



Floristic Studies in Selected Species of *Fimbristylis* Vahl (Cyperaceae)

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Abstract

Stems trigonous or laterally compressed. Leaves: bladed or reduced to bladeless sheaths; blades mostly flat, sheaths closed, cylindrical or laterally compressed; ligule much reduced. Inflorescence: corymbose or reduced to a single terminal spikelet; bracts leafy, setaceous, not sheathing. Spikelets mostly ovoidal, terete or more or less laterally compressed. Glumes many, spirally imbricated. Flowers all bisexual and fruit-bearing. Stamens 2 or 3. Styles trigonous, the style base dilated and jointed at base, hence falling free from the nut. Nuts trigonous to lenticular, smooth, often verruculose, bearing an inconspicuous gynophore. Present study is on our own critical observations on fresh plant material collected from the different parts. The observations are also based on herbarium specimens. It provides a detailed floristic description, illustration and relevant information for its easy identification in the field.

INTRODUCTION

The genus *Fimbristylis* Vahl earlier based on the spirally arranged glumes and flat, fimbriate, 2-fid deciduous styles with dilated base, subsequently based on distichous glume he created the genus *Abildgardia* (1806) apparently very similar to *Cyperus* spp. The tristigmatic species were left in *Scirpus*. However, R. Brown (1810) and Kunth (1837) added most of the tristigmatic species in the genus *Abildgardia* on account of deciduous styles. Recently only *Actinoschoenus* Benth. is retained distinct generically by Koyama & Simpson (Fl. Thailand 6(4): 417. 1998).

Floristic Studies:

Fimbristylis miliacea (L.) Vahl En. Pl. 2: 287. 1806. Clarke in Hook. f. Fl. Brit. India 6:644.1893; Fischer in Gamble Fl. Pres. Madras (1931) 3:1655. (repr.ed.) 1994; Koyama in Dassan. & Fosb. Rev. Handb. Fl. Ceylon 5:296.1985. *Scirpus miliaceus* L. Syst. ed. 10: 868. 1759. *Fimbristylis littoralis* Gaud. in Fre. Voy. Bot. 413. 1826. S.T. Blake J. Arn. Arbor. 35: 217. 1954. Kern in Steenis, Fl. Malesiana 1.7(3): 552. 1974. Brahmam & Saxena in Fl. Orissa: 4. 2180.1996; L'narsimhn in Sharma et al Fl. Maharashtra (Monocots) : 313.1996; Pullaiah & Hanumanth. Cypr. in Fl. Andhra Pradesh 3:1083.1997; W. Khan in Naik Fl. Marathwada 2:952.1998; *F. miliaceus* Vahl var. *congesta* Trimen ex Trimen Handb. Fl. Ceylon 5: 56.1900.

Trichostylis miliaceus (L.) Nees in Wt. Contr. Bot. Ind. 104. 1834.



Fig. *Fimbristylis miliacea* (L.) Vahl
Habit, Glume and Nut.

Densely tufted perennials, 10-25 cm flattened, smooth, 4 angled below, triquetrous above. Leaves shorter than stems, laterally compressed, apex acuminate, scabrid on upper margins, eligulate, blade of the stems reduced to sheaths, those of the sterile shoots well - developed, linear, 1.5 x 2 - 2.5 mm wide, scabrid in upper half, acute. Umbels compound or decompound, involucrel bract setaceous, much shorter than umbels acuminate, scabrid, rays 8-12, the longest one 3-4 cm long, rigid, erect, few to many spikelets. Spikelets solitary, ovoid 1.5-2 mm wide, with dark brown, rhachilla wingless, involucrel bract, filiform, 2-3. Glumes ovate, 1.5 x 1 mm, boat shaped, narrowly

hyaline on margins, mucous. Stamens 2, anthers oblong *ca* 0.5 mm long, mucous. Style 3-fid, trigonous, hairy on the stigma only.

Common in rice-fields, marshes of open grasslands and other water courses.

Flowers and Fruits: Almost throughout the year.

Specimens examined: A.P. Chittoor Dist. Vinayakpuram, *Shaikh R. I.* 835; Karvetnagar, *Shaikh R. I.* 850; Nellore Dist. Pulicat lake, *Shaikh R. I.* 722; Visakhapatnam Dist. Narsipatnam, *Shaikh R. I.* 912. T.N. Kanchipuram Dist. Pudukattinum, *Shaikh R. I.* 730; Tirunelveli Dist. *Shaikh R. I.* 809.

Notes: A very distinct taxon on account of its laterally compressed leaves of sterile shoots acute on the back. Apparently it is similar to *F. quinguangularis* (Vahl) Kunth. There is confusion in its nomenclature treatment. Because confusion in typification of *F. miliacea* S. T. Blake renamed it as *F. littoralis* Gaud. This was followed by Kern (1974) and Koyama in his earlier treatment. I have followed here Koyama (1985) recent treatment as above which according to him is based on Kern's typification. (For details pl. see foot notes Kern, Taxon 3:246, 1954, 1974 l.c. p. 552) Koyama (l.c. p. 297).

Fimbristylis ovata (Burm.f.) Kern in: *Blumea* 15(1):126. 1967. et in *Steenis Fl. Malesiana* 1.7(3): 565. 1974; W. Khan in *Marathwada Univ. J. Sc.* 22(15): 9.1983 et in *Naik Fl. Marathwada* 2:955.1998; Koyama in *Dassan. & Fosb. Rev. Handb. Fl. Ceylon* 5:273. 1985; Brahmam & Saxena in *Fl. Orissa*: 4. 2181.1996; L'narsimhn in *Sharma et al Fl. Maharashtra (Monocots)* : 316.1996; Prasad & Singh in *sedge. Karnataka (Fam. Cypr.)*: 195. 2002. *Carex ovata* Burm. f. *Fl. Ind.* 194. 1768. *Cyperus monostachyos* L. *Mant.* 2:180.1771. *Abildagrdua monostachya* (L.) Vahl. *En. Pl.* 2:296. 1806. *Fimbristylis monostachyos* (L.) Hassk. *Pl. Jav. Rar.* 61. 1848; Clarke in *Hook. f. Fl. Brit. India* 6:649. 1893; Fischer in *Gamble Fl. Pres. Madras* (1931) 3:1657. (repr.ed.)1994. *Abilgaardia ovata* (Burm. f.) Kral in *Sida* 4:71.1971. Pullaiah & Hanumanth. *Cypr. in Fl. Andhra Pradesh* 3: 1047.1997.

Rigid perennial, 10-40 cm tall, rhizome short, stems angular or somewhat compressed, 0.5-1 mm

wide to filiform, very rigid, scabrid below the inflorescence. Leaves: eligulate sheaths glabrous, stramineous blades linear 0.6-1 mm wide, basal much shorter than the stems, with incurved margins subacute. Inflorescence: usually a single terminal spikelet, with often 1 or 2 additional peduncled spikelets; involucre bracts of lowest empty glumes closely distichous with setaceous awns or short blades, scabrid and shorter than spikelets. Spikelets ellipsoid or ovoid-oblong, 1-6 x 5-8 mm, acute subcompressed erect, greenish or stramineous; rhachilla distinctly winged. Glumes broadly ovate, 5-6 x 3-5.5 mm, rather coriaceous boat-shaped, carinate, with 3-5 nerved, smooth, green keel, sides nerveless, shortly mucronate at acute apex. Stamens 3; anther linear, 2-2.5 mm long, shortly crested tipped. Styles 3-fid, flat, pubescent throughout, longer than the nuts and dilated at base. Nuts obtusely trigonous, pyriform, 2.8-3 x 1.2 mm, densely coarsely tubercled, white or greyish often contracted at base in to *ca* 1 mm long stalk. Common in open grasslands, pastures, along margins of water courses, around rice-fields.

Specimens examined: A. P. Chittoor Dist. Karvetnagar, *Shaikh R. I.* 853, Vinaykpuram, *Shaikh R. I.* 839; East Godavari Dist. Annaavaram, *Shaikh R. I.* 957; West Godavari Dist. Kovvur, *Shaikh R. I.* 972; Vishakhapatnam Dist. Talapalam, *Shaikh R. I.* 916, Areku, *Shaikh R. I.* 917, Tadi, *Shaikh R. I.* 950. T.N. Kanchipuram Dist. Pudupattanam, *Shaikh R. I.* 731; Viluppuram Dist. *Shaikh R. I.* 1007, Chennai to Pondicherry (on the way), *Shaikh R. I.* 745.

Notes: The *Fimbristylis ovata* collected from different localities have mostly 3 spikelets (rarely 4). The spikelets are more or less turgid. The forms .

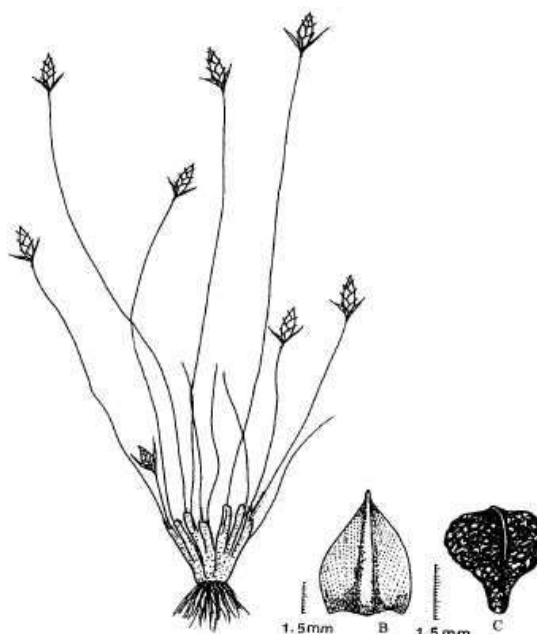


Fig. *Fimbristylis ovata* (Burm. f.) Kern
Habit, Glume and Nut.

Flowers Fruits: September to December apparently approach to its closely related *F. triflora* (L.) Schum. *F. ovata* differs from the former in its smaller habit, spikelets and floral structures. As a rule the spikelets are flat or subflat and the glumes are distichous but the turgid nature of the collected plants is probably due to torsion of rhachilla showing spiral arrangement of glumes.

❖ *Fimbristylis quinquangularis* (Vahl) Kunth En. Pl. 2:229.1807. Clarke in Hook. f. Fl. Brit. India 6:644.1893; Fischer in Gamble Fl. Pres. Madras (1931) 3:1653. (repr.ed.)1994; Koyama in Dassan. & Fosb. Rev. Handb. Fl. Ceylon 5:295.1985; Cook, CDK. Aq. & wetl. Pl. India: 144. 1996; Pullaiah & Hanumanth.Cypr. in Fl. Andhra Pradesh 3:1084. 1997. *Scirpus quinquangularis* Vahl, En. Pl. 279. 1806 *Fimbristylis miliacea* (L.) Vahl. Senu Kern in Fl. Malesiana 1.7(3): 586. 1974; L'narsimhn in Sharma et al Fl. Maharashtra (Monocots) : 315.1998.

Annual with very short rhizome, densely tufted with fibrous roots; stems arising from axils of blades which first form a leaf-shoot, erect, 15-60 cm tall, 1.2-2.75 mm thick below, acutely pentagonous, smooth, clothed at base with 2-4 sheaths. Leaves: eligulate, sheaths bladeless,



Fig. *Fimbristylis quinquangularis* (Vahl) Kunth
Habit, Glume and Nut.

subterete, pale green or straw-coloured, the ventral side hyaline and lightly yellow-brown, the orifice obliquely truncate, hyaline on margin, the uppermost sheath 3-18 cm long, leaf blades linear, dorsiventrally flat, shorter than or occasionally surpassing the subtending stem, 8-30 cm long, 1.5-3 mm wide below, herbaceous, soft, whitish-green and 4 or 6 nerved on upper surface, more or less thickened on margins, smooth except on upper margins where spinulose-scabrid, gradually tapering to subacute apex; sheaths 1-7 cm long. Inflorescence: compound to decompound, 4-9 cm long, 3-7 cm wide, subdense; rays 3-7, patent, 1-5 cm long, scabrous; bracts 3-7 patent, 1-5 cm long, bearing 3-30 spikelets; bracts 3-5, setaceous, much

shorter than rays. Spikelets solitary, ovoidal, 2-5 mm long, 1.2-1.7 mm wide, subobtusate to suddenly subacute at apex, rusty-brown or densely 20-40 flowered. Glumes ovate, 1.3-1.8 mm long, 0.8-1 mm wide, deeply boat-shaped, rounded or contracted to sometimes mucronate apex, membranous, yellow or rusty-brown, widely pale-brownish on hyaline margins, tinged with dark brown on both sides of 3-nerved keel, the midnerve greenish, rigid above. Stamen 1; anther 0.3 mm long. Style 3-fid, 0.5-0.7 mm long, glabrous, somewhat dilated at base. Nut obovate, trigonous, 0.6-0.8 mm long, 0.4-0.5 mm wide, cream-yellow, finely cancellated on each side with 3 or 4 rows of transversely oblong cells, usually verruculose. Common in open grasslands, pastures, along margins of water courses.

Flowers and Fruits: August to December.

Specimens examined: A. P. Krishna Dist. Vijaywada, *Shaikh R. I.* 702; Visakhapatnam Dist. Chintapalli road side, *Shaikh R. I.* 900, Chintapalli forest, *Shaikh R. I.* 903.

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