

***ERIOCAULON BIAPPENDICULATUM*, A NEW SPECIES OF ERIOCAULACEAE FROM THE SOUTHERN WESTERN GHATS, INDIA**

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Eriocaulon biappendiculatum, a new species of Eriocaulaceae from the southern Western Ghats, India, is described and illustrated. The new species is close to *Eriocaulon nairii* but differs in having 5–17 peduncles, free male sepals, and both continuous ribbon-like and setiform appendages on the seeds.

Keywords. Endemic, Eriocaulaceae, Kerala, Munnar, southern Western Ghats.

INTRODUCTION

The genus *Eriocaulon* L. (Eriocaulaceae), with about 400 species (Mabberley, 2008), is distributed in tropical and subtropical regions of the world. Ansari & Balakrishnan (2009), in a revised edition of their 1994 book, reported 85 species in India. This list, however, does not include species described earlier by Bole & Almeida (1986) and Yadav *et al.* (2008) and species recorded by Myrthong *et al.* (1983). Since then, 11 more species have been described from peninsular India, namely *Eriocaulon baramaticum* Shimpale *et al.*, *E. belgaumensis* Shimpale & S.R. Yadav, *E. cheemenianum* P. Biju *et al.*, *E. epedunculatum* Potdar *et al.*, *E. gopalakrishnanum* K. Rashmi & G. Krishnakumar, *E. kannureense* Sunil *et al.*, *E. madayipareense* Swapna *et al.*, *E. malabaricum* Pradeep & Nampy, *E. pykareense* Nampy & Manudev, *E. vandaanamense* Sunil *et al.* and *E. wyanadense* Vivek *et al.* (Shimpale *et al.*, 2009; Shimpale & Yadav, 2010; Vivek *et al.*, 2010; Nampy *et al.*, 2011; Biju *et al.*, 2012; Swapna *et al.*, 2012; Sunil *et al.*, 2013, 2014; Rashmi & Krishnakumar, 2014).

During a recent scientific survey in the southern Western Ghats, India, material of this genus was collected by the authors that on critical examination was revealed to be a new species, which is described and illustrated here.

SPECIES DESCRIPTION

***Eriocaulon biappendiculatum* Manudev, Robi & Nampy, sp. nov.**

Eriocaulon biappendiculatum is close to *Eriocaulon nairii* Chandrab. & V. Chandras., but differs in having 5–17 peduncles, free male sepals and seeds with continuous

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ribbon-like and setiform appendages. – Type: India, Kerala, Idukki district, Kurinji valley, way to Pachakkad from KFDC base camp, Silent Valley, Munnar, c.1600 m, 15 xii 2012, *Manudev & Robi* 4364 (holo CALI!; iso CAL!, MH!). **Fig. 1.**

Tufted caulescent herbs; stems to 4 cm long. *Rootstock* absent. *Leaves* cauline, many, linear-oblong, 6–11 × 0.3–0.4 cm, entire, glabrous. *Peduncles* 5–17, slender, 7–13 cm long, glabrous; sheaths to 7 cm long, glabrous. *Heads* globose or cylindrical, 4–6 × 5–6 mm, white. *Receptacles* cylindrical, pilose. *Involucral bracts* oblong, c.1.7 × 0.8–1 mm, obtuse, glabrous, incurved. *Floral bracts* oblanceolate, c.2 × 0.5–0.8 mm, acuminate, hoary dorsally towards apex, black. *Male flowers*: *Pedicels* c.0.5 mm long. *Sepals* 3, free, subequal, oblong, 1.17–1.46 × 0.17–0.26 mm, hoary at apex, pale. *Petals* subequal, oblong, c.0.5 × 0.18–0.22 mm, hoary with a black gland. *Anthers* 6, black. *Female flowers*: *Pedicels* c.0.2 mm long. *Sepals* 3, free, subequal, oblong-oblanceolate, 1.5–1.7 × 0.17–0.25 mm, not keeled, pilose, hoary towards apex, pale. *Petals* 3, free, subequal, spatulate, c.1.75 × 0.15–0.38 mm, pilose, hoary with a black gland. *Ovary* sessile, c.0.6 × 0.5 mm; style 3-fid. *Seeds* ovoid, obtuse, pale yellow to brownish, apiculate; cells of seed coat isodiametric, not in any specific rows; appendages in the form of both continuous ribbon-like bands arising from the walls, and solitary seta arising from the angles of the cells, bifid at apex.

Distribution. Endemic to Kerala, hitherto known only from the type locality.

Habitat and ecology. In marshes near streams, growing in tufts.

Flowering and fruiting. December, probably from the onset of the monsoon.

Etymology. The specific epithet ‘biappendiculatum’ refers to the presence of both ribbon-like and setiform appendages on the seeds.

Notes. Ansari & Balakrishnan (2009) in their revision of Eriocaulaceae recognised 12 informal sections to accommodate the Indian species. The present species falls into Section VIII which is characterised by free female sepals, narrow hyaline petals, black or dark brown anthers and isodiametric seed coat cells. This section consists of three species in India, namely *Eriocaulon nairii* Chandrab. & V.Chandras., *E. robustum* Steud. and *E. collettii* Hook.f. Among them, the former two are endemic to peninsular India while the latter occurs in Meghalaya and Myanmar (Naik, 1974). *Eriocaulon biappendiculatum* is distinct from all the above species in having both continuous ribbon-like and setiform appendages on the seeds. A detailed morphological comparison of the allied species is given in Table 1.

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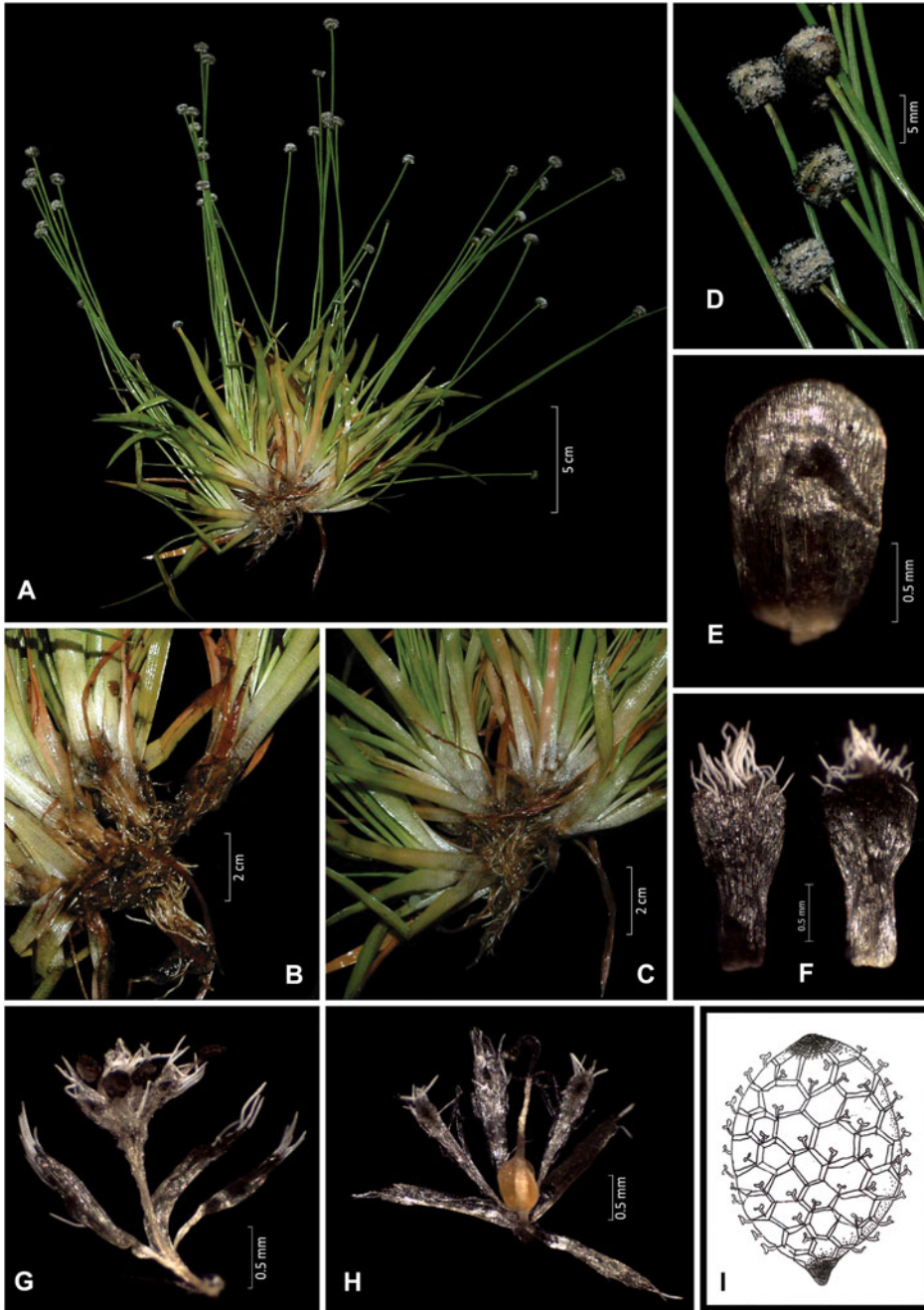


FIG. 1. *Eriocaulon biappendiculatum* Manudev, Robi & Nampy. A, habit; B & C, tufted bases; D, heads – enlarged view; E, involucral bract; F, floral bracts – dorsal and ventral views; G, male flower; H, female flower; I, seed – notice the ribbon-like and setiform appendages. All from the holotype.

TABLE 1. Comparison of *Eriocaulon biappendiculatum* with its related species

Characters	<i>Eriocaulon biappendiculatum</i>	<i>E. nairii</i>	<i>E. robustum</i>	<i>E. collettii</i>
Stems	Present, tufted	Present, elongate, 1–3-branched	Absent	Absent
Rootstock	Absent	Present	Present	Absent
Leaves	Cauline	Cauline	Rosulate	Rosulate
Peduncles	5–17	1–3	1 or 2	3–7
Receptacles	Pilose	Pilose	Villous	Glabrous
Male sepals	Free	United	Free	Free
Male petals	Subequal	Unequal	Unequal	Subequal
Female sepals	Not keeled, pale coloured	Minutely keeled, black	Minutely keeled, black	Minutely keeled, black
Seeds	Pale yellow to brownish	Pale pink	Purple	Pink
Appendages	Both ribbon-like and setiform; seta solitary from the angles of cells, bifid at apex	Setiform only; seta solitary from the angles of cells, bifid at apex	Setiform only; setae arising from all radial walls of the cells, setiform, truncate at apex	Setiform only; setae arising from all radial walls of the cells, minutely dilated at apex

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