



CHIODECTON ¹

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Chiodecton, Ach., *Syn. Meth. Lich.*: 108 (1814).

Type: *C. sphaerale* Ach.

Thallus crustose, ecorticate, containing calcium oxalate, frequently with a thin, grey or black prothallus. Photobiont trentepohlioid, with cells irregularly roundish, 8–22 µm diam., occurring singly, in clumps or short chains. Ascomata apothecia, perithecioid to lirelliform, mostly visible as minute dots or short lines aggregated in wart-like, adnate or basally constricted stroma-like structures. Disc pale brown to black, epruinose. Proper exciple cupulate, brown to opaque dark brown, K+ olive-green, thin laterally, at the base usually massive and extending to the substratum. Hypothecium thin and poorly differentiated, hyaline to pale brown, K+ olive-green. Hymenium hyaline, sometimes inspersed, mostly hemiamyloid and KI+ blue (Tasmanian species), overlain by a dilute, brownish, K+ olive-green epithelial layer. Asci narrowly cylindrical, 8-spored, of the *myrticola*-type: tholus weakly KI+ pale blue except for a thin, darker staining internal cap; ocular chamber short and blunt. Paraphysoids sparsely branched, coherent in water and K; apices mostly not significantly expanded. Ascospores transversely 3-septate, hyaline, thin-walled, narrowly fusiform to filiform, straight or curved, non-halonate. Conidiomata pycnidia, immersed. Conidia filiform, curved. Chemistry: roccellic acid, sometimes with additional yellowish pigments.

A genus of about 16 described species, occurring mainly on smooth bark in the tropics and subtropics, although a small number of species are known from cooler latitudes, or may grow on rock. Three species occur in Tasmania. The wart-like stromata, speckled with tiny, black apothecial discs, make this genus unmistakable.

Key references: Thor (1990); Kantvilas & Thor (1993).

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| 1 | Thallus saxicolous; fruiting bodies commonly white-pruinose | 3 <i>C. montanum</i> |
| | Thallus epiphytic; fruiting bodies epruinose | 2 |
| 2(1) | On the dead leaves of <i>Richea</i> or on dry bark; hymenium densely inspersed with oil droplets | 2 <i>C. flavovirens</i> |
| | On smooth bark; hymenium not inspersed, or oil droplets very few | 1 <i>C. colensoi</i> |

1 *Chiodecton colensoi* (A.Massal.) Müll.Arg.

Bull. Herb. Boissier 2, App. 1: 86 (1894); —*Leucodecton colensoi* A.Massal., *Atti Reale Ist. Veneto Sci. Lett. Arti, Sér.* 3, 5: 326 (1860).

Thallus mostly smooth and even, sometimes faintly rimose, very thin, at most to c. 0.2 µm thick but sometimes ± absent, pale greenish pink when fresh, becoming pale grey to yellowish grey, forming irregular patches to 100 mm wide, usually delimited by a thin, grey prothallus. Fertile stromata 0.3–1.5 mm wide, broadly adnate to slightly basally constricted, roundish or irregular, apically a little flattened, scattered and discrete or fusing in clusters to 3 mm wide; apothecia perithecioid, visible as specks or lines, 5–10 or more per stroma. Exciple 6–15 µm thick laterally. Hymenium 90–120 µm thick, mostly not inspersed, or occasion-

1 This work can be cited as: Kantvilas G (2023). *Chiodecton*, version 2023:1. In MF de Salas (Ed.) *Flora of Tasmania Online*. 3 pp. (Tasmanian Herbarium, Tasmanian Museum and Art Gallery: Hobart). <https://flora.tmag.tas.gov.au/lichen-genera/chiodecton/> (accessed 28 October 2022).

2 Tasmanian Herbarium, Tasmanian Museum & Art Gallery, PO Box 5058, UTAS LPO, Sandy Bay, TAS 7005, Australia.

ally with a few oil droplets; asci 68–93 × 11–15 µm; paraphysoids 1–1.5 µm thick, with apices often enlarged to 3 µm and faintly pigmented brownish, K+ grey-green. Ascospores 37–52 × 3–4.5 µm, turning grey when old. Conidia 12–17 × 1 µm.

Chemistry: roccellic acid, often only in trace concentrations.

Common and widespread in Tasmania, mainly on smooth bark in the shaded understorey of rainforest, but also found in other moist vegetation types such as wet sclerophyll forest and scrub, or in locally moister microhabitats in drier woodlands. It is similarly widespread in New Zealand and on the eastern Australian mainland where it extends into tropical latitudes. Specimens from drier habitats are more likely to have an inspersed hymenium, albeit far less so than that of *C. flavovirens*.

Weldborough, 41°12'S 147°54'E, 770 m, 1981, G. Kantvilas 1135/81 (BM, HO); Big Sassy Creek, 42°08'S 147°53'E, 500 m, 1984, A. Moscal 7958 (HO); Gordon River near Richea Creek, 42°37'S 146°22'E, 450 m, 2009, G. Kantvilas 37/09 (HO).

2 *Chiodecton flavovirens* Thor

Opera Bot. 103: 41 (1990). Type: Tasmania, Ben Lomond National Park, 32 km E of Evandale, 1 km NW of Carr Villa, along Ben Lomond Road, 41°30'S 147°37'E, c. 1080 m, at the base of *Leptospermum lanigerum*, 1981, L. Tibell 11436 (holo—UPS; iso—MEL!).

Thallus very thin, scurfy and rather discontinuous, pale greenish when fresh, then pale brownish to pinkish grey, forming diffuse patches to 50 mm wide. Fertile stromata 0.5–2 mm wide, broadly adnate to slightly basally constricted, ± hemispherical, usually scattered and discrete; apothecia perithecioid, very numerous, to 10–30 per stroma. Exciple 10–20 µm thick laterally. Hymenium 90–120 µm thick, densely inspersed with oil droplets; asci 65–90 × 10–14 µm; paraphysoids 1–2 µm thick. Ascospores 40–55 × 3–4 µm. Conidia 9–14 × 1 µm.

Chemistry: roccellic acid, mostly only in trace concentrations.

Endemic to Tasmania and very rarely collected. This species occurs in highly specialised, dry habitats rich in hydrophobic lichens, on the bark of trees or on the dead, dry leaves of *Richea pandanifolia* in highland woodlands. Apart from its ecology, the densely inspersed hymenium and very numerous apothecia in each stroma easily distinguish it from *C. colensoi*, the other epiphytic species of the genus present in Tasmania.

Western shore of Lake Dobson, 42°41'S 146°35'E, 1040 m, 1981, L. Tibell 11113 (UPS); track to Nevada Peak, 42°54'S 146°41'E, c. 800 m, 1993, G. Kantvilas 19/93 (HO, S); track to Wylds Craig, 42°28'S 146°25'E, 880 m, 1998, G. Kantvilas 283/98 (HO).

3 *Chiodecton montanum* Thor

Opera Bot. 103: 52 (1990).

Thallus smooth and very thin, or verruculose and to 0.5–1 mm thick, dull reddish brown, grey-brown or yellowish grey, in section patchily K+ yellow or reddish yellow (secalonic acid), usually delimited by a black prothallus and forming extensive expanses of contiguous thalli to 50–100 cm across. Fertile stromata 0.5–2 mm wide, scattered and discrete or sometimes fused together in rather brain-like clusters to 3.5 mm wide, basally constricted, ± globose, commonly whitish-pruinose; apothecia perithecioid, very numerous (>10) per stroma; disc typically speck-like but occasionally gaping to 0.5 mm wide. Exciple 10–20 µm thick laterally. Hymenium 100–140 µm thick, densely inspersed with oil droplets; asci 75–90 × 10–15 µm; paraphysoids 1–1.5 µm thick. Ascospores 40–56 × 3–5 µm. Conidia 11–16 × 1 µm.

Chemistry: roccellic and secalonic (±) acids; sections of thallus frequently yield a precipitate of clusters of needle-like crystals in KOH.

Common and widespread in Tasmania and also recorded from New Zealand. It is mostly seen on mid-elevation dolerite pinnacles in the eastern parts of the island, colonising sheltered, shaded, slightly overhanging surfaces on large tors and cliffs. It is also found on quartzitic and granitic rocks in the west where it is far less

abundant. The conspicuous, whitish-pruinose fruiting bodies contrast markedly with the usually dark, brownish thallus and make it easily recognised.

Mt Sprent, 42°48'S 146°58'E, 1050 m, 1984, G. *Kantvilas* 550/84 (BM, HO); South Sister, 41°32'S 148°10', 750 m, 2004, G. *Kantvilas* 428/04 (HO); Quoin Mountain, 42°33'S 147°17'E, 870 m, 2020, G. *Kantvilas* 131/20 (HO, NY).

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