ISSN: 2348-1900
Plant Science Today
http://www.plantsciencetoday.online

Research Communication

The moss genus *Regmatodon* Brid. (Regmatodontaceae) - new to the Eastern Ghats

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Article history
Received: 21 June 2019
Accepted: 31 July 2019
Published: 01 October 2019

Publisher
Horizon e-Publishing Group

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Abstract

Regmatodon orthostegius Mont. was earlier reported from Central India, the Himalaya, Northeast India and the Western Ghats in India. However, while collecting bryophytes from the Eastern Ghats, the authors came across a moss which was later identified as *Regmatodon orthostegius* which is a new distributional record for this genus as well. A detailed description with figure and photographic plates is provided.

Keywords: Eastern Ghats; Regmatodon orthostegius; Sherveroy Hills

Citation: Daniels AED, Biju PM, Asha V. The moss genus *Regmatodon* Brid. (Regmatodontaceae) - new to the Eastern Ghats. Plant Science Today 2019;6(4):439-441. https://doi.org/10.14719/pst.2019.6.4.597

Indexing: Plant Science Today is covered by Scopus,Web of Science, BIOSIS Previews, ESCI, CAS, AGRIS, CABI, Google Scholar, etc. Full list at http://www.plantsciencetoday.online

Introduction

Eakin (1) revised the moss genus *Regmatodon* Brid. on a world-wide basis and recognized only two valid species namely *R. declinatus* (Hook.) Brid. and *R. othostegius* Mont. (2). *Regmatodon declinatus* is an Asian species whereas *R. othostegius* is Pantropical and both the species occur in India (1, 3-5). However, only the latter has been reported from the Western Ghats in the Peninsula (1, 3-6). Surveys made on the bryoflora of Sherveroy Hills on the Eastern Ghats of Peninsular India led to the discovery of *Regmatodon othostegius* which is a new record for the Eastern Ghats. Incidentally, the genus is an addition to the moss flora of the Eastern Ghats (7-9). A key is provided for an easy segregation of the two known species.

Key to the species

1a. Seta rough; endostome smooth ... ***R. declinatus***

1b. Seta smooth; endostome coarsely papillose ..... ***R. orthostegius***

Regmatodon orthostegius Mont., Ann. Sci. Nat., Bot. sér. 2, 17: 248. 1842; Foreau, J. Madras Univ. 3: 122. 1930 & J. Bombay Nat. Hist. Soc. 58: 37. 1961; Bruehl, Rec. Bot. Surv. India 13(1): 86. 1931; R.S. Chopra, Taxon. Indian Moss.: 413. 1975; Gangulee, Moss. E. India 3(7): 1563, f. 783. 1978; Vohra, Rec. Bot. Surv. India 23: 56. 1983; S.S. Kumar & Maniselvan, Res. Bull. Panjab Univ., New Ser., Sci. 44: 101. 1994; D.A. Eakin & B. Allen, Nova Hedwigia 69: 311. 1999; S. Kumar & D.K. Singh, Bull. Bot. Surv. India 44: 132. 2002; J. Lal, Checklist Indian

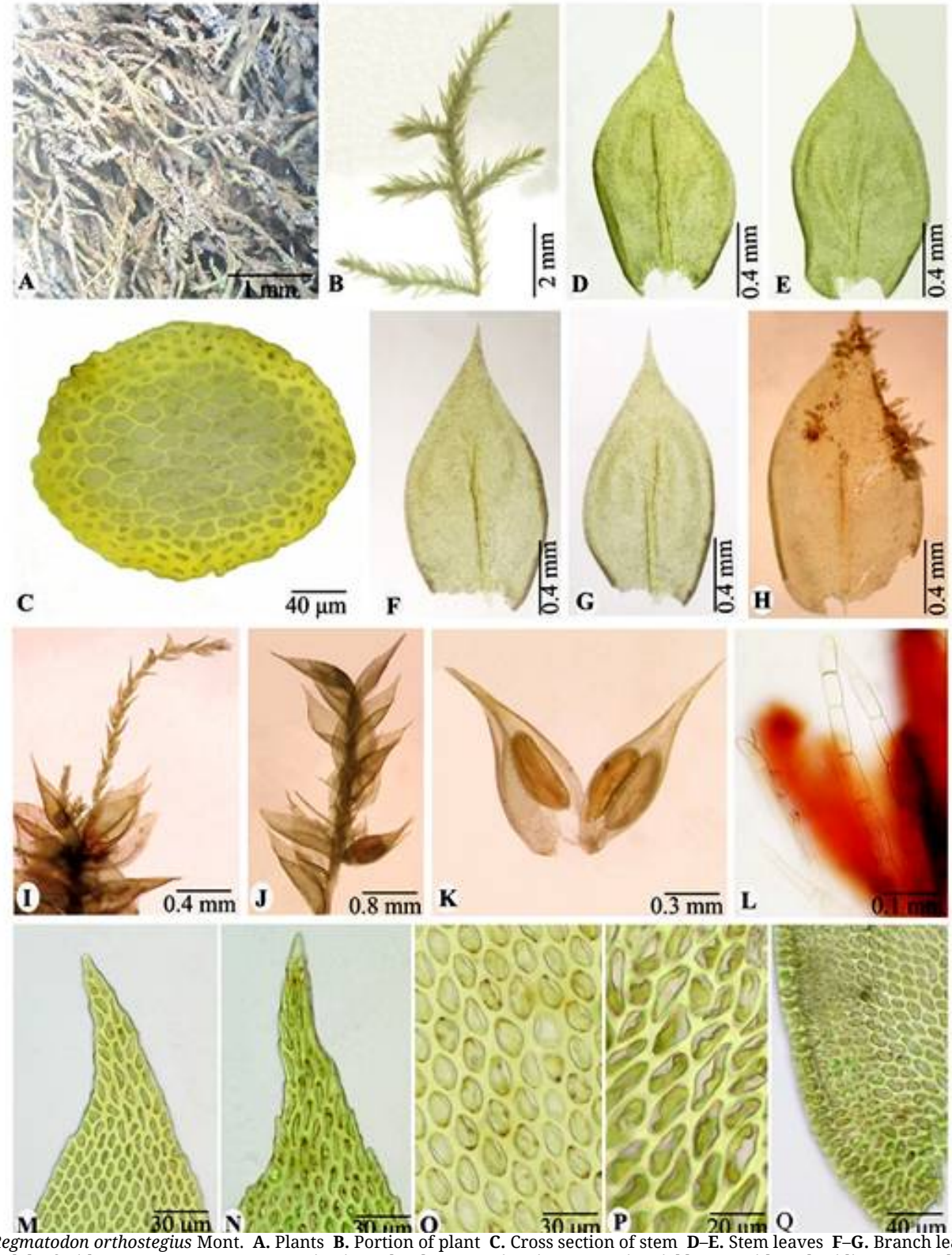

Fig 1. *Regmatodon orthostegius* Mont. **A.** Plants **B.** Portion of plant **C.** Cross section of stem **D–E.** Stem leaves **F–G.** Branch leaves **H.** Branch leaf with gemmae **I.** Gemmae growing into plantlets **J.** Perigonium **K.** Perigonial leaves with antheridia **L.** Paraphyses **M–N.** Leaf apical cells **O.** Leaf median cells **P.** Leaf basal cells **Q.** Leaf basal cells at margin

Moss.: 116. 2005; Manju & al., Trop. Bryol. Res. Rep. 7: 17. 2008; A.E.D. Daniels, Arch. Bryol. 65: 82. 2010; A.E.D. Daniels & al., Bryofl. Indira Gandhi Natl. Pk.: 269. 2018. - Type: India (Tamil Nadu), Nilgris, corticolous on a shrub, around Kaitie (Ketti), *Perrottet s.n*. (PC). *Anhymenium polycarpon* Griff., Calcutta J. Nat. Hist. 3: 275. 1843. *A. polysetum* Griff., Not. Pl. Asiat. 2: 472. 1849. *Regmatodon polycarpus* (Griff.) Mitt., J. Proc. Linn. Soc., Bot. 1 (Suppl.): 127. 1859; D.A. Eakin, Nova Hedwigia 67: 144. 1998. *R. polysetus* (Griff.) Thér., Bull. Soc. Bot. Genève Sér. 2, 26: 88. 1936. (Fig. 1)

Plants caespitose, glossy, yellow-green. Main stems creeping, 2–3 cm long, 0.19–0.2 × 0.15–0.18 mm in cross section, ovate, with a central strand; cortex 3- or 4-layered; cells 6–16 × 4 –8 mm, thick-walled; medullary ones 12–28 × 8–22 mm, thin-walled; branches pinnate. Leaves imbricate,

erectopatent, irregularly inrolled at margin; stem leaves 0.8–1.4 × 0.3–0.8 mm, ovate, concave, smooth at apical margin, apiculate; branch leaves 0.8–1 × 0.3–0.5 mm, ovate, concave, smooth or faintly toothed at apical margin, apiculate; cells irregularly elliptic-rectangular, smooth; apical cells 12–28 × 4–8 µm; median ones 4–16 × 3–8 µm; basal ones 8–28 × 4–12 µm, subrectangular to quadrate; extreme basal ones, 12–24 × 10–16 µm, more rectangular; costa single, more than half as long as leaf. Perigonia bud-like; perigonial leaves lanceolate, narrowing into a long, acuminate apex, 0.8–1 × 0.4–0.6 mm, inrolled and smooth at margin, concave, ecostate. Antheridia 0.4–0.6 × 0.15–0.18 mm, sausage-shaped, stalked; paraphyses 0.5–0.7 × 0.012–0.014 mm, filiform. Sporophyte not seen.

Habitat: Corticolous on *Artocarpus heterophyllus* Lam. (Moraceae), the jack tree, in degraded evergreen forests, ca 1400 m.

Distribution: Africa, North & South America, Bioko Island (Fernando Po), China, Madagascar (Malagasy), Papua New Guinea, South & Southeast Asia and India: Central India, Himalaya, Northeast India, Western Ghats (1, 3, 6) and Eastern Ghats of Tamil Nadu (Salem). Fairly common.

Specimens examined: Eastern Ghats: Tamil Nadu, Salem Dist., Sherveroy Hills, Yercaud, ca 1400 m, 10.08.2015, *A.E.D. Daniels & P.M. Biju* 960 p.p., 961 (SCCN).

Discussion

According to Eakin (1), *Regmatodon declinatus* is so closely allied to *R. orthostegius*, it is almost impossible to segregate the plants if they are collected in their vegetative phase as distinct morphological characters of the gametophore are hardly found. Nevertheless, the leaves of *R. declinatus* are distinctly longer and narrower than those of the latter and this character is found to be consistent. Based on this feature, the material to hand has been best identified as *R. orthostegius*.

Authors' contribution

AEDD - Collection, determination and preparation of the MS; PMB - Collection, dissection and help in determination; VA - Dissection and preparation of photographic plates.

Acknowledgements

The authors thank the Tamil Nadu State Forest Department for permission to explore the study area and help in the field, the Ministry of Environment, Forests & Climate Change, Govt. of India, New Delhi, for financial assistance, and the Principal, Scott Christian College, for providing facilities.

Conflict of interest

The authors declare that they have no competing interests

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