

THE AFRICAN MOSS *TRACHYPHYLLUM DUSENII* (MÜLL.HAL. EX BROTH.) BROTH. (HYPNOBRYALES: ENTODONTACEAE) IN INDIA

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Trachyphyllum A. Gepp, a pleurocarpous genus with 7 species, is distributed in Asia, Africa and Australia (Buck, 1979). Bruehl (1931) included *Trachyphyllum inflexum* (Harv.) A. Gepp and *T. elongatum* Dixon & P. de la Varde in his Indian mosses. Chopra (1975) enumerated 5 species viz., *Trachyphyllum elongatum* Dixon & P. de la Varde, *T. fragilifolium* Dixon, *T. inflexum* (Harv.) A. Gepp, *T. jeyporensis* Thér. & Dixon and *T. patentifolium*, a manuscript name by P. de la Varde (*vide* Chopra, l.c.). Lal (2005) included 4 of the 5 species enumerated by (Chopra, l.c.) barring *T. patentifolium*.

Buck and Crum (1978) placed *Trachyphyllum elongatum* in the genus *Schwetschkeopsis* Broth. Though initially Buck (1979) placed *T. fragilifolium* in *Bryosedgwickia* Cardot & Dixon, he (Buck, 1984) later placed it in the genus *Platygyriella* Cardot. Buck (1979) also reduced *Trachyphyllum inflexum* (Harv.) A. Gepp var. *patentifolium* Dixon & P. de la Varde to a synonym of *T. inflexum*. As a result there were only 2 species viz., *Trachyphyllum inflexum* (Harv.) A. Gepp and *T. jeyporensis* Thér. & Dixon in India (*vide* Gangulee, 1980).

Nair & al. (2005) reported *Trachyphyllum inflexum* (Harv.) A. Gepp from northern Kerala and Manju & al. (2008) listed *T. jeyporensis* Thér. & Dixon in their checklist. The type of *T. jeyporensis* is from Jeypore in the Eastern Ghats of Orissa (Koraput Dist.). It was collected by T.L. Walker (BM, PC) in 1910 (*vide* Buck, 1979; Gangulee, l.c.).

During our study of the bryoflora of the Agasthayamalai Biosphere Reserve we had earlier collected material of *T. inflexum* in the Western Ghats of Tirunelveli and Kanyakumari. Recently we collected material of *T. duseinii* (Müll.Hal. ex Broth.) Broth. The present report of *T. duseinii* makes the number of species 3 in India. This species, earlier known to be distributed only in Africa (mostly in the mid-West Coast), is an addition to the bryoflora of India. Although fairly common in Africa it is rare in the Agasthyamalai Biosphere Reserve. It is described here in detail and illustrated.

Trachyphyllum duseinii (Müll.Hal. ex Broth.) Broth. in Engl. & Prantl, Nat. Pflanzenfam. 1(3): 890. 1907; Buck, Brittonia 31: 387. 1979. *Pylaisia duseinii* Müll.Hal. ex Broth., Bot. Jahrb. Syst. 24: 261. 1897. Type: Africa, Cameroon, near Ekumba-Liongo, *Dusen* 810 (Lectotype: H-BR; Isolectotype: FH, *vide* Buck, l.c.). *Leptohyemium pinnatum* Broth. & Paris, Rev. Bryol. 29: 69. 1902. - Types: Africa, Guinea, Mt. Fonta Djallon, on granitic rocks by river Tinkisso, 20 Aug. 1901, *Maclaud* s.n. (H-BR); Kouroussa, on tree bark, Koussi, (on a Sapotaceous member), 1902, *H. Pobeguin* s.n. (H-BR). *Trachyphyllum pinnatum* (Broth. & Paris) Broth., Nat. Pflanzenfam. 1 (3): 890. 1907. (Fig.1, Plate 1)

Plants forming mats, yellow-green to dull golden. Stems creeping, 2 - 3 cm long, 80 - 100 x 60 - 80 mm in cross section, ovoid, without a central strand; cortical cells 2- or 3-layered, 4 8 x 4 6 mm, rounded-quadrate, thick-walled; medullary ones 8 22 x 6 16 mm, rounded-quadrate to rounded-hexagonal, thin-walled; rhizoids arising from ventral side; branches 3 - 5 mm long, slightly curved. Leaves imbricate, erectopate, 0.48 - 0.56 x 0.2 - 0.24 mm, ovate-lanceolate to broadly lanceolate, plane to faintly concave, faintly toothed to crenulate, acute; apical and median cells 30 50 x 4 6 mm, linear, with prominent papillae on either end, sometimes epapillate at apex; basal ones at middle 20 - 30 x 4 - 6 mm, linear, papillate; alar region differentiated, ca 2/3 as long as leaf, 8 10-rowed at base; cells 8 10 x 4 6 mm, quadrate to quadrate-rectangular, epapillate; costa double, 1/3 1/4 as long as leaf. Sporophyte not seen.

Habitat: Corticolous on *Hopea parviflora* Bedd. (Dipterocarpaceae), a lofty tree in riparian and moist deciduous forests, endemic to the Western Ghats, ca 400 m. The Maclaud material from Guinea was corticolous on a Sapotaceous member.

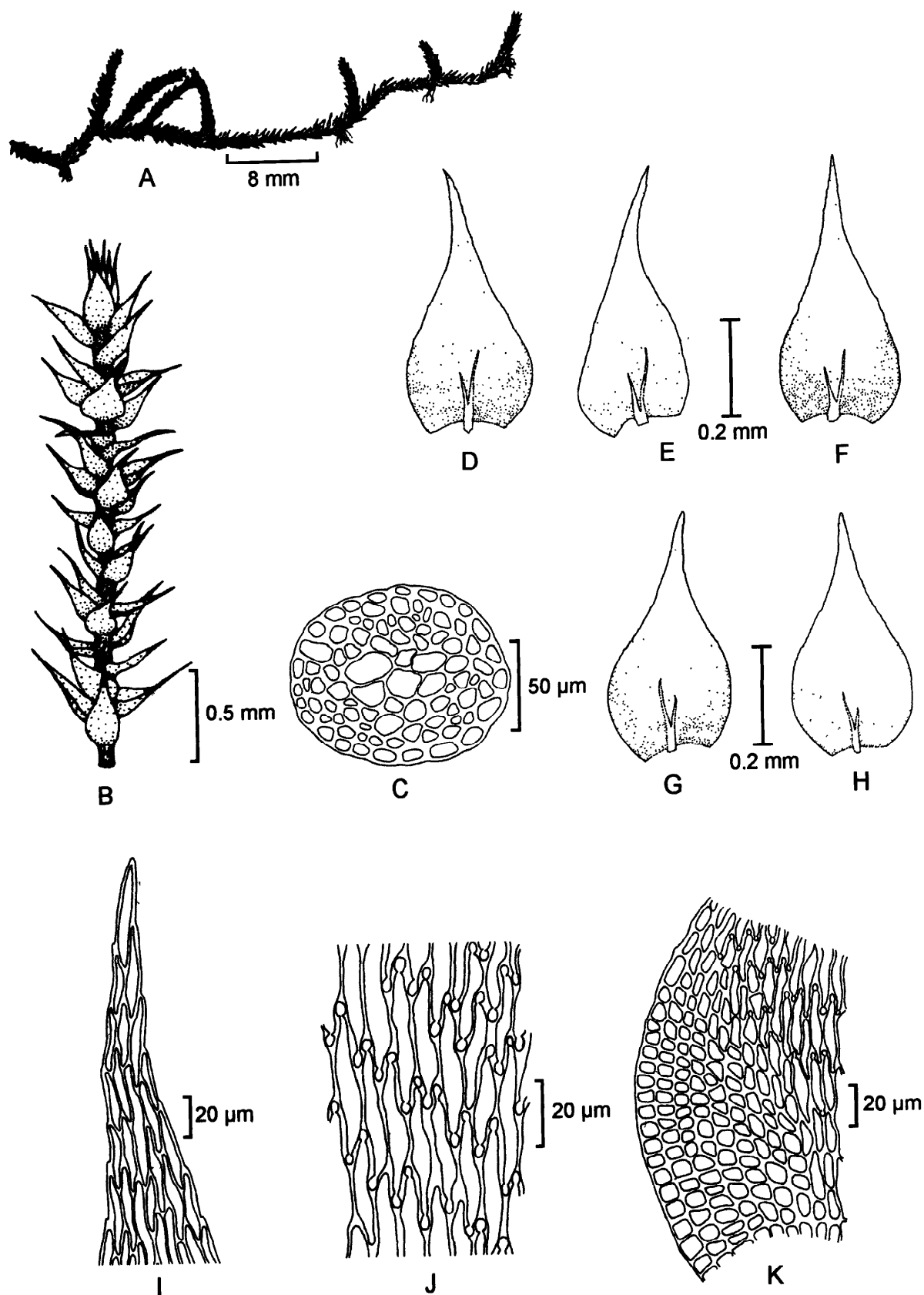


Fig. 1. *Trachyphyllum dusenii* (Müll.Hal. ex Broth.) Broth. **A.** Habit; **B.** a portion; **C.** Cross section of stem; **D - F.** Stem leaves; **G & H.** Branch leaves; **I.** Leaf apical cells; **J.** Leaf median cells; **K.** Alar region (drawn from K.C. Kariyappa 290).

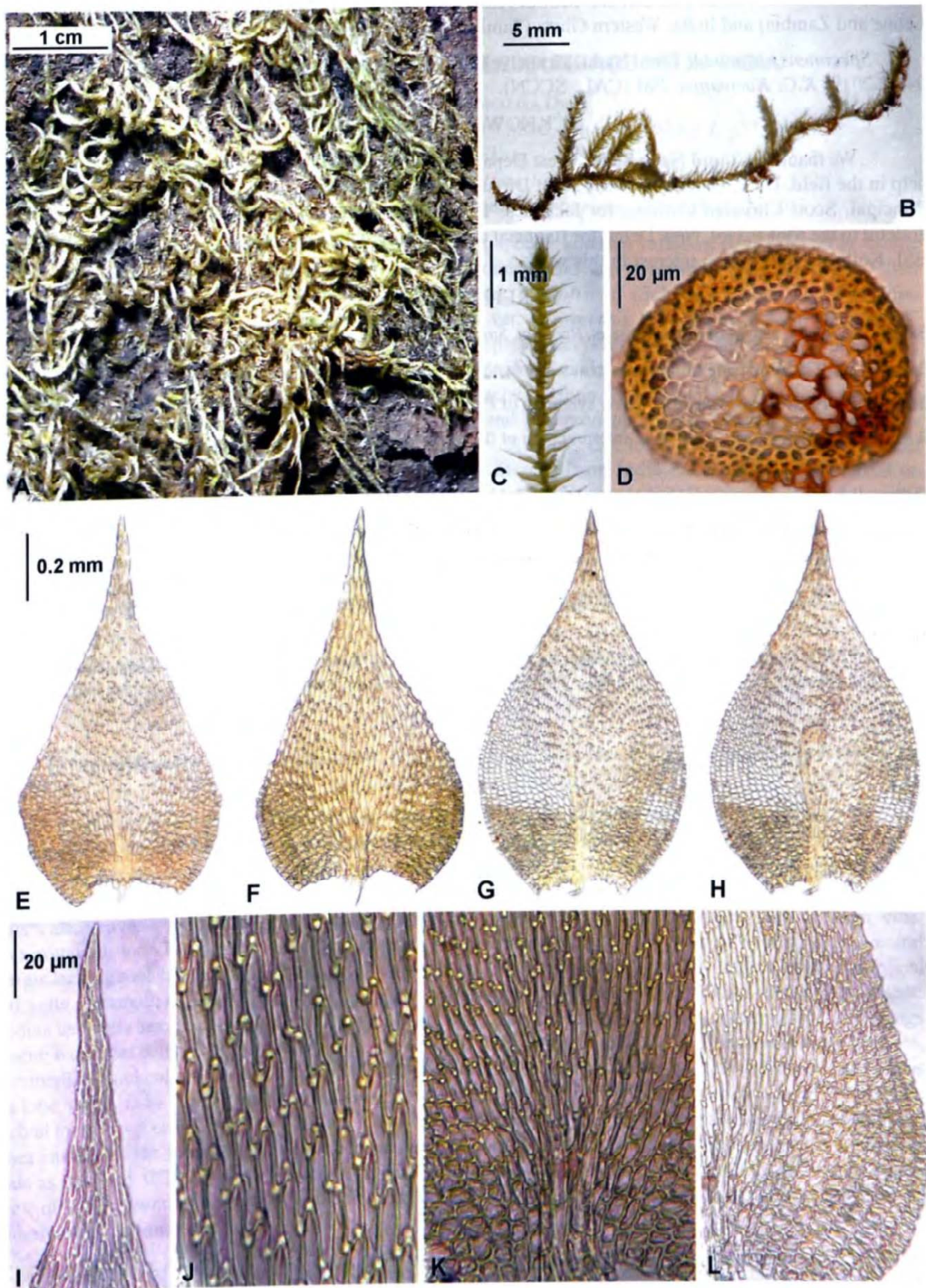


Plate 1. *Trachyphyllum dusenii* (Müll.Hal. ex Broth.) Broth. A. Habitat; B. Plant; C. Branch; D. Cross section of stem; E & F. Stem leaves; G & H. Branch leaves; I. Leaf apical cells; J. Leaf median cells; K. Leaf mid basal cells and L. Alar region

Distribution: Africa (Cameroon, Central African Republic, Ghana, Guinea, Nigeria, Senegal, Sierra-Leone and Zambia) and India: Western Ghats (Tamil Nadu, Tirunelveli).

Specimens examined: Tamil Nadu, Tirunelveli Dist., W. Ghats, Mundanthurai, Vanathirthum, ca 400 m, 04.02.2010, K.C. Kariyappa 290 (CAL, SCCN).

ACKNOWLEDGEMENTS

We thank the Tamil Nadu State Forest Department, for permission to explore the area in question and help in the field, Dr. P. Daniel, formerly Joint Director, BSI, Coimbatore, for suggestions and Dr. S.C. Rose, Principal, Scott Christian College, for facilities. This work was done under the AICOPTAX and we are grateful to the MoEF, GoI, New Delhi, for financial assistance. AEDD is grateful to Dr. M. Sanjappa, Director, BSI, Kolkata, for the keen interest in this work.

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