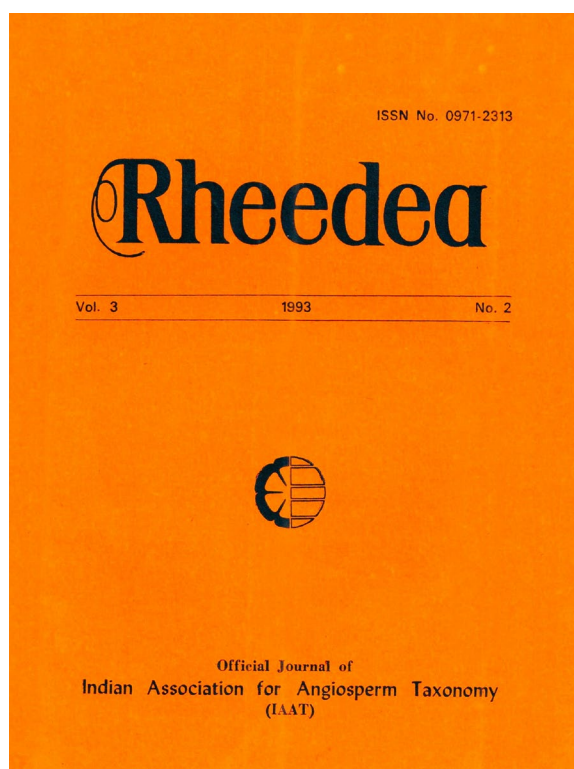




Two new species of *Fimbristylis* Vahl (Cyperaceae) from Kerala, India

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Two new species of *Fimbristylis* Vahl (Cyperaceae) from Kerala, India

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Abstract

Two new species of *Fimbristylis* Vahl, viz. *F. angamoozhensis* and *F. pseudo-narayanii*, are described and illustrated.

INTRODUCTION

During explorations along the Western Ghats of Kerala, the authors recently collected interesting specimens of two sedges belonging to the genus *Fimbristylis* Vahl. Superficially, one of them (Anilkumar 1799) closely resembled *F. dura* (Zoll. & Mor.) Merr. (= *F. asperima* Boeck.) and the other (Ravi 2254) *F. narayanii* C. E. C. Fischer. But on closer scrutiny, these specimens were found to differ from these in several respects, as is shown below:

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| <p>I. <i>F. Anilkumar</i> 1799</p> <ul style="list-style-type: none"> * Lvs. spiral, much exceeding the culm. * Spikelets upto 5 mm long, upto 10-flowered * Nuts sparsely verrucose, mostly towards the upper half, surface cells thinwalled. | <p><i>F. dura</i></p> <ul style="list-style-type: none"> * Lvs. distichous, shorter or as long as the culm. * Spikelets 4—13 mm long, many-flowered * Nuts verrucose throughout, surface cells thickwalled. |
| <p>II. <i>Ravi</i> 2254</p> <ul style="list-style-type: none"> * Gl. closely imbricating, less than 3 mm long, distinctly mucronate at apex, mucro excurved slightly. | <p><i>F. narayanii</i></p> <ul style="list-style-type: none"> * Gl. loosely imbricating, 3—3.5 mm long, subacute at apex, not mucronate. |

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| * Anthers 0.75—1 mm long | * Anthers 1—1.5 mm long |
| * Styler base brownish gland dotted. | * Styler base not gland dotted. |
| * Nut obovoid, obtuse or sub-truncate at apex, prominently ridged at angles, surface cells rectangular or hexagonal in well-defined vertical rows. | * Nuts obpyramidal, dipressed at apex with shoulders raised, ridges at angles not so prominent, surface cells isodiametric, not in well-defined vertical rows. |

The materials were then referred to Dr. D. A. Simpson at Kew, who confirmed that the two are new taxa. They are described here under the names, *F. angamoozhiensis* (after the type locality, Angamoozhi) and *F. pseudonarayani* (connoting its close resemblance with *F. narayani*).

Fimbristylis angamoozhiensis Ravi *et* Anilkumar, sp. nov. (Fig. 1)

Affinis *Fimbristylis dura* (Zoll. et Mor.) Merr., sed distincta in eo quod habent folia spiralia multum longiora culmo; parviores, lanceolati, usque ad 10-florati, spiculati, 5 mm longi, 1 mm lati; nuces oblanceoloid ad ellipsoid, subacuti apice, sparse verrucosi ad semi-superiorem partem cum cellis tenuis superficialibus.

Type: Angamoozhi, pathanamthitta Dt., Kerala, *Anilkumar* 1799 (holo MH, iso SNCH Sree Narayana College Herbarium, Kollam)

Allied to *Fimbristylis dura* (Zoll. & Mor.) Merr., but distinct in having spiral leaves much longer than culms; smaller, lanceolate, upto 10-flowered spikelets, 5 mm long, 1 mm wide; nut oblanceoloid to ellipsoid, subacute at apex, sparsely verrucose, mostly towards the upper half with thin-walled surface cells.

Robust perennial herb. Rhizome short, thick and woody. Roots fibrous and black. Culms triquetrous towards the base and more or less flattened towards the apex, glabrous, upto 50 cm tall. Leaves many, basal and spiral; lowermost 3 to 4 cataphylloid, coriaceous, tapering to an acute apex, pale brownish, rest foliaceous; sheath coriaceous, membranous and hyaline opposite the blade, glabrous, mouth oblique; blade eligulate, flat, coriaceous, tapering to an acute to subacute apex, recurved on the margins, minutely scaberulous towards the apex, glabrous otherwise, upto 70 cm long, 8 mm wide. Inflorescence a compound umbel, upto 25 cm wide; bracts several, outer 3 or 4 leaf-like, much exceeding the umbel, gradually tapering to an acuminate apex, minutely scaberulous on the margins, glabrous otherwise, the inner narrower to filiform; bracteoles filiform, broader towards the base, minutely puberulous, shorter or longer than the umbellets, upto 5 cm long; primary and secondary rays many, unequal, slender, scaberulous on the margins, upto 10 cm long. Spikelets many, solitary on slender, 5—8 mm long peduncles, sessile at the forkings, linear-lanceolate, acute at both ends, 5 mm long, 1 mm wide, upto 10-flowered; rachilla prominently winged, wings brownish-black, persistent. Glumes about 10,

New species of *Fimbristylis*



Fig. 1 *Fimbristylis angamoozhiensis* 1. Habit 2. Umbellet 3. A portion of Spikelet showing winged rachilla 4. Glume 5. Pistil 6. Nut.

lowermost 1 or 2 empty, uppermost 1 to 3 tabescent; fertile ones triangular-ovate, boat-shaped, keeled, keel 3-nerved; sparsely scaberulous on the back towards the mucronate apex; mucro shortly spinulose; margins hyaline, brownish-yellow, glabrous, veinless. Stamens 3, anthers linear, c 1 mm long, crest acuminate, Style less than 1 mm long, sparsely ciliolate towards the apex. Stigmas 3, longer than style. Nuts¹ oblanceoloid to ellipsoid, trigonous, cuneate at base, shortly stipitate, subacute at apex, trabeculate, surface cells thin-walled, transversely hexagonal in 3 to 6 vertical rows on each face, sparsely verrucose, mostly towards the upper half, pale white, c 1 mm long, 0.5 mm wide.

Fimbristylis pseudonarayanii Ravi et Anilkumar, sp. nov. (Fig. 2)

Affinis *Fimbristylis narayanii* C.E.C. Fischer, sed distincta in eo quod habent obconicos ad cbovoid nuces cum cellis superficialibus ben-formatis verticalibus ordine, distincti mucronati parviores glumi et minorus antherii et styli.

Type: Thenmalai, Kollam Dt., Kerala, *Ravi* 2254 (holo MH, Iso SNCH, Sree Narayana College Herbarium, Kollam)

Allied to *Fimbristylis narayanii* C.E.C. Fischer, but distinct in having obconical to obovoid nuts with surface cells in well-defined vertical rows, distinctly mucronate smaller glumes and shorter anthers and style.

Tufted annual herb. Rhizome absent. Roots fibrous. Culms slender, smooth more or less quadrangular, upto 20 cm tall, c 0.5 mm wide. Leaves many, basal, lowest 1 or 2 sheath-like, acuminate or with a reduced blade, others, foliaceous; sheath membranous, glabrous, mouth truncate, upto 2 cm long; blade ensiform, acute to subacute at apex, 0.5 to 2 mm wide, usually reaching the middle of the culm. Inflorescence, a simple umbel of 3—5, rarely 2 or 1 spikelet; bracts 2—5, acuminate to shortly foliaceous, much shorter than the slender, triquetrous, glabrous rays; rays upto 2 cm long with a broad sheathing base. Spikelets compressed, elliptic to lanceolate, upto 2 cm long, 2 mm wide; rachilla zig-zag, winged; wing pale yellow to brownish, hyaline, elliptic, deciduous, c 1 mm long. Glumes distichous, upto 30, closely imbricating at maturity, broadly triangular when unfolded, strongly keeled on the back; keel sharply angled, broader towards the apex, exceeding the glume and abruptly acuminate into a slightly excurved mucro, glabrous to scaberulous towards the middle, sides coriaceous, pale yellow to brownish, veinless, glabrous or minutely scaberulous in the middle towards the keel, margin hyaline, 2.75—3 mm long, 1 mm wide when folded. Stamens 3; anthers linear, sagittate at the base; crest subacute, 0.75 to 1 mm long. Style glabrous, base conical, brownish gland dotted, 1.75 to a little over 2 mm long. Stigmas 3, c 1 mm long. Nut obconical to obovoid, trigonous, subtruncate to obtuse and subumbonulate at apex, broadly cuneate at base, shortly stipitate, prominently ridged at angles, white to pale

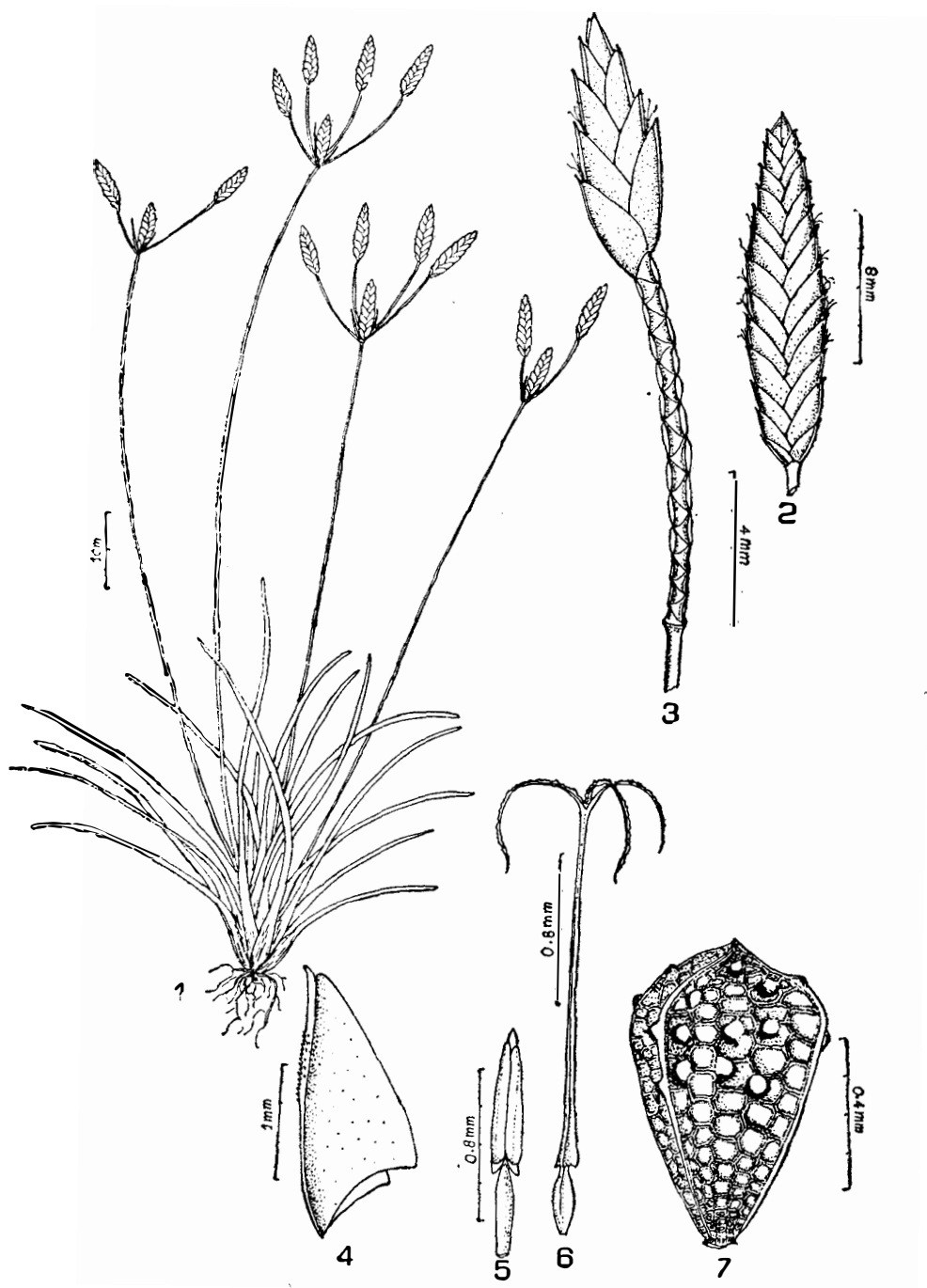


Fig. 2. *Fimbristylis pseudonarayanii* 1. Habit 2. Spikelet 3. Spikelet showing rachilla 4. Glume 5. Stamen 6. Pistil 7. Nut

yellowish-brown, sparsely verrucose on the upper half, surface cells hexagonal to rectangular in 5—7 well-defined vertical rows, 0.8—0.9 mm long and 0.5—0.7 mm wide.

F. pseudonarayanii is widely distributed in the hilly tracts of Kerala. The present authors have collected it from Ponmudi Hills in Thiruvananthapuram Dt., Thenmalai in Kollam Dt. and Kolakutty in Pathanamthitta Dt. at altitudes ranging from 100 m to 1000 m. The Senior author has also examined specimens of the species mixed up with *F. narayanii* at MH (*Vivekananthan* 20399 from Idukki Dt.) and TBGT (*Mohanan* 10188 from Kottur, *Mohanan* 7949 from Bonaccord, both in Thiruvananthapuram Dt.).

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