keeled, 2×1.5 mm.	2. Glumes, scarcely keeled, 1.5×1 mm.
3. Stamens 3, 0.7–1 mm.	3. Stamens 2, 0.5 mm.
4. Nut not unbonulate, smooth or sparsely verruculose, reticulate-lanceolate by transversely elliptic or oblong, epidermal cells 9–13, vertical rows on each face 0.8–0.9×0.6–0.7 mm.	4. Nut scarcely unbonulate, densely verruculose, finely transversely lanceolate by the transversely linear epidermal cells in 4–6 vertical rows on each face, 0.7×0.4–0.5 mm.

Regarding distribution also *F. salbundia* (Nees) Kunth is known from East India i.e. Bengal and Assam (Clarke, 1893 & 1898), while *F. aphylla* Steud. is from Nilgiri Hills, South India (Clarke, 1893 & 1898) and Dehra Dun, Uttar Pradesh, North India (Som Deva & Naithani, 1974).

New record for Central India

Specimen examined:—9th, October, 1940 Bailadila (Bastar), Madhya Pradesh, *H. F. Mooney* 1523 !

September, 1941, Jashpur State, Madhya Pradesh, *H. F. Mooney* s n. !

Distribution:—India : (Bengal, Assam & Madhya Pradesh), Burma, N. Thailand, Annam and Malesia.

Fimbristylis sieberiana Kunth, En. 2:237. 1837; Steud. Syn. 2:118. 1855; Kern in Blumea 8 (1): 131.1955 et in Fl. Males. (Ser. I) 7 (3): 572-573. 1974.—*F. ferruginea* (*non* Vahl) Decne, Nouv. Ann. Mus. Hist. Nat. Paris, 3: 352 1834.—*F. ferruginea* var. *sieberiana* Boeck. Linnaea 37:17. 1871.

Clarke in Fl. Cap. 7: 201. 1898, referred *F. seiberiana* Kunth to the synonym of *F. ferruginea* (Linn.) Vahl. Kern (1955) treated *F. ferruginea* (Linn.) Vahl and *F. sieberiana*

Kunth, spacifically distinct. *F. sieberiana* Kunth can be distinguished by the following characters:

F. sieberiana Kunth	*F. ferruginea* (Linn.) Vahl
1. Lower sheath stramineous to ferrugineous.	1. Lower sheaths shining brown to castaneous.
2. Upper sheath pilose especially at the top some-times glabrous.	2. Upper sheath ciliolate at mouth, otherwise glabrous.
3. Blades of cauline leaves grass like, 35 cm long.	3. Blades of cauline leaves rigid, short, 2–10 cm long.
4. Involucral bracts usually overtopping the inflorescence upto 10 cm long.	4. Involucral bracts usually shorter than the inflorescence.
5. Spikelets obtuse.	5. Spikelets acute.
6. Glumes vary broadly ovate, densely tomentose in the apical part, castaneous, 3–4.5 mm long.	6. Glumes ovate-oblong, puberulous in the apical part, ferrugineous, 3–4 × 2.5–3mm.
7. Style 0.4 mm wide.	7. Style 0.25 mm wide.
8. Nut broadly obovate-orbicular, distinctly stipitate.	8. Nut obovate to oblong-obovate, shortly stipitate.

This species in India has so far been reported from Gujarat (Shah & Surayanaryana, 1969; Shah & Yogi, 1974).

New record for North and South India

Specimen examined :—North India: Saharanpur, Uttar Pradesh, *Gollan* s.n. !

19th October, 1973, Nakronda, Dehra Dun. *H. B. Naithani* Ser. II. No. 66 !

September, 1957, Ajit Sagar, Khetri (Rajasthan), *K. K. Konodia* 306 !

South India : 16th August, 1960, Nagpur (Maharashtra), *Mishra* 556 !

20th October, 1961, Nagpur (Maharashtra), *Mishra* 12 !

March, 1883, Kurnool (Tamilnadu), *J. S. Gamble* 10888 !

Distribution:—India (Gujarat, Rajasthan, Uttar Pradesh, Tamilnadu and Maharashtra), Madagascar, Mauritius, Syria, Arabia, Persia, Pakistan, Malesia and Tropical Australia.

Fimbristylis stolonifera C. B. Clarke in Hook. f. Fl. Brit. Ind. 6: 637. 1893 et Journ. Linn. Soc. Bot. 34:59. 1898.

A stoloniferous sedge; stolon horizontally from the base of stem. *Stems* sub-solitary, 30–60 cm high. *Leaves* 15-40 cm long, hairy or glabrous, erect. *Inflorescence* compound or decompound. *Involucral bracts* 2-3, about 4 cm long. *Spikelets* dark chestnut 0.1–1 × 0.3 cm.

Glumes spiral, ovate to oblong ovate, often mucronulate 2-3×2 mm. *Stamens* 1-3. *Stigmas* 2. *Nut* biconvex, obovate, tuberculate, white, 1-0.7 mm.

F. stoloniferа C.B. Clarke is allied to *F. dichotoma* (Linn.) Vahl, but differs in having stoloniferous rhizomes and dark chestnut spikelets. It is distributed only in Khasi Hills and Manipur (Clarke, 1898).

New record for Central India

Specimen examined:—14 May 1940, Saranggobi, Surguja State (near Ambikapur), Madhya Pradesh, *H. F. Mooney* 1322!

Distribution:—India (Khasi Hills, Manipur and Madhya Pradesh), Yunnan

Fimbristylis velata R. Br. Prodr. Nov. Holl. 227. 1810; Kunth, En. Pl. 2:243. 1837; Govindrajalu in Reinwardtia 8 (4):f.1 a-e. 509.1974.— *F. propinqua* R. Br. Prodr. Nov. Holl. 227. 1810.—*F. squarrosa* Vahl var. *esquarrosa* Makino in Bot. Mag. Tokyo 17:47. 1903; Kern in Blumea 8 (1) :143. 1955 et Reinwardtia 6 (1):49. 1961; Korelaballi in Bull. Bot. Surv. Ind. 9:237. 1967; Kern in Back. & Bakh.f Fl. Java 3:467. 1968 et in Fl. Males. (Ser. I) 7 (3) : 585. 1974. — *F. dichotoma* (Linn) Vahl var. *villosa* Fischer apud Gamble, Fl. Pres. Madras 9 : 1658. 1931. — *F. bisumbellata* (Forsk.) Bub. var. *hirtistylis* Fischer in Kew Bull. 150. 1935. — *F. makinoana* Ohwi in Journ. Jap. Bot. 14 : 378. 1938. — *F. aestivalis* (Retz.) Vahl var. *esquarrosa* (Makino) Koyama in Journ. Fac. Sci. Univ. Tokyo III, 8(3) : 116. 1961.

Annual. *Stems* tufted, glabrous or smooth, 8-15 cm high. *Leaves* setaceous 5-10 cm × 0.5-0.6 mm. *Inflorescence* compound or decompound. *Involucral bracts* 3-7, slightly longer than inflorescence, soft hairy. *Spikelets* 5-10, oblong-cylindric, glabrous, ferruginous brown, 6 mm. *Glumes* ovate, brown, spiral, esquarrose, 3-nerved, mucronate, 1.8-1.9×1-1.1 mm. *Stamen* 1. *Style* flat, hairy throughout, upto 1 mm long, base with long colourless pendent hairs, bifid. *Nut* obovoid, biconvex, shortly stipitate, minutely umbonate, smooth, outer cell of upper half transversely elongated, hexagonal, 13-15 regular vertical rows on each face, 0.8×0.5 mm, yellowish brown.

F. velata R. Br. is closely related to *F. squarrosa* Vahl and can be distinguished as follows :

F. velata R. Br.	*F. squarrosa* Vahl
1. Involucral bracts as long or slightly longer than inflorescence.	1. Involucral bracts longer than inflorescence.
2. Spikelets oblong-cylindric, subacute, obtuse.	2. Spikelets ovate-elliptic, acute.
3. Glumes 1-1.1 mm, esquarrose, ovate, broad, glabrous.	3. Glumes 0.6-0.7 mm, squarrose, elliptic-oblong, basal glume hairy.
4. Style with long pendent hairs; hairs extending upwards upto 0.7 mm of the length from style base.	4. Style with long pendent hairs; hairs almost covering entire nut confined to style base, style remains almost glabrous upward.

This species is also close to *F. aestivalis* (Retz.) Vahl and differs from it by long pendent hairs of style, which is very short or absent in *F. aestivalis* (Retz.) Vahl.

Govindarajalu (1974) states that this species is uncommon in India and seems to be restricted at Kodaikanal, Tamilnadu. It has also been reported from Salt lake Calcutta, West Bengal (Korelahalli, 1967).

New record for Karnataka

Specimen examined :—March-May, 1939, Biligirirangan Hills, *E. Barnes s.n.*!

Distribution :—India (West Bengal, Tamilnadu, Karnataka), Thailand, Indo-China, N.E. and E. China, South Korea, Japan, Polynesia, Australia, Newzealand and Malesia.

Scleria biflora Roxb. Fl. Ind., ed 2, 3 : 573. 1832; Clarke in Hook. f. Fl. Brit. Ind. 6 : 687. 1894, Journ. Linn. Soc. Bot. 34 : 98. 1898 et Ill. Cyp. t. 127 f. 1–2. 1909; Kern in Blumea 11(1) : 197. 1961 et in Back. & Bakh. f. Fl. Java 3 : 486. 1968 et Fl. Males. (Ser. I) 7(3) : 743. f. 106 (23), 113. 1974. — *S. tessellata* (non Willd.) Nees in Wight, Contr. 118. 1834. — *S. tessellata* Willd. var. *biflora* Blatter et McCann in Journ. Bombay nat. Hist. Soc. 37 : 777. 1935.

Annual. *Stems* slender, smooth, 15–75 cm high. *Leaves* glabrous or sparsely pilose. *Inflorescence* narrow, elongated, consisting of 2–4 panicles, terminal panicle 2–4 cm long, somewhat longer than the lateral ones. *Spikelets* either male or female or bisexual; male spikelets 3–4 mm long; stamens 2–3; female spikelets obovoid, 4–4.5mm long. *Disk* deeply 3-lobed; lobes half the length of nut, lanceolate, acute, gradually narrowed upward. *Nut* globose or slightly depressed, regularly cancellate, beaked with the black or purplish persistent style base, with 6 deep pits at the base (2 in each sinus of the disk-lobes), dull white, ferrugineous— pubescent on the walls between the lacunae, 2 mm across; lacunae deep square to broader than long.

Scleria biflora Roxb. is close to *S. tessellata* Willd., and can be distinguished by the following characters :

S. biflora Roxb.	*S. tessellata* Willd.
1. Disk lobes lanceolate, acute, half the length of nut.	1. Disk lobes obtuse, only at the base of nut.
2. Nut broadly globose, with purplish or blackish beak, dull white, ferrugineous-pubescent on the walls between the lacunae; lacunae deep, square to broader than long.	2. Nut broadly ellipsoid, mucronate, lacunae longitudinally elongate.

This species is so far known from Bengal (Clarke, 1894); Orissa (Raizada, (1949), Dehra Dun, Uttar Pradesh (Saxena, 1967; Som Deva and Naithani, 1974) and Bombay Presidency (Blatter and McCann, 1935).

Use :—In Java the very young fragrant plants are eaten with rice as *lalab*, either raw or steamed (Kern, 1961). The roots strongly smell of Camphor or Cajaput (Kern, 1961 and 1974).

New record for Madhya Pradesh

Specimen examined :—5 September 1952, Saugar, Madhya Pradesh *L.C. Singhai* s.n.!

The above specimen is referable to sub-species *biflora* (Kern, 1961 and 74).

Distribution :—India (Bengal, Bombay, Uttar Pradesh, Madhya Pradesh, Orissa), Ceylon, South China, Formosa and Malesia.

Scleria corymbosa Roxb. (Hort. Beng. 103. 1814 nom. nud.), Fl. Ind. ed. 2,3 : 574. 1832; Clarke in Hook. f. Fl. Brit. Ind. 6 : 686. 1894, Journ. Linn. Soc. Bot. 34 : 97. 1898 et Illus. Cyp. t. 124. f. 1-3. 1909; Kern in Blumea 11(1) : 189. 1961 et Fl. Males (Ser. I) 7(3) : 740. f. 105(18). 1974. — *S. ridleyi* Clarke in Hook. f. Fl. Brit. Ind. 6 : 686. 1894, Journ. Linn. Soc. Bot. 34 : 97. 1898 et Ill. Cyp. t. 124. f. 4. 1909.

Perennial with horizontal rhizomes. *Stems* often robust, erect, triquetrous, about 2 m high. *Leaves* rigid, glabrous, sub-coriaceous, 7–25 mm wide. *Inflorescence* often copious, upto 75 cm long, consisting of distant fascicles of panicles; lateral panicles 2–3 together at the nodes, rarely solitary, dense, decompound, corymbiform, with patent branches. *Spikelets* bisexual and male, stramineous or dark brown, sessile, 4–5 mm long; male spikelet lanceolate; stamens 3; bisexual spikelet broadly ovoid. *Disk* obsolete, reduced to a brown or reddish narrow, triangular, minutely glandular band. *Nut* ovoid, obtusely trigonous, with 3 shallow depressions at the base, acute, hardly or not unbonulate, shining, snow white, rarely somewhat discoloured, 3-3.5 × 2-2.5 mm.

This species is so far known from Khasi Hills, Tamilnadu, Karnataka (Clarke, 1898) and Andhra Pradesh, Travencore, Kerala (Fischer, 1931 and Blatter and McCann, 1935).

New record for North India

Specimen examined :—25 September, 1918, Bahraich, Uttar Pradesh, *Sri Ram* s.n.!

Distribution :—India (Assam, Tamilnadu, Karnataka, Andhra Pradesh, Kerala and Uttar Pradesh), Ceylon, South China and Malesia.

Scleria rugosa R.Br. Prodr. Fl. Nov. Holl. 240. 1810; Kunth. En. Pl. 2 : 358. 1837; S.T. Blake in Journ. Arn. Arb. 35 : 226. 1954; Kern in Bulmea 11 : 206. 1961; Govindarajalu in Journ. Bombay nat. Hist. Soc. 69(1) : 246: 1972; Kern in Fl. Males. (Ser. I) 7(3) : 749. 1974. — *S. lateriflora* Boeck, Linnaea, 38 : 455. 1874. — *S. flaccida* Clarke in Hook. f. Fl. Brit. Ind. 6 : 688. 1894, *non* steud (1855); Journ. Linn. Soc. Bot. 34 : 98. 1898 et Ill. Cyp. t. 127. f. 3-5. 1909; *S. zeylonica* (non Poir.) Clarke in Hook. f. Fl. Brit. Ind. 6 : 687. 1894, excl. syn. *S. thwaitesiana* Boeck.

Annual with dark red roots. *Stems* slender, obliquely erect or decumbent, triquetrous, hispid and leafy, 10–13 cm. *Leaves* densely pubescent with hispid hairs, 6–10 cm × 2–4 mm, tip obtuse. *Inflorescence* narrow, elongate, consisting of a terminal or pseudoterminal, short panicle. *Spikelets* uni-sexual; male spikelets short, 2 mm long, lanceolate; stamen 1, female spikelets, 3–4 mm long. *Glumes* triangular (ovate), acute hispid on the keel. *Disk* thick, appressed, shallowly 3-lobed, densely glandular; lobes obtuse, spreading semi-orbicular. *Nut* globose, shorter than glumes, apiculate, unbonnulate, obscurely rugulose-lacunose in upper half, white, obscurely tricostulate, smooth, marked by 3 dark bands and covered by dirty brown patches (when mature), 1–1.5 mm broad.

S. rugosa R. Br. is closely related to *S. thwaitesiana* Boeck. and can be distinguished by the characters given in the following table:

S. rugosa R. Br.	*S. thwaitesiana* Boeck.
1. Stem obliquely erect or decumbent.	1. Stem strictly erect.
2. Leaves 2-4 mm wide.	2. Leaves 1–2 mm wide.
3. Disk densely glandular, lobed.	3. Disk not glandular, hardly lobed.
4. Nut apiculate, smooth or more or less rugulose to lacunose specially on upper half, somewhat tuberculate at the top.	4. Nut obtusely trigonous, not or hardly apiculate, smooth or nearly so.

This species in India is so far known only from Jagdalpur, Bastar, Madhya Pradesh (Govindarajalu, 1972 & Sahni et al, 1972).

New record for Orissa

Specimen examined:—3 September 1948, Sambalpur (Motijharan forest), *H. F. Mooney* 3103 !

Distribution—India (Madhya Pradesh, Orissa), Ceylon, S. China, Formosa, Japan, N. & N. E. Australia, New Caledonia & Malesia.

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SUMMARY

The paper presents a new combination i.e. *Fimbristylis falcata* **(Vahl) Kunth var.** *latifolia* **(Kunth) Naithani et Raizada and new records of 13 taxa of sedges (Cyperaceae) in India, viz.** *Cyperus sanguinolentus* **Vahl ssp.** *melanocephalus* **(Miq.) Kern,** *Fimbristylis falcata* **Kunth var.** *latifolia* **(Kunth) Naithani et Raizada comb. nov.,** *Scleria corymbosa* **Roxb. for North India;** *Cyperus unioloides* **R. Br.,** *Fimbristylis sulbundis* **(Nees) Kunth,** *Fimbristylis stolonifera* **C. B. Clarke for Central India;** *Scleria*

biflora **Roxb. for Madhya Pradesh;** *Cyperus melanospermus* **(Nees) Valk-Sur.**, *Fimbristylis pierotii* **Miq.** *Scleria rugosa* **R. Br. for Orissa;** *Cyperus pulchellus* **R. Br. for Orissa and Gujarat;** *Fimbristylis sieberiana* **Kunth for North & South, India and** *Fimbristylis velata* **R. Br. for Karnataka. Notes on synonomy, short description, distribution and distinction from allied species are provided, species are arranged alphabetically. All specimens quoted are deposited in Dehra Dun Herbarium (DD).**

भारत से साइपेरेसी (मुस्ता) कुल के कुछ वर्गीकारिकी एककों के नए श्लेख

लेखक एच० बी० नैथानी व एम० बी० रायजादा

सारांश

इस प्रभिपत्र में एक नया संयोग अर्थात् फिम्ब्रिस्टाइलिस फाल्काटा (वैह्ल) कुन्थ विभेद लैटिफोलिया (कुन्थ) नैथानी व रायजादा तथा भारत में वलीकों (Sedges) (साइपेरेसी=मुस्ता कुल) के वर्गीकारिकी एककों के नए श्लेख यथानिम्न प्रस्तुत किए गए हैं—साइपेरस सेंगुइनोलेंटस वैह्ल उपजाति मेलेनाकेफैलस (मिक०) केर्न, फिम्ब्रिस्टाइलिस फाल्काटा कुन्थ० विभेद लैटिफोलिया (कुन्थ) नैथानी व रायजादा नया संयोग, स्कलेरिया कोरिम्बोसा राक्स० उत्तर भारत से; साइपेरस युनिओलायडिस रा० ब्रा०, फिम्ब्रिस्टाइलिस सालवंदिया (नीज) कुन्थ, फिम्ब्रिस्टाइलिस स्टोलनीफेरा सी० बी० क्लार्क मध्यवर्ती भारत से; स्कलेरिया वायफ्लोरा राक्स० मध्यप्रदेश से; साइपेरस मेलानोस्पर्मस (नीज) वाल्क–सूर०, फिम्ब्रिस्टाइलिस पियरोटिआई मिक०, स्कलेरिया रुगोसा रा० ब्रा० उड़ीसा व गुजरात से; फिम्ब्रिस्टाइलिस सीवेरियाना कुन्थ उत्तर व दक्षिण भारत से तथा फिम्ब्रिस्टाइलिस वेलाटा रा० ब्रा० कर्णाटक से। समनामता विषयक टिप्पणी, संक्षिप्त विवरण, विस्तार तथा सम्बन्धित जातियों से इनका अन्तर दिए गए हैं, जातियां अंग्रेजी अकारादिक्रम से विन्यस्त की गई हैं। लेख में उद्धृत सभी नमूने देहरादून उद्भिज्जालय (DD) में रखे गए हैं।

Neue Zeugnisse einiger cyperaceae Taxa vom Indien

H.B. NAITHANI UND M.B. RAIZADA

ZUSAMMENFASSUNG

Der Artikel gibt eine neue Verbindung d.i. *Fimbristylis falcata* (Vahl) Kunth Abart *latifolia* (Kunth) Naithani und Raizada und die neue Zeugnisse der 13 Taxa der Seggen (Cyperaceae) vom Indien, nämlich *Cyperus sanguinolentus* Vahl Unterart *melanocephalus* (Miq.) Kern, *Fimbristylis falcata* Kunth Abart *latifolia* (Kunth) Naithani und Raizada neue Verbindung, *Scleria corymbosa* Roxb. vom nördliche Indien; *Cyperus unioloides* R. Br., *Fimbristylis salbundia* (Nees) Kunth, *Fimbristylis stolonifera* C.B. Clarke vom zentrale Indien; *Scleria biflora* Roxb. vom Madhyapradesh; *Cyperus melanospermus* (Nees) Valk-Sur, *Fimbristylis pierotii* Miq., *Scleria rugosa* R. Br. von Orissa und Gujarat; *Fimbristylis sieberiana* Kunth vom nördlich und südlich Indien, und *Fimbristylis velata* R. Br. vom Karnataka. Anmerkungen zur Synonymbeit, kurze Beschreibungen, Verteilungen und der Unterschied mit den verwandte Arten sind gegeben, und die Arten sind alphabetisch geordnent. Alle zitierte Probestücke sind im Dehradunkrauthaus (DD) niedergelegt.

Nouvel enregistrement en Inde de quelques espèces de la famille des Cypéracées

par H.B. NAITHANI ET M.B. RAIZADA

Ré-umé

Cet article présente une nouvelle combinaison—*Fimbristylis falcata* (Vahl) Kunth var. *latifolia* (Kunth) Naithani et Raizada et un récit de 13 espèces suivantes de laiches (Cypéracées) enregistrées en Inde:—*Cyperus sanguinolentus* Vahl ssp. *melanocephalus* (Miq.) Kern, *Fimbristylis falcata* Kunth var. *latifolia* (Kunth) Naithani et Raizada comb. nov., *Scleria corymbosa* Roxb. à l'Inde du Nord; *Cyperus unioloides* R. Br., *Fimbristylis stolonifera* C.B. Clarke à l'Inde Centrale; *Scleria biflora* Roxb. au Madhya Pradesh; *Cyperus melanospermus* (Nees) Valk-Sur, *Fimbristylis pierotii* Miq., *Scleria rugosa* R. Br. à l'Orissa et au Gujarat; *Fimbristylis sieberiana* Kunth à l'Inde du Nord et du sud et *Fimbristylis velata* R. Br. au Karnataka. L'article donne la synonymie, un court récit et la distribution des espéces qui ont également été distinguées des autres espèces alliées. Les espèces ont été disposées par ordrealphabétique et déposées dans l'herbier à Dehra Dun (DD).

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