

HOMALIODENDRON

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Homaliodendron M.Fleisch., *Hedwigia* 45: 74 (1906); from the Greek *homalos* (flat, even, level) and *dendron* (a tree), in reference to the dendroid, dorsiventrally flattened fronds.

Type: *H. flabellatum* (Sm.) M.Fleisch.

Dioicous. Plants small to robust, dendroid to fan-shaped. Primary stem creeping; secondary stems unbranched to tripinnately branched, complanate; flagelliform branches often present; central strand absent. Pseudoparaphyllia foliose or filamentous. Stipe leaves appressed; secondary stem and branch leaves spreading, oblong-lingulate or spatulate, occasionally with an asymmetrical base, smooth or very slightly longitudinally plicate when dry; apex broadly rounded; margin entire below, crenulate or distinctly toothed at the apex; basiscopic side incurved. Laminal cells thick-walled; upper cells isodiametric to oblong and rhomboidal; median cells elongate; basal cells linear, pitted; alar cells weakly or not differentiated, occasionally pale yellow, and occasionally forming a distinct patch.

Perichaetia in axils of secondary stems. Perigonia in axils of secondary stems and branches. Calyptra cucullate, smooth or hairy. Seta smooth to distinctly mammillose in upper part. Capsules exserted, ovoid to cylindrical; stomata at the capsule base, phaneropore; annulus weakly differentiated or absent; operculum conico-rostrate, smooth, oblique. Peristome: exostome teeth narrowly triangular; outer face with a distinct median line, densely papillose; endostome with a low basal membrane; processes narrowly triangular, papillose, fenestrate. Spores globose, papillose.

A genus of c. 28 species occurring throughout the tropics. Two non-endemic species are known from Australia.

Reference

Enroth, J. (1989), Bryophyte flora of the Huon Peninsula, Papua New Guinea. XXVII. Neckeraceae (Musci), *Acta Bot. Fenn.* 137: 41–80.

Key

Plants small, delicate, to 3.5 cm tall; leaf apex crenulate..... **1. *H. exiguum***
Plants robust, to 13 cm tall; leaf apex with coarse multicellular teeth **2. *H. flabellatum***

1. *Homaliodendron exiguum* (Bosch & Sande Lac.) M.Fleisch., *Musc. Buitenzorg* 3: 897 (1908)

Homalia exigua Bosch & Sande Lac., *Bryol. Javan.* 2: 55 (1862). T: Menado, Sulawesi, [Indonesia], *W.H. de Vriese*; lecto: L n.v., fide T.Ninh, *J. Hattori Bot. Lab.* 57: 12 (1984); Padang, Sumatra, [Indonesia], *A. Wiltens*; syn: L n.v.; Padang-Bessie, Sumatra, [Indonesia], *P.W.Korthals*; syn: L n.v.; Sumatra, [Indonesia], *Teysmann*; syn: L n.v.; M. Pangerango, Java, [Indonesia], *Kühl & van Hasselt*; syn: L n.v.; Java, [Indonesia], *W.H. de Vriese*; syn: L n.v.; M. Gedé et Salak, Java, [Indonesia], *Teysmann*; syn: L n.v.; M. Pangerango, Tjikoeraï, Java, [Indonesia], *P.W.Korthals*; syn: L; Borneo, *P.W.Korthals*; syn: L n.v.

Illustration: J.Enroth, *op. cit.* 59, fig. 7.

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Plants small, delicate, to c. 3.5 cm tall, bright green to olive-green. Fronds erect, dorsiventrally flattened, simple to sparingly branched. Stipe terete-foliate; frond axis and branches complanate, subdistichous; apex attenuate, rounded or flagelliform. Pseudoparaphyllia filamentous. Stipe leaves appressed, small, short- to long-subulate above a broadly elliptical basal part; apex rounded; costa absent. Frond axis and branch leaves spreading, broadly lingulate to spatulate, 0.4–0.7 mm long, 0.2–0.5 mm wide, smaller at the stem and branch apices; base asymmetrical; apex broadly rounded; margin almost entire at the base, crenulate at the apex; basiscopic side incurved; costa ending in mid-leaf, occasionally forked above. Upper laminal cells 5–9 μm long at the apex, descending along leaf margin; median laminal cells rhomboidal to rectangular; basal cells narrowly rectangular to linear, 15–25 \times 2–5 μm .

Perichaetia in leaf axils of secondary stems, 1.0–1.5 mm tall.

Occurs in eastern Qld and north-eastern N.S.W., in subtropical and tropical rainforest at altitudes up to 600 m; epiphytic on trees, vines and palms. Also in Africa, India, Sri Lanka, China, Japan, SE Asia, Malesia and Fiji.

Qld: Broadwater Forest Park, 18 km SSW of Cardwell, *H.Streimann* 45375 (CANB); Conway S.F., 18 km ENE of Proserpine, *H.Streimann* 37392 (CANB); Dunns Ck, Kirrama S.F., 24 km WNW of Cardwell, *H.Streimann* & *B.Mishler* 61812 (CANB); Windsor Tableland, *I.G.Stone* 16092 (MEL). N.S.W.: Bruxner Nature Reserve, 6 km NNW of Coffs Harbour, 15 June 1999, *B.R.Myall* & *G.R.Myall* (CANB).

Perigonia and sporogones were not seen in Australian material.

2. *Homaliodendron flabellatum* (Sm.) M.Fleisch., *Hedwigia* 45: 74 (1906)

Hookeria flabellata Sm., *Trans. Linn. Soc. London* 9: 280 (1808); *Thamnium flabellatum* (Sm.) Kindb., *Hedwigia* 41: 228 (1902). T: “communicated to the younger Linnaeus by Mr. Dickson, as a native of the West Indies...”; iso(?): BM.

Homaliodendron dendroides (Reichardt) M.Fleisch., *Hedwigia* 45: 74 (1906).

?*Neckera australiae* Hampe & Müll.Hal. ex F.Muell., *nom. nud.*

Illustrations: J.Enroth, *op. cit.* 62, fig. 8; 63, fig. 9.

Plants robust, to c. 13 cm tall, bright green or pale green to pale brown. Fronds fan-shaped, untidy, \pm dorsiventrally flattened, pinnately to tripinnately branched, \pm complanate; branch tips rounded to attenuate; flagelliform branchlets common. Pseudoparaphyllia foliose. Stipe leaves small, subulate above a broadly elliptical basal part; apex acute; costa faint. Frond axis and branch leaves spreading, oblong-lingulate to spatulate, 2–3 mm long, 0.9–1.2 mm wide, often asymmetrical, slightly plicate when dry; margin entire below, irregularly dentate in the apical region; apex irregular; costa reaching 67–75% of the leaf length. Upper laminal cells rhomboidal, 12–15 \times c. 5 μm , descending along the leaf margin, more strongly at acroscopic side; median laminal cells elongate, weakly pitted; basal cells linear, 48–68 \times 5.0–7.5 μm , distinctly pitted; alar cells occasionally forming a distinct patch.

Perichaetia 2.0–2.5 mm tall, in leaf axils of secondary stems. Perigonia c. 1 mm tall, in leaf axils of secondary stems and branches.

Occurs in north-eastern Qld, in densely shaded, lowland to montane rainforest; epiphytic or growing on boulders. Also in Mauritius, India, Sri Lanka, China, Taiwan, Japan, SE Asia, Malesia, New Caledonia and the Hawaiian Islands.

Qld: Mt Bartle Frere, on trail from Lamins Hill road, E of Malanda, *D.H.Norris* 42762 (CANB); Mount Lewis S.F., 14 km WSW of Mossman, *H.Streimann* 46049 (CANB); Rex Ck, Mossman Gorge, 6 km W of Mossman, *H.Streimann* & *B.Mishler* 61703 (CANB); near Mt Haig, Lamb Ra., 20 km SE of Mareeba, *H.Streimann* 57650 (CANB); Atherton, *B.O. van Zanten* 681241 (CANB).

Homaliodendron flabellatum is readily distinguished from *H. exiguum* by its robust, multi-branched frondose growth form and coarsely toothed leaf apices. Sporogones were not found in Australian material.