



***Eleocharis attenuata* (Franch. & Sav.) Palla (Cyperaceae): A New Record for India**

Viji AR and AG Pandurangan*

Plant Systematics and Evolutionary Science Division, Jawaharlal Nehru Tropical Botanic Garden and Research Institute, Palode, Karimancode – 695 562, Kerala, India

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Abstract: *Eleocharis attenuata* (Franch. & Sav.) Palla, a herbaceous perennial known from east and south east Asian countries has been reported for the first time from India. The study provides a detailed taxonomic description, photographs and relevant information based on fresh collections.

Key Words: Cyperaceae, Kerala, New Record, Wayanad.

Introduction

The genus *Eleocharis* was established by Robert Brown in 1810 and placed in the tribe Fimbristylideae under the family Cyperaceae. There are about 150 species distributed from the tropical to temperate regions of both the hemispheres (1) of which 21 taxa are recorded so far from India (2). In spite of its wider distribution and more number of species, the structural simplicity and paucity of phenotypic characters make it one of the most difficult genera in delimiting the taxonomic entity of species.

While studying the family Cyperaceae in Nilgiri Biosphere Reserve, the authors collected an interesting species of *Eleocharis*, from the Western Ghats of Wayanad district, Kerala. On critical examination and scrutiny of literature it was identified as *Eleocharis attenuata* (Franch. & Sav.) Palla, a species known from China, Japan, South Korea and Malesia and from India for the first time (1). Hence, the present collection forms a new distributional record and also an addition to the flora of India. The present study offers one more evidence of phytogeographical relationship of peninsular India and East Asian countries. Therefore, it is described with photographs and relevant notes to facilitate its easy identification in the field.

Taxonomic Treatments

Eleocharis attenuata (Franch. & Sav.) Palla, Monde d. Pl. 12: 40. 1910; Hara, J. Jap. Bot. 19: 153. 1943; Koyama, J. Fac. Sc. Un. Tokyo III 8: 91. 1961; Tang & Wang, Fl. Reip. Pop. Sinic. II: 58. 1961 Kern in van Steenis, Fl. Males. 1, 7: 532. 1974; *Scirpus attenuatus* Franch. & Sav. En. Pl. Jap. 2: 110. 1877. (Fig. 1.)

Perennials with short rhizome. Culms densely tufted, slender, sulcate, 18 - 60 cm long, 0.5 - 1 mm thick, erect or obliquely erect, striate, smooth, clothed at base with 2 to 3 sheaths. Sheaths membranous, 1.5 - 6 cm long, truncate-oblique at mouth, attenuate apex, reddish brown. Spikelets ovoid to narrowly ovoid, obtuse, terete, 4-10 x 2.5-5 mm, many-flowered. Glumes membranous, appressed, obovate, obtuse with rounded apex, 2 - 3 x 1 - 1.5 mm, 1-nerved, greenish white often tinged with purple, hyaline on both sides; perianth bristles 6, slender, unequal, longest retrorsely scabrid, 3-4 mm long, not overtopping the style base. Stamens 2 - 3; anthers linear, ca. 0.75 mm long; connective appendage minute, apiculate. Ovary oblong, ca. 0.5 mm long; style ca. 1.5 mm long, divided up to 2/3 from the apex; stigma 3, scabrid. Nut trigonous, obovoid, 1 - 1.5 mm long, smooth, brownish; style base persistent, depressed - deltoid - pyramidal.

***Corresponding Author:**

Dr. A. G. Pandurangan,

Scientist F & Head,

Plant Systematics & Evolutionary Science Division,

Jawaharlal Nehru Tropical Botanic Garden and Research Institute,

Palode, Karimancode – 695 562, Kerala, India.

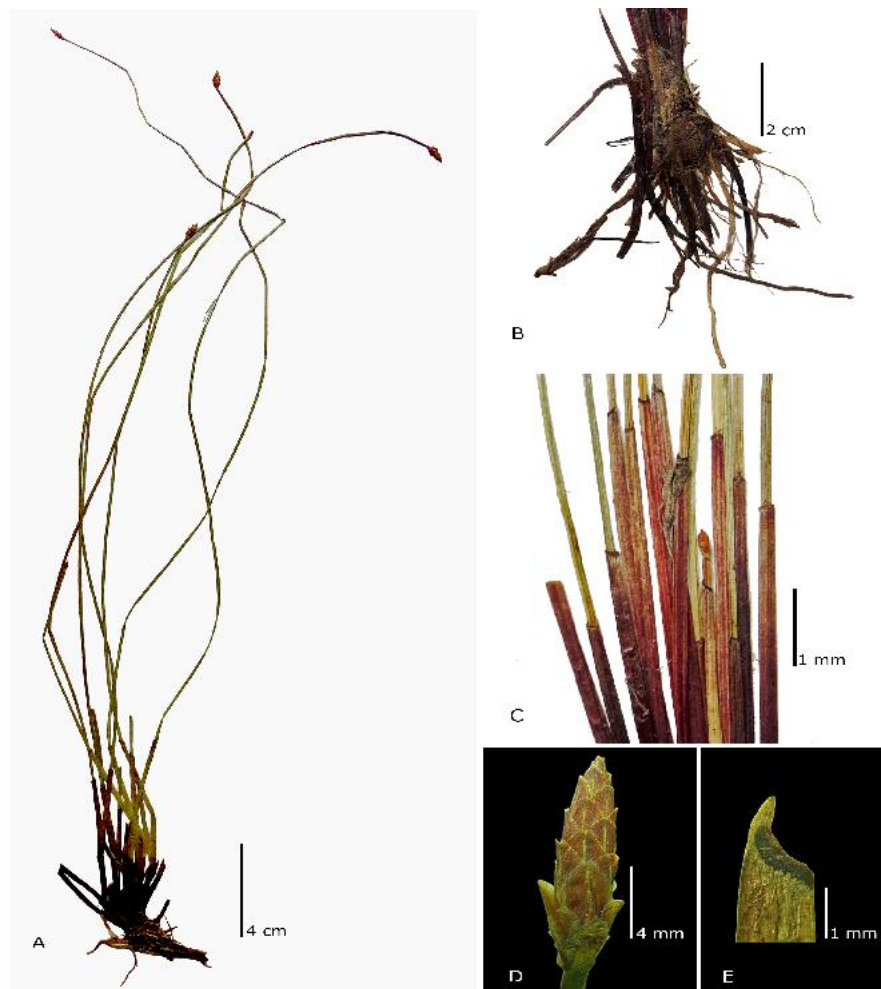


Fig. 1. *Eleocharis attenuata* (Franch. & Sav.) Palla **A.** Habit; **B.** Rhizome, **C.** Reddish brown basal sheath; **D.** Spike; **E.** Upper part of leaf sheath with attenuate apex.

Flowering & Fruiting: August - January.

Habitat and ecology: It is naturally growing in the marshy areas of high altitude in the Western Ghats. The associated species in the community are *Cyperus haspan* L., *Cyrtococcum oxyphyllum* (Steud.) Stapf., *Eleocharis dulcis* (Burm. f.) Trimen ex Henschel, *Eragrostis uniolooides* (Retz.) Nees ex Steud., *Kyllinga brevifolia* Rottb., *Lagenandra toxicaria* Dalz. etc.

Distribution: *Eleocharis attenuata* is so far known from the East and North West China, Japan, South Korea and Malaysia (1). The present collection is from Thirunelli, Waynad district of Kerala is of phytogeographical significance, due to its disjunct distribution.

Specimens examined: INDIA. **Kerala:** Waynad district, Thirunelli, 09-10-2012, N 11°54'39.2", E 076°00'01.2", ± 847 m, Viji A. R. & A. G. Pandurangan, 73909 (TBGT!)

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References

1. Kern JH, *Cyperaceae* In. van Steenis C.G.G.J. (Ed.), *Flora Malesiana* 7(3), Noordhoff International Publishing, Leyden, The Netherlands, 1974, 522 - 537.
2. Prasad VP, Singh NP, *Sedges of Karnataka*, Scientific Publishers, Jodhpur, 2002, 138.

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Conflict of interest: None Declared