

RIGODIACEAE

(Brian J. O'Shea)

The Rigodiaceae as presently defined is a monotypic family, previously placed in the Lembophyllaceae. The family is placed in the Hypnales.

Rigodium Kunze in Schwägr. (Fig. XX)

A genus of six species and one variety, but only a single species in Africa, *R. toxarion* (Schwägr.) A.Jaeger (west, central and east tropical Africa, as far south as Zambia). The genus has a tropical to austral-temperate distribution.

Plants medium sized to somewhat large, forming loose tufts, dark green to blackish-green. **Primary stems** creeping. Secondary stems weakly to strongly stipitate, stems above stipe suberect to arching and subdendroid, to about 3.5 cm tall, but sometimes much longer, usually rather stiff, several-pinnately branched, branches slender to filiform, usually becoming flagellate; in cross-section stem surface ridged or fluted, outer 3-4 rows of cells small, thick-walled, inner cells large, thin-walled, central strand well developed; pseudoparaphyllia and paraphyllia absent. **Leaves** differentiated; **stipe leaves** wide-spreading, broadly ovate and abruptly long acuminate, to 1.4 mm long, 1 mm wide, base somewhat decurrent, usually ecostate, or costa short and single or forked; **stem leaves** wide-spreading to squarrose, 1--1.5 mm long, to 0.8 mm wide, similar to stipe leaves but apex gradually narrowed and acute; costate, costa single, ending in or just below acumen; **branch leaves** short ovate-lanceolate, 0.25--0.55 mm long; costa ending below or into acumen; margins usually serrulate throughout; laminal cells smooth and thick-walled, subquadrate- to oblong-rounded, smaller along margin; alar region not well differentiated, cells oblong-rectangular or subquadrate. **Dioicous**. **Perichaetia** lateral; leaves differentiated, elongate, oblong-subulate. **Seta** elongate, 10--25 mm long or more, smooth. **Capsule** inclined to horizontal, urn ovoid-cylindrical, 1.5 mm long, constricted below mouth when dry; exothelial cells thick-walled; annulus present, in 2 rows, deciduous. **Operculum** conic-long rostrate. **Peristome** double, exostome teeth 16, cross-striate below, distally papillose; endostome basal membrane high, segments 16, keeled and perforate, finely papillose, cilia 1-3. **Calyptra** cucullate, naked and smooth. **Spores** spherical, finely papillose.

HABITAT. Epiphytic on tree trunks and branches, also on logs, shaded rocks and soil, often by streams; montane forests, 900--3500 m.

DISCUSSION. The genus was recently revised thoroughly (Zomlefer, 1993), and is distinguished by the subdendroid habit, stipitate with secondary stems often exhibiting long delicate, flagellate branches, differentiated stipe, stem and branch leaves, finely serrulate margins, and oval to oblong-oval laminal cells. Although sporophytes are sometimes present, it is likely that the common mode of reproduction in *Rigodium* is asexual by propagula in the form of distal flagellate branches and deciduous leaves.

LITERATURE. **Crum, H. 1981.** Taxonomic and nomenclatural notes on middle American mosses. *The Bryologist* 84: 390-393. **O'Shea, B.J. 1999.** British Bryological Society Expedition to Mulanje Mountain. Malawi. 11. Pterigynandraceae M.Fleisch. and Rigodiaceae H.A.Crum (Bryopsida) in Africa. [key to African species, distribution map]. **Zomlefer, W. B. 1993.** A revision of *Rigodium* (Musci: Rigodiaceae). *The Bryologist* 96: 1-72 [keys, illustrations, map].