



## THALLOIDIMA <sup>1</sup>

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*Thalloidima* A.Massal., *Ric. Auton. Lich. Crost.*: 95 (1852).

Type: *T. candidum* (Weber) A.Massal.

Thallus squamulose or sometimes absent in non-lichenised, lichenicolous species, usually with a cortex and epinecral layer, commonly pruinose with calcium oxalate present; pores lacking; pseudocyphellae sometimes present, punctiform or linear; isidia or soredia absent. Photobiont a unicellular green alga with ± globose cells 6–15 µm diam. Ascomata apothecia, biatorine, sessile, basally constricted, with calcium oxalate present in some species. Disc plane to convex, black, sometimes pruinose. Proper exciple persistent or soon excluded, concolorous with the disc, in section annular, externally pigmented greenish grey, K+ violet, C+ violet, N+ violet, internally hyaline or diffusely pigmented, composed of radiating, branched, thick-walled hyphae. Hypothecium hyaline to dark brown. Hymenium hyaline, overlain by a greenish grey, K+ violet, C+ violet, N+ violet epithecium. Paraphyses sparingly branched, 2–2.5 µm thick; apices distinctly capitate, to 4–6 µm wide, with a gelatinous, pigmented outer cap. Asci clavate, 8-spored, of the *Bacidia*-type: tholus well-developed, amyloid, with a weakly amyloid, conical *masse axiale* and a short, conical ocular chamber. Ascospores 1–3-septate, hyaline, ellipsoid, bacilliform or fusiform, rarely acicular, non-halonate, thin-walled. Conidiomata pycnidia, rare, immersed. Conidia filiform. Chemistry: containing no substances of taxonomic significance identifiable by TLC.

Like *Bibbya* and *Toniniopsis*, *Thalloidima* is a segregate of the large, heterogenous genus *Toninia*, and has been distinguished mainly on the basis of DNA-sequence data (Kistenich *et al.*, 2018). It differs from the latter morphologically chiefly by having an internally unpigmented exciple and, critically, by containing the pigment *sedifolia*-grey in the epithecium (greenish grey, K+ violet, C+ violet, N+ violet). The genus includes about 10 species, found on soil and stones, mostly in temperate or Mediterranean environments of the Northern Hemisphere; two species, including the widespread *T. sedifolium* (Scop.) Kistenich *et al.*, have been recorded for the Australian mainland. Most species have a squamulose thallus but at least two are non-lichenised and occur as parasites on cyanophilic lichens.

Key references: Timdal (1992); Kistenich *et al.* (2018); Cannon *et al.* (2021).

### 1 *Thalloidima ioen* (Herre) S.Ekman & Timdal

*Taxon* 67: 896 (2018);—*Bacidia ioessa* Herre, *Proc. Washington Acad. Sci.* 12: 98 (1910).

Thallus squamulose; squamules scattered or contiguous, dull olive-brown, epruinose but with whitish abraded areas, irregular, rather gnarled and unevenly convex, 0.5–2 wide, without pseudocyphellae; calcium oxalate lacking. Apothecia 0.4–1 mm diam., scattered or crowded together, fused and deformed, epruinose, lacking calcium oxalate; disc black to grey-black, plane at first, becoming convex; proper exciple black, persistent or becoming inapparent and excluded in more convex apothecia, in section 45–70 µm thick, greenish grey, K+ violet at the outer edge, hyaline or diffusely greenish grey within. Hypothecium 120–180 µm thick, pale in the lowermost part, pale straw-coloured, K± pale yellowish above. Hymenium 60–70 µm

1 This work can be cited as: Kantvilas G (2024). *Thalloidima*, version 2024:1. In MF de Salas (Ed.) *Flora of Tasmania Online*. 2 pp. (Tasmanian Herbarium, Tasmanian Museum and Art Gallery: Hobart). <https://flora.tmag.tas.gov.au/lichen-genera/thalloidima/>

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

thick, overlain by greenish grey epithecium, K+ violet, C+ violet, N+ violet; asci 45–55 × 12–16 µm. Ascospores 3-septate, bacilliform to fusiform, (18–)19–22.0–26 × 3–3.7–4.5 µm.

Known from the south-west of North America and in South America, with an outlying record from the Kimberley region of Western Australia (reported under its synonym *Toninia submexicana* de Lesd.). The identification of specimens from Tasmania, where the species is rare, remains tentative pending a wider study and further collections. It is known from dolerite-derived soil at mid-elevations in the east, and is recognised by the squamulose thallus, the apothecia with a hyaline hypothecium and *sedifolia*-grey epithecium, and the bacilliform to fusiform, 3-septate ascospores. *Thalloidima sedifolium* differs mainly by having 1-septate ascospores, 12–24 × 3–5 µm, and a dark coloured hypothecium (Timdal 1992).

St Patricks Head, 41°35'S 148°14'E, 1973, G.C. Bratt 73/664 (HO); Gunners Quoin summit, 42°46'S 147°20'E, 440 m, 1992, G. Kantvilas 181/92 & J.A. Elix (HO).

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