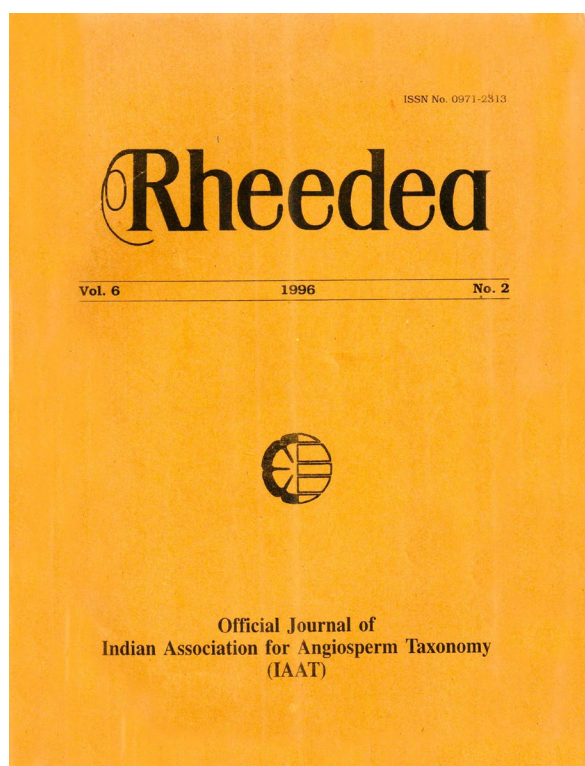




Monographia Indicorum Fimbristylum Praecursores - Novelties in *Fimbristylis* Vahl

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Monographia Indicorum Fimbristylum Praecursores - Novelties in *Fimbristylis* Vahl

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Abstract

Three new species of *Fimbristylis* are described and illustrated.

***Fimbristylis bispicula* Govind., *sp.nov.* (Fig.1).**

Affinis *Fimbristylis microcaryae* F.v.M. sed notabilis culmis brevioribus tetragonis solitarius et liberis, foliis subacutis vel obtusis laevigatis marginatis brevioribus, inflorescentia simplici spiculorum solitarius vel binatorum, bracteis distiche binatis glumiformibus, spiculis ovoidis lanceolatis fuscis longioribus, glumis muticis maioribus, nervis carinae evanescentibus, 2 staminibus, stylo longiori et nucibus bruneis maioribus.

Type: India, Karnataka, Shimoga, Agumbe, Nishanigudda, *Govindarajalu 8800 A* (Holotype: CAL; Isotypes: MH, BSI, BLAT, DD).

Annuals. Culms rather slender, usually solitary and free (rarely tufted), 1-3 (-7), stiff, erect, tetragonous, smooth, leafy at base, 3-7 cm x 0.5mm. Leaves shorter than culm, flat, usually tufted, stiff, erect, subacute or obtuse, glabrous, smooth margined throughout, 0.5-1 mm wide; sheaths all laminiferous, brown, transversely truncate or oblique, hyaline mouthed, ligulate. Inflorescence simple, usually consisting of single pair of spikelets (rarely up to 4), 5-7 mm long. Involucral bracts usually 2, distichously paired, glumiform (seemingly ebracteate); rays 0. Spikelets (single) paired, sessile (one sessile, the other pedicellate), lanceolate ovoid, angular, acute, 8-10-flowered, dark brown, 3-4 x 1-1.2 mm; rachilla raggedly winged. Glumes spiral, membranous, translucent towards margin, dark brown on either side of keel, broadly ovate, acute, muticous, acutely keeled, glabrous with nerveless sides, 2 x 1.2-1.3 mm; keel 3-nerved; nerves evanescent. Stamens 2; filaments white, long, broad; another very short, ovate, brown, 0.2-0.3 mm long. Style triquetrous with narrow pyramidal base, glabrous, c. 1 mm long; stigma 3, slightly shorter than style, glabrous, 0.75 mm long. Nut broadly obovoid or subglobose, trigonous, tricostulate with convex sides, subsessile, rounded at apex, finely lineolate by transversely elongated hexagonal epicarpic cells occurring in 4-6 regular rows on each face, somewhat verruculose appearing rough, brownish, dull, 1 x 0.5-0.6 mm.

Notes: Growing along with grasses.

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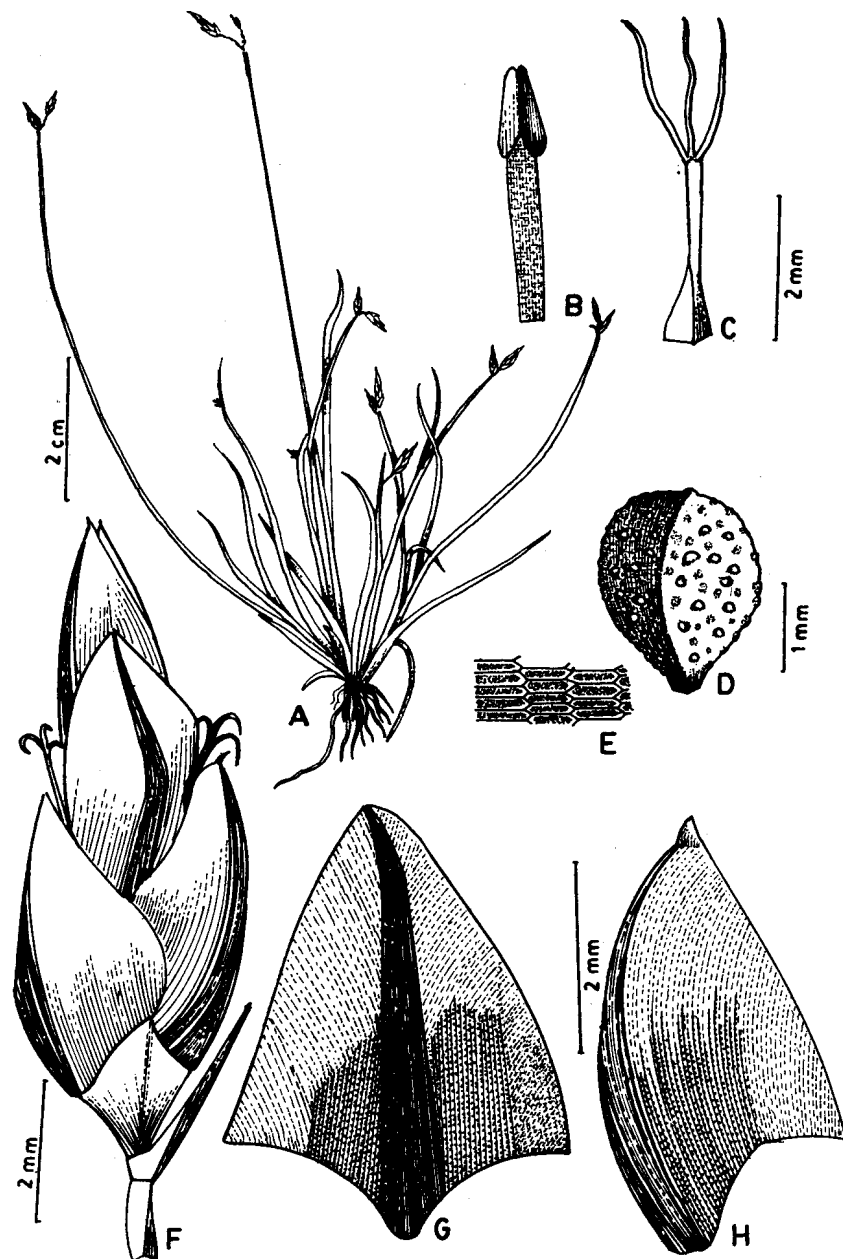


Fig. 1. *Fimbristylis bispicula* Govind., sp. nov. A. Habit; B. Anther (diagrammatic); C. Style and stigma; D. Nut; E. Epicarpic cells, (diagrammatic); F. Spikelet; G & H. Glume, spread out & folded (Based on Holotype- Govindarajalu 8800 A).

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***Fimbristylis breviculma* Govind., *sp. nov.* (Fig. 2).**

Affinis *Fimbristylis glabrae* Steud. sed notabilis culmis tetragonis brevioribus, foliis plerumque acuminatis expansis, vagina glabra fusca cum ore, inflorescentia brevior cum spiculis ad numerum minoribus, bracteis multum inflorescentia brevioribus, spiculis late ellipsoidis minoribus planis, glumis trullatis distiche adpressis compactis minoribus, antheribus apiculatis, stigmate multum stylo brevior, nucibus anguste obovoidis albis obscuris indistincte tuberculatis non umbonulatis sine eminentiis pluriceliosis.

Type: India, Karnataka, Shimoga, Agumbe, Nishanigudda, *Govindarajalu 8870 A* (Holotype: CAL; Isotype: MH).

Annuals. Culms in tufts of 3-7, tetragonous without thickening at base, 4-ribbed, sulcate, rigid, erect, smooth throughout, glabrous, leafy at base, 5-7 cm x 0.3 mm. Leaves many, filiform, flexuous, divergent, usually acuminate with smooth, involute thickened margin, glabrous, ferruginous brown, multinerved, ligulate, shorter than or nearly as long as culms, 4 cm x 1 mm; sheaths all laminiferous, membranous with membranous, brown glabrous mouth, transversely truncate or obliquely open mouth. Inflorescence simple, consisting of 1-3 spikelets, erect (divergent), 6-7 mm long; bracts stiff, erect, smooth, much shorter than inflorescence, 3.5-4 mm long; rays 0. Spikelets broadly ellipsoid (elliptic ovoid), subacute, flat, brown, 6-8-flowered, solitary, pedicellate, 3.5-3.7 x 1.2-1.5 mm; basal glumes empty. Glumes trullate or triangular ovate, acute, membranous with distinct scarious glabrous margin, eglandular, brown, mucronate, cymbiform, distichous, compactly adpressed, basal ones inflated by nuts, 1.2-1.3 x 1-1.2 mm; cells narrow, minute, vertically oblong; keel distinct, 3-nerved, (apparently 1-nerved); nerves extending up to apex, curved. Rhachilla excavated, winged. Stamens 2; anther apiculate, spurred at base, 0.5 mm long. Style more or less triquetrous, glabrous, slightly dilated at base, usually 1 mm long; stigma 3, slender, glabrous, much shorter than style, 0.2-0.3 mm long. Nuts narrowly obovoid, dull white, rough surfaced, indistinctly tubercled, stipitate with rounded apex, triquetrous, tricolostulate, 1 x 0.6-0.7 mm; epicarpic cells distinct, transversely elongated hexagonal, lineolate, occurring in 4-5 regular rows on each face; stipe less than 0.1 mm long.

Notes: Very common on rocky slopes near rivulets.

***Fimbristylis stigmatotecta* Govind., *sp. nov.* (Fig. 3).**

Affinis *Fimbristylis pierotii* Miq. sed differt habitu probabiliter rhizomatosa, culmis laevigatis planis subteretibus cum basi tumida, foliis laevigatis marginatis sine carina angustioribus culmis aequantibus, inflorescentia simplici minori cum spiculis minoribus ad numerum, bracteis laevigatis glabris, glumis manifeste mucronatis eglandulatis minoribus imbricatis cum margine angustioribus scarioso, carina 7-nervata plana cum nervis evanescentibus, antheribus brevioribus, stylo et stigmate brevioribus, stigmate exserto style longiori, nucibus laevigatis brevioribus globose obovoidis ad basem solum decrescentibus

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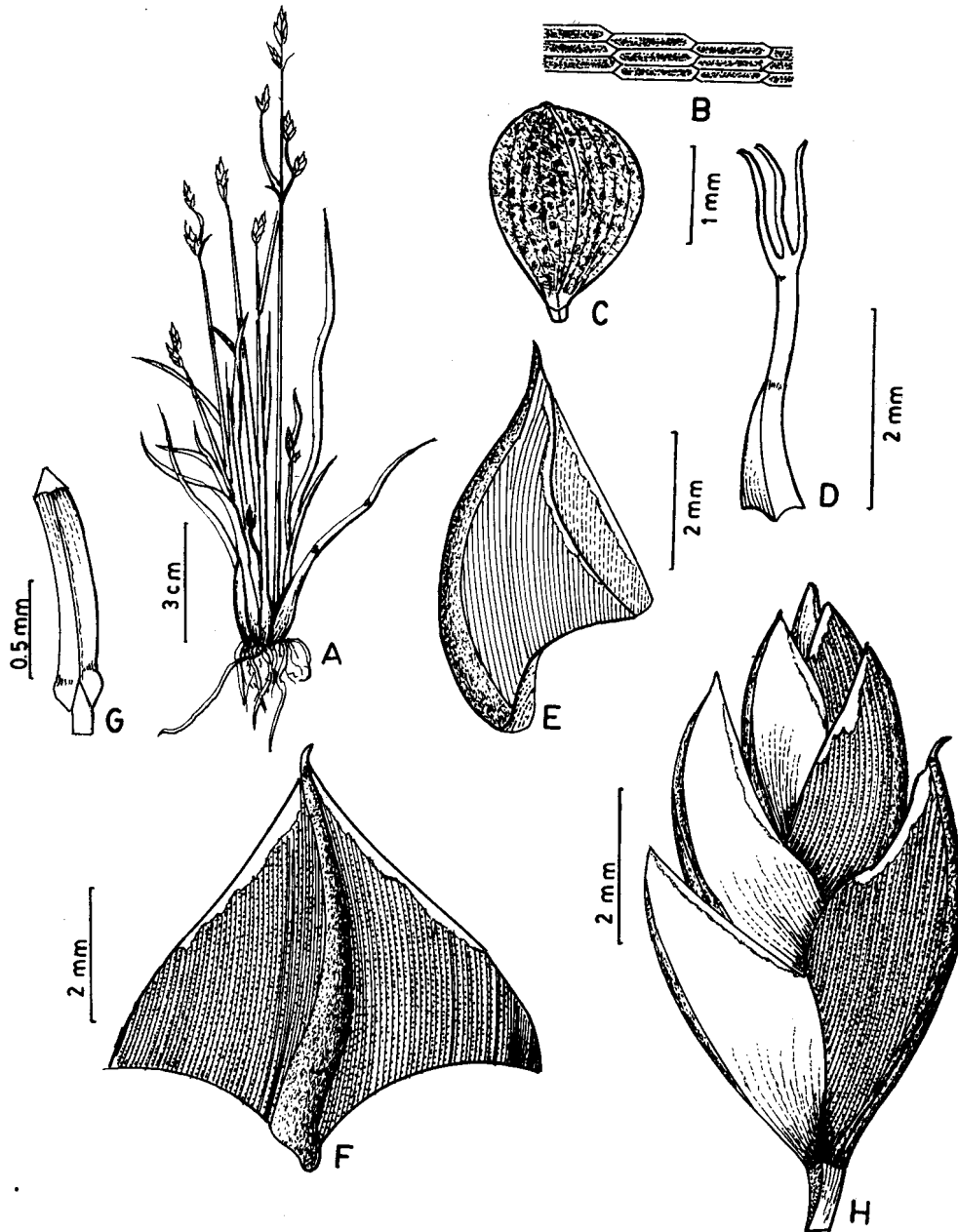


Fig. 2. *Fimbristylis breviculma* Govind., sp. nov. A. Habit; B. Epicarp cells (diagrammatic); C. Nut; D. Style and stigma; E. & F. Glume folded & spread out; G. Anther; H. Spikelet; (Based on Holotype- Govindarajalu 8870 A).

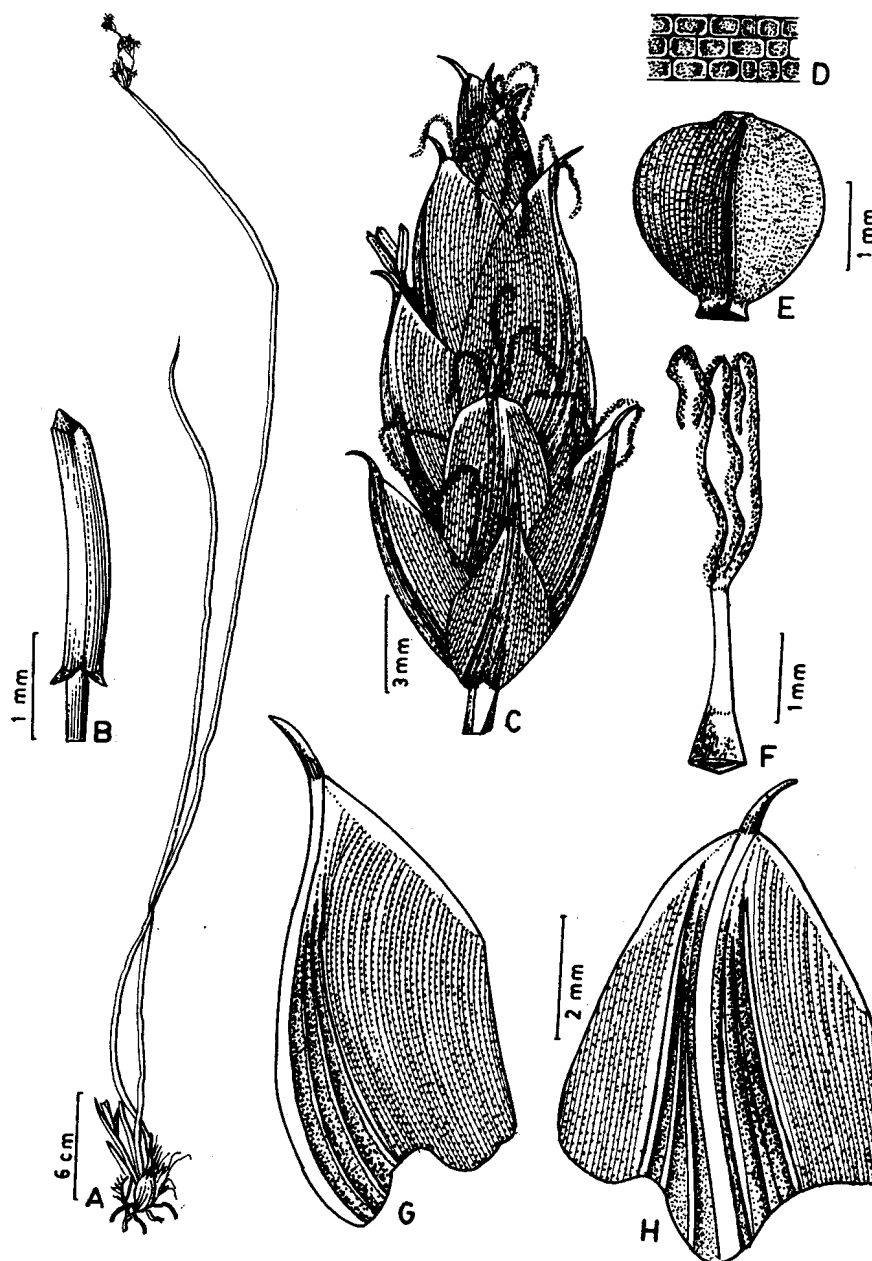
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Fig. 3. *Fimbristylis stigmatotecta* Govind., sp. nov. A. Habit; B. Anther; C. Spikelet; D. Epicarpic cells(diagrammatic); E. Nut; F. Style and stigma; G. & H. Glume folded & spread out (Based on Holotype- Govindarajalu 15126 A).

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cum apice rotundato stylari cicatrice punctato et seriebus ad numerum maioribus cellorum exteriorum ordinate dispositorum.

Type: India, Kerala, Munar, Devikulam Lockhart gap, *Govindarajalu 15126* (Holotype: CAL; Isotypes: MH, BSI, BLAT, DD).

Rhizomatous? Culms usually solitary, sometimes up to 3, flat, sulcate, somewhat slender, flexuous, smooth throughout, woody and swollen at base, 20-35 cm x 0.5-1 mm. Leaves few-many or solitary, basal, erect, linear, glabrous, smooth margined, 3-5-nerved, non-keeled, inrolled or flat with thickened margin, pungent, eligulate, about as long as culms, upto 1 mm broad; sheaths all laminiferous, glabrous, many nerved, obliquely mouthed. Inflorescence simple, umbelliform with 3-5 spikelets, lax, obliquely patent, 0.5-2 cm x 0.5-1.5 cm; bracts very short, lanceolate, smooth, glabrous, 5-10 mm long. Rays 0. Spikelets elliptic ovoid or ellipsoid, acute, angular, ferrugineous - castaneous brown, 8-10-flowered, solitary, 8-9 mm (lengthening up to 15 mm) x 2-3 mm; basal glumes 1-2 empty. Glumes oblong ovate, imbricate, rounded at apex, prominently mucronate, shining, glabrous, eglandular with nerveless sides, concave, adpressed, narrowly scarious in upper half margin, membranous, erect, 3.5-3.6 (incl. mucro) x 2 mm; mucro usually curved, 0.5 mm long; cells minute occurring in vertical rows, isodiametric; keel flat, 7-nerved; nerves excurrent into mucro. Rhachilla raggedly winged, excavated. Stamens 3; anther yellow, apiculate, linear, spurred at base, 1 mm long. Style triquetrous, glabrous, pyramidal at base, 1-1.1 mm long; stigmas 3, finely fimbriately hairy, longer than style, prominently exserted, 1.6-1.8 mm long. Nuts globosely obovoid or obovoid, narrowing towards base only, rounded at apex, marked by stylar scar, obscurely trigonous with convex sides, pale yellow, yellowish brown or blackish brown, smooth, stipitate, 1-1.1 x 0.7-1 mm; outer cells in upper half distinct, hexagonal-quadrangle, arranged in 10-15 regular rows on each face.

Notes: Easily distinguished from *Fimbristylis pierotii* Miq. by flat-subterete narrower leaves, simple inflorescence, spikelets covered by overlapping exserted stigmatic branches and prominently mucronate glumes with flat keel.

Acknowledgements

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