

NECKEROPSIS

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Neckeropsis Reichardt, *Verh. Zool.-Bot. Ges. Wien* 18: 192 (1868); from the genus name *Neckera* and the Greek suffix *-opsis-* (indicating resemblance), in reference to their similarity.

Type: *N. undulata* (Hedw.) Reichardt.

Dioicous, cladautoicous or synoicous. Plants forming loose brackets, often pendulous. Primary stem creeping, slender; fronds short or long and flexuose, sparingly branched, pseudotetrastichous; complanate; stem apices mostly rounded; central strand absent. Leaves spreading, lingulate, asymmetrical; acroscopic side narrowly decurrent, weakly or conspicuously undulate; apex truncate to broadly rounded, occasionally with a small blunt apiculus; apical margin entire or crenulate; costa absent, or short and faint, or single and strong, occasionally forked at the tip. Laminal cells thick-walled; upper laminal cells quadrate to rounded; median cells short-rectangular to rhomboid; basal cells narrowly rectangular, conspicuously pitted.

Perichaetia and perigonia in leaf axils of secondary stems and branches; perichaetial leaves elongate. Calyptra conical, covered with paraphysal hairs. Seta very short, Capsules immersed, ovoid to oblong-cylindrical; stomata absent; annulus not differentiated; operculum conico-rostrate. Peristome: exostome teeth narrowly triangular; outer face with a median line, occasionally fenestrate, papillose; endostome with a low basal membrane; processes long, narrow, fenestrate, finely papillose; cilia absent. Spores globose to oval, papillose.

A genus of 14 species (Touw, 1962) with a circumtropical distribution. The two Australian taxa are restricted to north-eastern Qld.

References

- Enroth, J. (1989), Bryophyte flora of the Huon Peninsula, Papua New Guinea. XXVII. Neckeraceae (Musci), *Acta Bot. Fenn.* 137: 41–80.
- Touw, A. (1962), Revision of the moss-genus *Neckeropsis* (Neckeraceae) I. Asiatic and Pacific species, *Blumea* 11: 373–425.

Key

- Plants robust, to c. 20 cm long; lamina regularly and markedly undulate when dry; costa faint, short; perichaetial paraphyses filiform..... **1. *N. lepineana***
- Plants smaller, to c. 5 cm long; lamina irregularly and faintly undulate when dry; costa strong, ending just below the apex; perichaetial paraphyses 2 or 3 cells wide **2. *N. nanodisticha***

1. *Neckeropsis lepineana* (Mont.) M.Fleisch., *Musc. Buitenzorg* 3: 879 (1908)

Neckera lepineana Mont., *Ann. Sci. Nat., Bot.*, sér. 3, 10: 107 (1848). T: Tahiti, [French Polynesia], *J.Lépine s.n.*; holo: PC.

Illustrations: A.Touw, *Blumea* 11: 384, pl. 3; 390, pl. 5(1–2) (1962); J.Enroth, *Acta Bot. Fenn.* 137: 44, fig. 1 (1989).

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Dioicous. Plants robust, to c. 20 cm long, glossy olive-green to golden. Fronds cascading, irregularly branched. Leaves spreading, lingulate, narrowing at the base, 2.7–3.0 mm long, 0.9–1.5 mm wide, asymmetrical, regularly and markedly undulate, particularly when dry; apex truncate to broadly rounded; apical margin entire; costa faint and short. Upper laminal cells rounded to rhomboid, 10–25 × 5–10 µm; median laminal cells longer, short-rectangular to rhomboid; basal cells narrowly rectangular, 40.0–62.5 × 5–10 µm, conspicuously pitted; basal marginal cells shorter.

Perichaetia c. 1.5 mm tall; paraphyses filiform. Calyptra bearing paraphyses. Seta 0.5–1.0 mm long. Capsules orange-brown, c. 1.5 mm long. Peristome pale yellow. Spores 25–35 µm diam., finely papillose.

Occurs in north-eastern Qld in wet closed rainforest to 1200 m; usually epiphytic, but also on rocks and logs. Also in Africa, India, Sri Lanka, China, Japan, SE Asia, Malesia and south-western Pacific islands.

Qld: *sine loc.*, *F.M.Bailey s.n.* (BRI); E peak of Mt Dryander, c. 15 km N of Proserpine, *R.J.Henderson, V.Moriarty & J.Swan H2192* (BRI); trail from N Johnstone Overlook, Palmerston [Wooroonooran] Natl Park, W of Innisfail, *D.H.Norris 40600* (BRI); Wright Ck, L. Eacham, 16 km E of Atherton, *H.Streimann 16908* (CANB); Rex Ck, Mossman Gorge, 6 km W of Mossman, *H.Streimann 45840* (CANB).

Neckeropsis lepineana can be confused with *Himantocladium cyclophyllum* (*q.v.*). However, it is reliably distinguished by its truncate or broadly rounded leaf apices, its more densely and regularly undulate leaves and its longer, flexuous stems.

2. *Neckeropsis nanodisticha* (Geh.) M.Fleisch., *Musc. Buitenzorg* 3: 879 (1908)

Neckera nanodisticha Geh., *Biblioth. Bot.* 13: 4 (1889). T: Fly River, [Papua] New Guinea, *W.Baerleren 84, 98c*; holo: probably destroyed; Butuan, Agusan, Mindanao, Philippines, *Weber 1290*; neo: L *n.v.*, *fide* A.Touw, *Blumea* 11: 425 (1962); isoneo: NY, US *n.v.*

Neckeropsis sparvelliiae Dixon, *Proc. Roy. Soc. Queensland* 53: 34 (1942). T: Woolkoo, Murray [Prior] Range, Qld, 12 Sept. 1938, *Mrs Sparvell [H.Flecker 5237]*; holo: BM not located; iso: AD, CANB.

Illustrations: A.Touw, *Blumea* 11: 411, pl. 17 (1962); J.Enroth, *Acta Bot. Fenn.* 137: 46, fig. 2i–o (1989).

Cladautoicous, synoicous or autoicous. Plants small, to c. 5 cm long, glossy olive-green to golden. Fronds erect, with irregular widely spaced branches. Leaves spreading, lingulate, 1.3–1.5 mm long, 0.5–0.6 mm wide, faintly and irregularly undulate when dry; apex truncate to broadly rounded, occasionally with a blunt apiculus; apical margin crenulate; costa strong, ending just below the apex. Upper laminal cells rounded to rhomboid, 8–13 × 5–8 µm; median cells slightly longer; basal cells narrowly rectangular, 29–44 × 8–10 µm; basal marginal cells shorter.

Perichaetia and perigonia in leaf axils, on same stem or branch. Perichaetia c. 2 mm tall; paraphyses 2 or 3 cells wide. Perigonia smaller, c. 0.8 mm tall; paraphyses filiform. Calyptra bearing numerous paraphyses. Seta very short, c. 0.5 mm long. Capsules orange-brown, 1.0–1.5 (–2.0) mm long. Spores finely papillose

Occurs in rainforest in north-eastern Qld; epiphytic on small branches. Also in India and Malesia.

The occurrence of this species in Australia is based solely on the type of *N. sparvelliiae*. However, all Australian collections previously identified as *N. nanodisticha* or *N. sparvelliiae* and examined by us are referable to *Himantocladium cyclophyllum* (*q.v.*). Both *N. nanodisticha* and *H. cyclophyllum* have asymmetrical, lingulate and irregularly undulate leaves and a strong single costa failing near the apex. Thus, when perichaetia are absent, the two species are easily confused. However, the leaves of *H. cyclophyllum* are longer, and they have a rounded to obtuse apiculate and serrate apex, whereas in *N. nanodisticha* the leaves are shorter, leaf apices are rounded to truncate, crenulate and very rarely apiculate.

Neckeropsis nanodisticha is cladautoicous, synoicous (Touw, 1962; Enroth, 1989) or autoicous, as is the case with Australian material, and paraphyses within the perichaetia are several cells wide. Only perichaetia with uniseriate paraphyses were found among Australian herbarium material identified as *N. nanodisticha* or *N. sparvelliiae*. Although the isotype

collections have numerous sporogones, they are in poor condition, and very few spores were observed.