

REGMATODONTACEAE

(Brian J. O'Shea)

A monogeneric family placed in the Hypnales.

Regmatodon Brid. (Fig. XX) -

A single species in Africa, *R. orthostegius* Mont. (Mexico and Central America to Bolivia & Southeast Brazil, palaeotropics); a genus of two species with a pantropical distribution.

Plants small to medium sized, forming loose to dense mats, dark green to brownish. **Stems** creeping, distal stems and branches ascending to erect, irregularly subpinnately branched, branches several, radiculose beneath; in cross-section outer 2-3 rows of cells \pm thick-walled, inner cells larger, thin-walled, central strand weak. **Leaves** concave, erect when dry, erect-spreading when wet, ovate-short lanceolate, 0.5--1.2 mm long, to 0.5 mm wide, somewhat asymmetric, apex short acuminate; margins entire, partially reflexed; costa single, ca. 1/2--2/3 lamina length, strong, occasionally weakly forked; laminal cells smooth and \pm thick-walled, median cells rhomboidal to oblong, \pm obliquely arranged; marginal and basal cells subquadrate to short rectangular. **Autoicous. Perichaetia** lateral; leaves elongate, ovate-lanceolate, to 2.2 mm long, acuminate, cells oblong, some porose. **Seta** elongate, 5.5--12 mm long, rather stout, smooth or roughened. **Capsule** erect to inclined, urn oblong-cylindrical, 2--3 mm long, somewhat asymmetric, smooth; neck short; exothecial cells mostly irregularly rectangular, longitudinal walls thick; stomata few at urn base, superficial; annulus undifferentiated. **Operculum** conic. **Peristome** double, set below mouth, exostome teeth 16, tips obtuse, cross-striate with a zig-zag line, trabeculate on back, ca. 1/2 or less endostome length; endostome basal membrane low, segments 16, broadly keeled, perforate below, punctate. **Calyptra** cucullate, smooth and naked. **Spores** spherical, granulose.

HABITAT. Epiphytic on trunks and branches of trees (often on fallen branches), or occasionally on logs and rocks; semi-dry montane forests, sometimes more open areas; 1000-2500 m.

DISCUSSION. The genus is characterized by ascending to erect distal stems and branches, somewhat asymmetric, ovate-short lanceolate leaves, short acuminate apex, entire margins, a strong to occasionally weakly forked costa ca. 2/3 lamina length, smooth and thick-walled laminal cells, rhomboidal to oblong, somewhat obliquely arranged median cells, and subquadrate to short rectangular marginal and basal cells. Under a x20 hand-lens or a dissection microscope, the dry leaves look like an upturned boat, with a wide, flat border. The peristome aids most in distinguishing this taxon, as the pale endostome is exerted way beyond the exostome. The genus may be confused with the Leskeaceae, but differs by the peristomial differences previously discussed.

LITERATURE. **Eakin, D. A. 1998.** A taxonomic revision of the moss genera *Regmatodon*. Nova Hedwigia 67: 139-152. **Eakin, D.A. & Allen, B. 1999.** A nomenclatural note on *Regmatodon*. Nova Hedwigia 69: 311-312. **O'Shea, B.J. 1997.** British Bryological Society Expedition to Mulanje Mountain. Malawi. 9. Regmatodontaceae, Rhachithecaceae, Rhacocarpaceae and Rhizogoniaceae (Bryopsida). Journal of Bryology 19: 805-813.