

## NEW DISTRIBUTION RECORDS OF THREE *FIMBRISTYLIS* SPECIES FOR THE ANDAMAN ISLANDS, INDIA

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During our recent floristic explorations in the South Andaman Islands, we collected a few specimens of *Fimbristylis* which after a critical study were identified as *Fimbristylis bisumbellata* (Forssk.) Bubani, *F. littoralis* Gaudich. and *F. microcarya* F. Muell. based on Koyama (1985). A perusal of the literature on the flora of the Andaman & Nicobar Islands (Pandey & Diwakar 2008; Prasad et al. 2009) and various other published articles revealed that these species have not been recorded till date from the Islands and hence form new distribution records for the region. All the species are provided with an updated nomenclature, brief description, distribution and photographs. All the representative specimens are deposited in S.K. University Herbarium (SKU).

### *Fimbristylis bisumbellata*

(Forssk.) Bubani, *Dodecanthea* 30. 1850. *Scirpus bisumbellatus* Forssk., *Fl. Aegypt. Arab.* 15. 1775.

Specimens examined: 46522 (SKU), 15.ix.2014, Rutland Island, South Andaman Islands, India, coll. Ravi Prasad Rao & Chennakesavulu Naik (Images 1,2).

Annual tufted herbs, up to 30cm high. Culms slender, 0.3–07 mm thick, trigonous, striate, smooth, glabrous, few-leaved at base. Leaves narrowly linear, blunt at apex, 3–14 cm long, 0.5–1.5 mm wide, flat with weakly incurved along margins, herbaceous, light green, soft, occasionally pilose with tubercle-based hairs especially on lower surface, scabrid on upper margin; sheath 1–3 cm long, pale greenish, pubescent, cinnamon-brown, the hyaline orifice obliquely truncate; ligule a fringe of loose hairs. Inflorescence compound or decompound corymbs, bearing sub-densely many spikelets, 2–6 cm long, 2–4 cm wide; rays 4–10, filiform, unequal, 1–4 cm long; leafy bracts 1–3, the lowest equalling to slightly surpassing the corymb, the second equalling to shorter than the corymb. Spikelets solitary, ovate-oblong, 2–6 mm long, 1.2–1.5 mm wide, sub-terete, suddenly sub-acute at apex, yellow-brown, densely 10–30 flowered. Glumes densely imbricated broadly ovate, 1–1.8 mm long, 0.7–1 mm wide, boat-shaped with ridged keel, contracted to mucronate apex, membranous, yellow-brown, the margins hyaline pale, the keel greenish, sub-3 nerved, excurrent to with recurved mucro. Achenes broadly obovate, thickly biconvex, 0.5–0.8 mm long and as wide, rounded to apex, contracted to short stipitate base, lightly yellow, rather deeply cancellated with 5–7 rows of transversely rectangular cells; style 1–1.5 mm long, compressed, fimbriate above the middle, dilated at base; stigmas 2, nearly 0.5–0.7 mm long. Stamen 1; anther 0.5 mm long.

Flowering & Fruiting: July–October.



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Image 1. *Fimbristylis bisumbellata*

Distribution: Western tropical, southeastern Africa to southern Europe, eastward to Madagascar, Pakistan, India (Andhra Pradesh, Chandigarh, Himachal Pradesh, Karnataka, Kerala, Madhya Pradesh, Maharashtra, Punjab, Rajasthan, Sikkim, Uttarakhand, West Bengal), Malaysia, New Zealand, and tropical Australia.

Habitat: In marshy places and forest peripheries and wastelands.

#### *Fimbristylis littoralis*

Gaudich., Voy. Uranie. 413. 1829.

Specimen Examined: 47683 (SKU), 02. ix. 2014, Ferrargunj- Bamboonalla, South Andaman Islands, coll. Ravi Prasad Rao & Chennakesavulu Naik (Images 3,4).

Perennial herbs, up to 60cm high. Culms tufted, flatly 4-angled, striate, bearing 1–3 bladeless sheaths at base. Basal leaf sheaths 3.5–9 cm, setaceous, compressed bilaterally, attenuate apically, mouth obliquely split. Leaves shorter to longer than culm; sheath bilaterally compressed, abaxially with a membranous and rust-coloured margin, adaxially keeled, mouth obliquely split; ligule absent; leaf blade ensiform, 1.5–2 mm wide, bilaterally compressed, margin sparsely and finely serrulate, apically attenuate, setaceous tip. Involucral bracts 2–4, setaceous, base dilated, margin rust colour

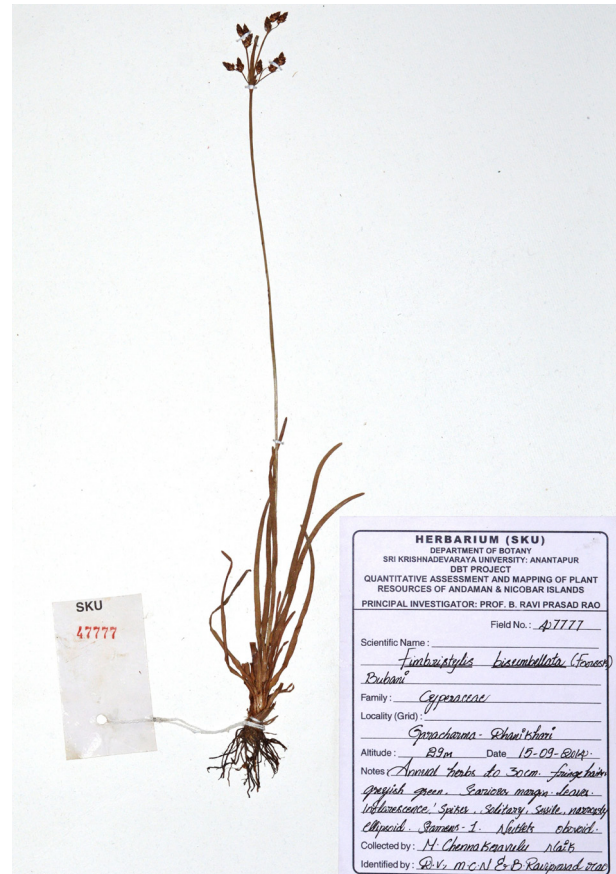


Image 2. Herbarium of *Fimbristylis bisumbellata*

and membranous. Inflorescence a compound or decomposed, or rarely simple anthela, sub-dense, with many spikelets solitary, globose to sub-globose, 1.5–5 × 1.5–3 mm, apex rounded. Glumes chestnut-brown or dark brown, ovate, 1–1.3 or 3.5–6 mm, membranous, 3-veined, abaxial keel, mid-vein green, lateral veins brown, apex obtuse. Stamens 2; anthers oblong, ca. 0.7mm, ca. ½ as long as filaments, apex obtuse. Style 3-sided, not ciliate, basally slightly inflated; stigmas 3, ca. ½ as long as style. Nutlets straw-yellow, obovoid, ca. 1mm, obtuse, verruculose, transversely oblong reticulation.

Flowering & Fruiting: May–October.

Habitat: Open slopes, marshy places, grasslands, paddy fields.

Distribution: Africa, Madagascar, Afghanistan, Pakistan, India (throughout the mainland), Nepal, Bhutan, Sri Lanka, Indonesia, Japan, Malaysia, Philippines, Vietnam, Indian Ocean Islands, and the Pacific Islands.



Image 3. *Fimbristylis littoralis*



Image 4. Herbarium of *Fimbristylis littoralis*

***Fimbristylis microcarya***

F. Muell., Fragm. 1: 200. 1859.

Specimen Examined: 48040 (SKU), 20.ix.2014, Thirur-Pahad, South Andaman Islands, India, coll. Ravi Prasad Rao & Chennakesavulu Naik (Image 1C).

Annuals tufted herbs, up to 30cm high. Culms, 0.7–1.3 mm thick, flatly 3-angled, smooth. Leaves linear, 16 × 1.5–5 mm, flat, apical margin scabrid; sheath light straw colour to pale brown; ligule ciliate. Involucral bracts 3–4, leaf like 4cm long. Inflorescence decompound anthela, 3–6 × 3–6 cm, lax; primary rays 2–5, 1–5 cm, unequal, apically scabrous. Spikelets solitary, rust-colour, narrowly ovoid, 2–3 × 1–1.2 mm, slightly angular, subclaxly 5–10 flowered, apex acute.



Image 5. *Fimbristylis microcarya*

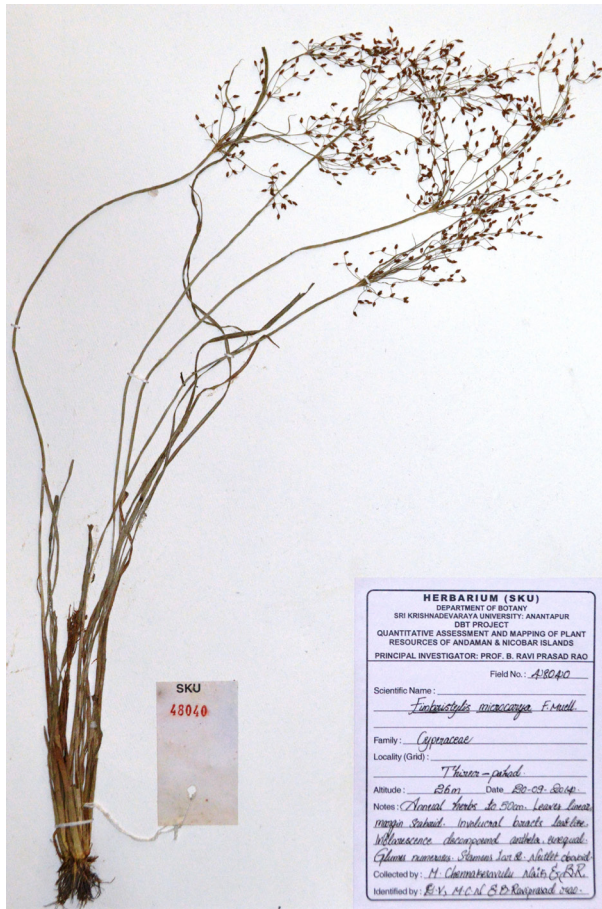


Image 6. Herbarium of *Fimbristylis microcarya*

Glumes numerous, spirally imbricate, light rust-colour, pale brownish margins, ovate, 1–2 mm, membranous, 3-veined, abaxial keel, apex mucronate. Stamens 1 or 2; anthers 0.2–0.3 mm. style 3-sided, glabrous, basally dilated; stigma 3. Nutlet sessile, light straw-colour, obovoid, 0.4–0.5 × 0.3–0.4 mm, scattered verrucose and slightly cancellate, transversely oblong cells.

Flowering & Fruiting: October–February.

Distribution: Africa, India (Kashmir, Maharashtra, Uttar Pradesh, Kerala), Indonesia, Philippines, Vietnam, Australia.

Habitat: Found in marshy places and wastelands.

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