

RACOPILACEAE

(Brian J. O'Shea)

The Racopilaceae contain two genera (one in Africa) and about 25 species with a pantropical distribution. The family is placed in the Leucodontales.

Racopilum P.Beauv. (Fig. XX)

28 species and three varieties of this genus have been reported from Africa, although there may be only one or two good species involved.

Plants medium sized, forming loose to somewhat dense mats, mostly dark green. **Stems** creeping and spreading, irregularly to regularly pinnately branched, often densely tomentose; in cross-section outer 2--3 rows of cells small, thick-walled, inner cells larger, thin-walled, central strand present; rhizoids rusty-red, smooth or appearing lightly papillose. **Leaves** dimorphic, dorsal (upper) leaves small and symmetric, narrowly triangular, 1.5--2.0 mm long, apex narrowly acuminate; margins distally serrate; costa single, long excurrent; lateral leaves ovate- to oblong-lanceolate, 2--3 mm long, asymmetric, apex acute to broadly acuminate; margins plane, serrate distally, rather coarsely so; costa single, short excurrent; median cells irregularly isodiametric, hexagonal or rhomboidal, thick-walled, smooth to weakly papillose. **Monoicous** or dioicous. **Perichaetia** lateral, leaves ovate-long acuminate. **Seta** elongate, 10--30 mm long, smooth. **Capsule** often curved, urn cylindrical, 2.5--4.0 mm long, smooth to furrowed, neck short; exothecial cells oblong-rectangular, thick-walled; stomata at urn base, superficial. **Operculum** short or long rostrate. **Peristome** double, exostome striate below, papillose distally, endostome basal membrane short to high, cilia 2--4, nodose. **Calyptra** cucullate, sparsely hairy. **Spores** spherical, lightly papillose.

HABITAT. On trunks and branches of trees and shrubs, logs, soil and rock; moist to wet forests from low to high elevations, near sea level to around 3000 m.

DISCUSSION. *Racopilum* is characterized by the creeping habit, with dimorphic leaves, the upper leaves triangular and symmetric, the lateral leaves ovate to broadly oblong-lanceolate and asymmetric, distally serrate, elimbate margins, single and excurrent costa, firm-walled and smooth laminal cells, land cylindrical, slightly curved capsules. In the field, the complanate stem and the dimorphic leaves with excurrent costae are the most obvious characters.

Investigations by de Vries *et al.* (e.g. 1989), based in part on electrophoretic data, suggest that there is a great deal of genetic variation with *Racopilum*, but at the same time it may be possible only to recognise a few species because of morphological overlap (van Zanten, pers. com.).

LITERATURE. de Vries, A., Bramer, J.P.J., van Zanten, B.O., Hoffman, A. & Bijlsma, A. 1989. Allozyme variation in populations of four *Racopilum* species, including the polyploid *R. tomentosum*. *Lindbergia* 15: 47-59.