

# RACOPILACEAE

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**Racopilaceae** Kindb., *Bot. Centralbl.* 76: 85 (1898).

Type: *Racopilum* P.Beauv.

Dioicous (in Australia). Rather slender to medium-sized mosses in green or yellowish green mats. Stems to c. 10 cm long, creeping, subpinnately branched, ventrally densely tomentose with tufts of smooth dark brown branched rhizoids arising near base of lateral leaves; central strand narrow. Stem and branch leaves similar, dorsiventrally flattened, inserted in 6 (seemingly 2) lateral and 2 dorsal rows, dimorphic; lateral leaves decurrent by 1 or 2 cells, oblong-ovate, slightly asymmetrical; dorsal leaves smaller, triangular-ovate; costa single, excurrent as a smooth arista (except *Powellia involutifolia*); leaf border absent (except *P. involutifolia*); laminal cells (sub)isodiametric, rhomboidal-hexagonal, smooth or mammillose, 8–30 µm long.

Calyptra cucullate, rarely mitrate. Sporophyte lateral. Setae elongate, smooth (in Australia). Capsules cylindrical, usually curved, deeply grooved (erect, not curved and ±smooth in *Powellia*), annulate; operculum conical-rostrate. Peristome double, hypnoid in *Racopilum*, reduced in *Powellia*. Spores isomorphic, smooth, 10–20 µm diam., green.

This family of two genera (*Racopilum* and *Powellia*) and c. 20 species is widely distributed in the tropics, subtropics and temperate regions of the Southern Hemisphere. Most species are restricted to rainforest, but Australian representatives also tolerate drier and more exposed sites. These mosses forms mats on bark, rotting wood, rock or earth. Both genera are represented in Australia by two species. New Zealand has an endemic species (*R. robustum* Hook.f. & Wilson) which may yet be found in Australia. It is characterised by a more robust habit and almost isomorphic leaves.

## References

Koponen, T. & Norris, D.H. (1986), Bryophyte flora of the Huon Peninsula, Papua New Guinea. XVII. Grimmiaceae, Racopilaceae and Hedwigiaceae (Musci), *Acta Bot. Fenn.* 133: 81–106.

Zanten, B.O. van (1970), De afgrenzing van het geslacht *Powellia* tegen *Racopilum* (Musci), *Jaarb. Kon. Ned. Bot. Ver.* 1969: 54–57.

## Key to Genera

Leaves bordered by narrow elongate cells and the costa percurrent, or leaves without a border and the costa excurrent in a long arista; laminal cells bulging; capsules erect, cylindrical, straight, smooth or nearly so; exostome teeth papillose, not or only striate at base; endostome basal membrane very low; processes fugacious; cilia absent; setae twisted to the left .....**POWELLIA**

Leaves without a border; costa excurrent; laminal cells smooth or with a central mammilla; capsules erect to horizontal, cylindrical, curved or ±straight, deeply grooved; exostome teeth striate, papillose at tips; endostome basal membrane c. half the height of the exostome; processes and cilia well developed; setae twisted to the right in upper half and to the left in lower half .....**RACOPILUM**

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