



ERIOCAULON CHEEMENIANUM (ERIOCAULACEAE), A NEW SPECIES FROM KERALA, INDIA

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ABSTRACT: A new species of *Eriocaulon*, *E. cheemenianum* P. Biju, K. S. Prasad, Jomy & R. Ansari, is described from the lateritic hillocks of Cheemeni in Kasaragod District, Kerala. It differs from the allied *E. odoratum* Dalz. in the enlarged and reflexed odd petals of the peripherally restricted female flowers giving a stellate appearance to the heads, glabrous receptacles, sessile flowers, linear female sepals and in the number of setae in seed coat cells.

Key words: Eriocaulaceae, *Eriocaulon cheemenianum*, India, Kerala, New species

INTRODUCTION

The genus *Eriocaulon* L. (Eriocaulaceae) is one of the diverse genera distributed throughout the tropical and subtropical regions of the world with a species range of 400 [1] to 478 [2]. Ansari and Balakrishnan [3] recorded the occurrence of 65 species in India, in their taxonomic revision of the genus. Following that, many researchers focused their works on this genus, which resulted in 16 further additions from India till 2008 [4]. This trend culminated in the revised edition of the book in 2009 [5] with a detailed account of 80 species all over India. However elucidation of novel species continued with rapid pace with recent additions like *Eriocaulon epedunculatum* Potdar et al. [4], *E. baramaticum* Shimpale et al. [6], *E. belgaumensis* Shimpale & Yadav [7], *E. wayanadense* Vivek et al. [8], *E. malabaricum* Pradeep & Nampy [9], *E. pykarensense* Nampy & Manudev [9] and *E. madayiparensense* Swapna et al. [10].

During floristic explorations in the lateritic hillocks of North Malabar region of Kerala, the authors collected an interesting specimen of *Eriocaulon* with characteristic star-shaped heads, growing among the grasses. On critical analysis, it turned out to be quite different from any of the known taxa and is described here as a new species. The present species is another addition and it belongs to section III proposed by Ansari and Balakrishnan [5].

***Eriocaulon cheemenianum* P. Biju, K. S. Prasad, Jomy & R. Ansari sp. nov. (Fig. 1)**

Type. India, Kerala, Kasaragod district, Cheemeni, 75 m alt., 28 July 2012, P. Biju 0210 (Holotype: CAL. Isotypes: MH, CALI, MBGS).

Acaulescent herbs. Rootstock absent. Leaves rosulate, linear, acute or acuminate, 6–10 × 0.8–1 mm, glabrous. Peduncles 1–4, erect, upto 3 cm in height, glabrous, 3-ribbed. Sheaths up to 1.2 cm long, glabrous; limb acute-acuminate, entire. Heads star-shaped, 1–2 mm across, greyish. Receptacle hemispherical, glabrous. Involucral bracts oblong-obovate, obtuse-lacerate, 0.8–1.1 × 0.6–0.75 mm, chartaceous, glabrous, greyish-black, reflexed. Floral bracts oblanceolate-cuneate, obtuse, 0.4–0.6 × 0.15–0.2 mm, chartaceous, hoary dorsally towards apex, greyish-black. Male flowers: sessile. Sepals 3, connate into a spathe of 0.6–0.7 mm long, hoary towards apex, black. Stipe of corolla 0.7–0.8 mm long. Petals 3, two rudimentary; odd petal ovate-elliptic, up to 0.5 mm long, hoary towards the apex and just beneath the black gland. Anthers 6, globose, black.

Female flowers: sessile, arranged towards the periphery of the head. Sepals 3, free, linear-spathulate, concave, obtuse, 0.8 – 0.9 mm long, equal, hoary at apex, black. Petals 3, clearly unequal, spatulate, obtuse, with a black gland in each; odd petal two times longer and three times broader than the other two, 1.0 – 1.3 mm long, reflexed at the middle, hyaline, hoary at the middle and tip; lateral petals *ca.* 0.6 mm long, hoary just below the black gland. Not stipitate between sepals and petals. Ovary sessile, oblong-ovoid, up to 0.4 mm long; style 3-fid. Seeds oblong-ellipsoid, brownish-yellow, 0.25 – 0.3 × 0.08 – 0.1 mm; cells of seed coat transversely elongated, aligned in vertical rows; appendages 3 from the transverse radial walls, setiform, dilated at apex.

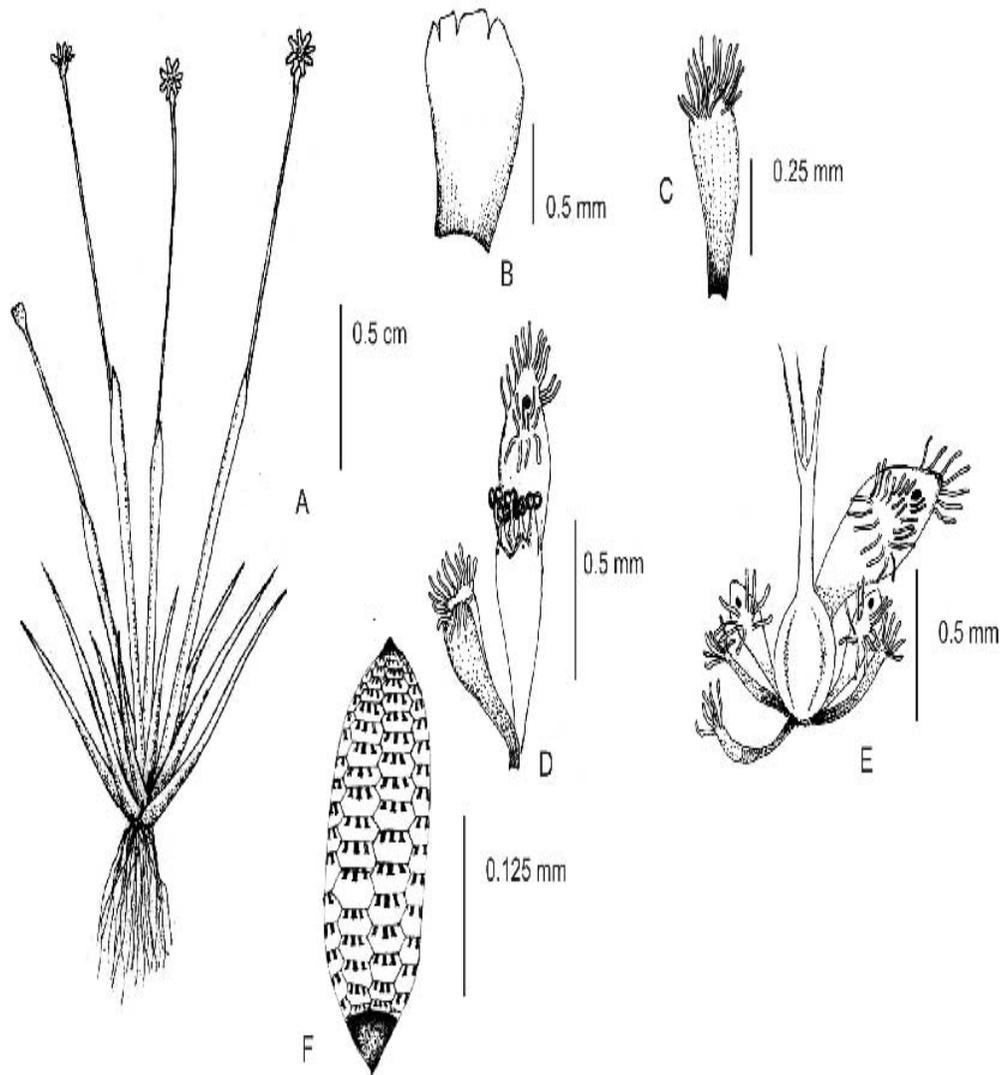


Fig.1 *Eriocaulon cheemenianum* P. Biju, K. S. Prasad, Jomy & R. Ansari sp. nov.: A. Habit; B. Involucral bract; C. Floral bract; D. Male flower; E. Female flower; F. Seed.

Diagnosis

Eriocaulon cheemenianum P. Biju, K. S. Prasad, Jomy & R. Ansari is closely allied to *E. odoratum* Dalz. but differs in having star-shaped heads, glabrous receptacles, sessile or subsessile flowers, linear female sepals, the characteristically enlarged and protruding odd petals of the peripherally restricted female flowers and in the number of seed coat appendages (Table 1).

Table 1. Differences between *Eriocaulon odoratum* and *Eriocaulon cheemenianum*

Characters	<i>E. odoratum</i> Dalz.	<i>E. cheemenianum</i> P. Biju, K. S. Prasad, Jomy & R. Ansari
Peduncle	6 – 45 cm long	Up to 3 cm long
Head	Globose, upto 10 mm across; male and female flowers are seen mixed in the head	Star-shaped, upto 2 mm across; male flowers at centre and the females restricted to the periphery of the heads
Receptacle	Villous	Glabrous
Involucral bract	Straw-coloured	Greyish-black
Floral bract	Acuminate-cuspidate at apex	Obtuse at apex
Male flowers	Pedicellate; odd petal linear or oblong	Sessile or sub sessile; odd petal ovate-elliptic
Female flowers	Pedicellate; sepals oblanceolate, conduplicate, keeled; petals subequal; stipitate between sepals and petals	Sessile; sepals linear-spathulate, not conduplicate and keeled; petals unequal; odd petal characteristically larger and protruding; not stipitate between sepals and petals
Seed coat	Appendages 4 – 13 from the transverse radial walls; setae truncate at apex	appendages 3 from the transverse radial walls; setae dilated at apex

Distribution, habitat and ecology

Eriocaulon cheemenianum is restricted in distribution to the lateritic hills of Northern Kerala in Peninsular India. The plant grows in wet areas of the lateritic hillocks among grasses at an altitude of 40 – 100 msl. Flowering and fruiting occurs during July – September. It is found growing in association with *Drosera indica* L., *Utricularia lazulina* Taylor, *U. reticulata* Smith, *Eriocaulon eurypeplon* Koernicke, *Rhamphicarpa longiflora* (Arn.) Benth., *Murdannia semiteres* (Dalz.) Sant. and *Geissaspis tenella* Benth.

Etymology

The new species is named after the type locality “Cheemeni” in Kasaragod District, Kerala State, India.

Additional specimens examined

India, Kerala, Kannur District, Madayipara, 40 m alt., 08 August 2012, 0232 P. Biju & K. S. Prasad; Peringome, 75 m alt., 12 August 2012, 0238 P. Biju; Kasaragod District, Karindalam, 100 m alt., 13 August 2012, 0241 P. Biju; Seethangoli, 100 m alt., 02 September 2012, 03108 K. S. Prasad.

Conservation status

Lateritic hillocks in Kerala are facing high degree of habitat destruction due to many anthropogenic activities like conversion for building sites, mining and dumping of wastes. Uncontrolled tourism and grazing are the added impacts of habitat destruction. Moreover, Cheemeni is the proposed site for 2400 MW thermal power plant, posing the major threat for the survival of this narrow endemic species. Hence, there is an urgent need to conserve these fragile ecosystems.

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