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Cover: Marine invertebrates - made with acrylic paint. © P. Kritika.



Eleocharis acutangula ssp. *neotropica* D.J.Rosen (Cyperaceae): a new record for southern Western Ghats, India

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The genus *Eleocharis* R.Br. comprises about 300 species distributed in tropical and temperate regions of the world (Govaerts et al. 2021). In India, the genus is represented by 28 species (Prasad et al. 2020) in which 19 are reported from the Western Ghats (Nayar et al. 2014). As part of taxonomic revision of the genus *Eleocharis* in the Western Ghats, the authors collected some interesting specimens from the wetlands of the Kollam district of Kerala. On critical examination and scrutiny of literature, it was identified as *Eleocharis acutangula* (Roxb.) Schult. ssp. *neotropica* D.J.Rosen.

Scirpus acutangulus Roxb. was described by Roxburgh (1820) based on specimens from India. Schultes (1824) transferred it in to *Eleocharis* and made the combination *Eleocharis acutangula* (Roxb.) Schult. Later, Svenson (1939) and Browning et al. (1997) suggested the existence of variability among specimens of *E. acutangula* from different geographical areas. Rosen et al. (2007) suggested sufficient variation existed among specimens of worldwide collections of *E. acutangula* and they segregate into three infraspecific taxa: *E. acutangula* ssp. *acutangula*, *E. acutangula* ssp. *brevisetula* D.J.Rosen, and *E. acutangula* ssp. *neotropica* D.J.Rosen based on multivariate statistical analysis, ecological and

distributional data. Recently, Prasad et al. (2020) in their checklist placed both the subspecies as the synonym of *E. acutangula* ssp. *acutangula*. But the specimens which were collected from Kollam district of Kerala is found quite distinct from subspecies *acutangula* and detailed taxonomic studies with fresh collections and original protologue (Rosen et al. 2007) clearly depict the existence of characters of ssp. *neotropica* and needs a taxonomic recognition as subspecies and therefore we reinstated its status.

Eleocharis acutangula (Roxb.) Schult. is a widespread species found in a wide range of habitats throughout India (Prasad et al. 2020). Scrutiny of literature revealed that subsp. *neotropica* was not reported from southern Western Ghats earlier but known from northern Western Ghats regions of India (Chandore 2015). Hence, the present collection extends its known distribution range to the southern Western Ghats, forming an addition to the flora of Kerala state. A detailed description along with photographs of the species is provided here for easy identification. The key characters to distinguish these two subspecies are mentioned in the Table 1.

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Image 1. *Eleocharis acutangula* ssp. *neotropica*: A—Habitat | B—Individual plants | C—Rhizome | D—Spike | E—Glume | F—Nut | G—SEM of Nut. © Kavya K. Nair & A. R. Viji

Table 1. Diagnostic characters of *E. acutangula* ssp. *neotropica* and ssp. *acutangula*.

<i>E. acutangula</i> ssp. <i>neotropica</i>	<i>E. acutangula</i> ssp. <i>acutangula</i>
Longest perianth bristle up to 4 mm long, soft, flexous, spinulose to below the middle	Longest perianth bristle up to 3.2 mm long, stiff, spinulose throughout or smooth
Nut neck weakly constricted	Nut neck markedly constricted
Style base up to 0.6 times long as wide	Style base up to 1.1 times long as wide
Mature Nut yellow green tinged with amber	Mature Nut dark amber to dark brown

Taxonomic treatment

Eleocharis acutangula (Roxb.) Schult. subsp. *neotropica* D.J.Rosen, J. Bot. Res. Inst. Texas 1(2): 886.2007.

Type: Peru, Departamento de Loreto, Maynas, Iquitos, prolongacion Yavari, Versailles-Paina, open annually burned grassland, 23 March 1974, McDaniel & Rimachi 18552 (Holotype:- MO 324923 image!)

Perennial herbs; rhizomes short with fibrous root. Culms triquetrous, tufted, erect, 45–80 × 0.3–0.4 cm internally spongy, soft, with incomplete transverse septa, pale green. Leaf reduced to sheath, 2, ca. 15 cm long, mucronate at apex, brownish. Inflorescence, a terminal spike, cylindric, 3–3.5 × 0.28–0.3 cm, many-flowered, acute. Glumes oblong-ovate, ca. 5 × 3.7 mm, all fertile, abaxially many veined with adaxially distinguishable prominent midvein, apex acute. Hypogynous bristles 6, 2–2.4 times longer than nut, unequal, retrorsely scabrid, ca. 4 mm long. Stamens 3; anthers linear, 1–1.5 mm long. Style 3 fid. Nut biconvex, shining yellow tinged with amber, ca. 1.5 × 1.6 mm, style base persistent, dark brownish, conical, ca. 0.6 mm long (Image 1).

Flowering & Fruiting: June to August.

Specimen collected: 5110, 12 vii 2022. India, Kerala, Kollam District, Nilamel (8.8238°N, 76.8824°E), coll. Kavya K. Nair & A. R. Viji, TBGT

Note: The Scanning Electron Microscopic studies on

the nut revealed the presence of elongated hexagonal epidermal cells with ca. 15 rows of transverse cells on one side of the nut. The periclinal walls are thick and straight in appearance.

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