RHODOBRYUM

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Rhodobryum (Schimp.) Limpr., *Laubm. Deutschl.* 2: 444 (1892), *nom. cons.*; from the Greek *rhodo* (rose-) and *bryon* (a moss), in reference to the terminal rosettes of leaves present in most species.

Bryum subg. *Rhodobryum* Schimp., *Syn. Musc. Eur.* 381 (1880).

Type: *R. roseum* (Hedw.) Limpr.

Dioicous. Plants large, in dense turfs on damp soil or mud in open or partly shaded habitats. Stems arising from underground stolons, unbranched or sparingly branched by subperichaetial innovations, not tomentose below. Rhizoids sparse, arising from leaf axils, red. Leaves large, equidistant along stem, erect and contorted or shrivelled when dry, only weakly hygroscopic, obovate or spathulate, usually in enlarged rosettes at stem apices, rarely with comal tufts; lower leaves usually reduced and distant, rarely leaves equidistant along stem and not reduced below; margin serrate, usually bordered by 1 or more rows of elongate thick-walled cells; costa single, excurrent, in cross-section with several layers of ventral cells; dorsal stereid band lacking or poorly developed; upper laminal cells rhomboidal (2–4: 1); lower laminal cells regularly rectangular, longer than upper cells. Gemmae lacking.

Perigonia and perichaetia terminal; leaves slightly differentiated, larger than vegetative leaves; perichaetia often polysetose. Setae long. Capsules long-exserted, pendulous, oblong-cylindrical, often somewhat curved; operculum conical. Peristome double; exostome teeth 16, linear to lanceolate, trabeculate, hyaline, papillose above, irregularly papillose to cross-striolate below; endostome segments 16, broadly keeled; basal membrane high; cilia 2 or 3, appendiculate. Spores small. n = 10, 11, *fide* R.Fritsch, *Bryophyt. Biblioth.* 40: 253 (1991).

A genus of 25–30 species which is most diverse in the montane tropics and subtropics, especially in Africa, Malesia and South America. Six species are known from SE Asia and India, three of which occur in New Guinea. The genus is represented in Australia by a single somewhat aberrant species, *R. aubertii*. Principal distinguishing characteristics between species are gametophytic, sporophytes tending to be uniform in the genus.

Ochi (1992) included *Rhodobryum* within his broad concept of *Bryum*. We follow Iwatsuki & Koponen (1972) and Mohamed (1984) in accepting it as a separate genus based on morphological and cytological data, a position that is supported by many bryologists. *Rhodobryum* is closely related to *Rosulabryum* from which it can be distinguished by the presence of stolons, stereids that are reduced or absent in the costa, the prevalence of polysety, the absence of asexual gemmae, very large chromosomes, and a tendency for the leaves to absorb water comparatively slowly. This last character is shared by some members of the Mniaceae, such as *Plagiomnium*. Superficially, *Rhodobryum* and *Plagiomnium* are very similar.

References

Iwatsuki, Z. & Koponen, T. (1972), On the taxonomy and distribution of *Rhodobryum roseum* and its related species (Bryophyta), *Acta Bot. Fenn.* 96: 1–22.

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Ochi, H. (1992), A revised infrageneric classification of the genus *Bryum* and related genera (Bryaceae, Musci), *Bryobrothera* 1: 231–244.

Rhodobryum aubertii (Schwägr.) Thér., *Recueil Publ. Soc. Havraise Études Diverses* 89(2): 128 (1922)

Mnium aubertii Schwägr., *Sp. Musc. Frond.*, Suppl. 1, 2: 132, 180 (1816); *Bryum aubertii* (Schwägr.) Brid., *Muscol. Recent.*, Suppl. 4: 119 (‘1819’) [1818]. T: Insula Franciae [Madagascar], *Aubert s.n.*; holo: G.

Bryum graeffeanum Müll.Hal., *J. Mus. Godeffroy* 3: 63 (1874); *Rhodobryum graeffeanum* (Müll.Hal.) Paris, *Index Bryol.* 1116 (1897). T: Ovalau Is., Fiji, *Graeffe s.n.*; holo: NY.

Rhodobryum olivaceum Hampe, *Linnaea* 40: 311 (1876); *Bryum olivaceum* (Hampe) Mitt., *Fragm.* 11 (Suppl.): 48 (1881). T: subtropical East Australia, *Evans s.n.*; holo: BM.

Bryum subcrispatum Müll.Hal., *Enum. Bryin. Exot.* 106 (1891); *Rhodobryum subcrispatum* (Müll.Hal.) Műll.Hal., *Hedwigia* 37: 101 (1898). T: Richmond R., N.S.W., 1885, *Mrs Hodgkinson s.n.*; syn: MEL? (not located); Brisbane, Qld, *F.M.Bailey*; syn: H-BR.

Bryum humipetens Müll.Hal., *Hedwigia* 37: 101 (1898). T: Brisbane, Qld, *F.M.Bailey* ‘*348*’; H-BR *n.v.*, *fide* P.Isoviita & T.Koponen, *Taxon* 33: 738 (1984).

Rhodobryum subcrispatulum Watts & Whitel., *Proc. Linn. Soc. New South Wales* 30 (Suppl.): 144 (1906), *nom. nud.* (in synon.). Based on: Woolston scrub, Qld, Aug. 1888, *C.Wild s.n.* (NSW).

Illustrations: H.Ochi, *J. Fac. Educ. Tottori Univ., Nat. Sci.* 21: 61–63, figs 39–41 (1970), as *R. graeffeanum* and *R. leucocanthum*; T.Koponen & D.H.Norris, *Ann. Bot. Fenn.* 21: 284, fig. 7 (1984); A.Eddy, *Handb. Malesian Mosses* 3: 155, fig. 437 (1996).

Plants 10–30 mm tall, often reddish. Upper leaves equidistant along stem, somewhat more crowded above (not strongly rosulate), not much reduced in size towards stem base, obovate to ovate, 6–8 (–9) mm long; margin coarsely serrate from below mid-leaf to apex; leaf border variable above, often weak or ±lacking, well developed in lower half of lamina, revolute towards base; costa percurrent to excurrent, strongly prominent abaxially, in section with median thin-walled parenchyma, lacking stereids; upper laminal cells rhomboidal; lower cells rectangular.

Perichaetial leaves slightly differentiated; male plants a little smaller. Setae 1–several per perichaetium, 30–60 mm long. Capsules pendulous, oblong-cylindrical, to 6 mm long. Exostome teeth lanceolate; endostome segments slightly shorter than teeth; cilia 2 or 3. Spores 10–20 µm. *n* = 10 (Papua New Guinea), *fide* H.P.Ramsay & J.R.Spence, *J. Hattori Bot. Lab.* 80: 251–270 (1996).

A rare species of wet-tropical and subtropical rainforest in Qld and N.S.W.; also in Lord Howe Is. and southern India. Found at moderately high elevations (500–1000 m), usually in depressions along streams and roads, also on wet soil. The moss seems to favour low areas where water temporarily accumulates.

Qld: Eungella Natl Park, *I.G.Stone 12347* (MEL); Eungella Natl Park, *W.B.Schofield 80391* (NSW); Mt Lewis, *J.R.Spence 5111* (NSW); Mt Glorious *K.Barton 65* (BRI). N.S.W.: Myocum, *W.W.Watts 1518* (NSW).

Rhodobryum aubertii differs from most members of the genus in that it is not strongly rosulate, with the leaves clustered in a comal tuft but not forming a rosette. Instead, the leaves are arranged equidistantly along the stem, although somewhat closer above, and they do not become smaller below. It is also distinctive due to its large size and dull dark green leaves with sharp marginal teeth; the leaves are strongly contorted when dry and do not hydrate quickly.

Sporophytes are not always present, but when they are produced they occur *en masse*.