Flora of Tasmania online

AINOA [1][2]

Gintaras Kantvilas [3]

Ainoa Lumbsch & I.Schmitt, *Mycol. Res.* 105: 272 (2001).

Type: *A. geochroa* (Körb.) Lumbsch & I.Schmitt

Thallus crustose, ecorticate. Photobiont a unicellular green alga with ± globose cells 10–20 µm wide. Ascomata apothecia, biatorine, sessile, basally constricted. Proper exciple thick and prominent, persistent, concolorous with the disc or a little paler, in section cupulate, dark red-brown, composed of richly branched and anastomosed, entangled, long-celled, thick-walled hyphae 2–4 µm thick. Hymenium hyaline, non-amyloid, inspersed with scattered, large oil droplets. Asci cylindrical to elongate-clavate with a rather extended 'tail', 8-spored, of the *Baeomyces*-type: non-amyloid, with a thin tholus at least when young and the ascoplasm rounded to truncate; ocular chamber absent. Paraphyses richly branched and anastomosed, entangled, slender, separating readily in water and K; apices not swollen. Ascospores simple, hyaline, ellipsoid, non-halonate, thin-walled, typically with a large vacuole. Conidiomata pycnidia, immersed. Conidia filiform. Chemistry: gyrophoric acid, restricted to the apothecia and pycnidia.

A genus of three species, occurring in cool temperate areas of both hemispheres. Although formerly included in the Trapeliaceae on account of superficial similarities in morphology and ascus type, molecular data indicate that its relationships lie with the Baeomycetaceae. *Ainoa* is distinguished from *Trapelia* and *Trapeliopsis* by the robust, persistent, single-layered exciple composed of thick-walled hyphae. In *Trapelia*, the exciple is highly reduced and composed of thin-walled hyphae, whereas in *Trapeliopsis*, although well-developed, it is composed of thin-walled hyphae and has an inner prosoplectenchymatous layer and an outer paraplectenchymatous layer.

Key references: Coppins & James (1984); Lumbsch *et al.* (2001); Brodo & Lendemer (2015).

1 Ainoa mooreana (Carroll) Lumbsch & I.Schmitt

Mycol. Res. 105: 273 (2001); —*Lecidea mooreana* Carroll, *Nat. Hist. Rev.* 6: 529 (1859); *Trapelia mooreana* (Carroll) P.James *in* H. Hertel, *Herzogia* 3: 404 (1975).

Thallus areolate to ± granular, pale to deep orange-brown, or abraded and pale grey, to 0.5–1 mm thick, forming irregular, continuous or rather dispersed patches that can extend over 10s of centimetres of pebbly ground. Apothecia 0.5–1 mm wide; disc plane to concave, dark brown to black, proper exciple in section 25–50 µm thick. Hypothecium hyaline to pale brown, 80–100 µm thick. Hymenium 100–130 µm thick, with a dilute pale greenish grey to olive-brown, K+ olive-green epithecial layer; asci 85–100 × 10–15 µm; paraphyses 0.8–1 µm thick. Ascospores usually uniseriate, 13–*15.2*–18 × 5–*6.4*–8 µm. Pycnidia not found; conidia reported (Coppins & James 1984) as 5–6 × 0.7 µm.

Chemistry: gyrophoric acid in the apothecia; apothecial sections K–, KC+ red, C+ red, P–.

1 This work can be cited as: Kantvilas G (2023). *Ainoa*, **version 2023:1**. 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/ainoa/** (accessed 29 September 2022).

2 This treatment was supported by the Australian Biological Resources Study's National Taxonomy Research Grant Program (grant no. 4-EHINNOL).

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

Tasmanian Government

TASMANIAN MUSEUM & ART GALLERY

Widely scattered on siliceous rocks in cool, moist environments in both hemispheres, although not recorded for mainland Australia. In Tasmania, it typically occurs on scattered pebbles in open ground, such as gravelly roadsides, or in gaps, frost hollows or dried up shallow puddles, especially at higher elevations. It is easily recognised macroscopically by its relatively thick, areolate, orange-tinted thallus with prominent, mostly dark, persistently marginate apothecia, and anatomically by the distinctive asci. There are several superficially similar crustose lichens in such habitats, but most of these belong to the Trapeliaceae, Porpidiaceae or Lecideaceae.

Mt Field, 42°39'S 146°35'E, 1968, *J.E.S. Townrow* (HO); c. 2 km NW of Trial Harbour, 41°55'S 145°11'E, 200 m, 1989, *G. Kantvilas 143/01* (HO, M); Grey Mountain, 43°06'S 147°07'E, 810 m, 2018, *G. Kantvilas 13/18* (HO, NY, UPS).

REFERENCES

Brodo IM, Lendemer JC (2015) A revision of the saxicolous, esorediate species of *Ainoa* and *Trapelia* (Baeomycetaceae and Trapeliaceae, lichenized Ascomycota) in North America, with the description of two new species. *Bryologist* **118** 385–399.

Coppins BJ, James PW (1984) New or interesting British lichens V. *Lichenologist* **16** 241–264.

Lumbsch HT, Schmitt I, Döring H, Wedin M (2001) ITS sequence data suggest variability of ascus types and support ontogenetic characters as phylogenetic discriminators in the Agyriales (Ascomycota). *Mycological Research* **105** 265–274.

INDEX

A
Ainoa....**1**
Ainoa geochroa....1
Ainoa mooreana....**1**
B
Baeomyces....1
L
Lecidea mooreana....1
Lecideaceae....2
P
Porpidiaceae....2
T
Trapelia....1
Trapelia mooreana....1
Trapeliaceae....2
Trapeliopsis....1