



AGYRIUM¹²

Gintaras Kantvilas³

Agyrium Fr., *Syst. Mycol.* 2: 231 (1822).

Type: *A. rufum* (Pers.) Fr.

Thallus poorly developed, immersed in the substratum, mostly non-lichenised or loosely associated with green coccoid algae in the vicinity of the ascomata. Ascomata apothecia, biatorine, immarginate, with the proper exciple highly reduced, annular, composed of richly branched and anastomosed hyphae 1–1.5 µm thick. Asci broadly clavate, 8-spored, approximating the *Trapelia*-type: outer wall amyloid; tholus well-developed, with a thin, amyloid cap and weakly amyloid flanks, ± non-amyloid in the remainder; ascoplasm truncate to concave at the apex; ocular chamber absent. Paraphyses richly branched and anastomosed, with slightly swollen apices. Ascospores simple, mostly hyaline, non-halonate, thin-walled. Conidiomata not known. Chemistry: nil.

A widespread genus in cool temperate areas of the Northern Hemisphere. It may well be monotypic, as numerous taxa once included in *Agyrium* have been transferred to unambiguously non-lichenised, unrelated genera.

Key references: Dobson *et al.* (2009); Kantvilas (2002); Lumbsch (1997); Lumbsch *et al.* (2007).

1 *Agyrium rufum* (Pers.) Fr.

Syst. Mycol. 2: 232 (1822); —*Stictis rufa* Pers., *Observ. Mycol.* 2: 74 (1800) [1799].

Thallus immersed to absent, usually defined by pale, bleached patches on the substratum. Apothecia 0.2–0.5 mm wide, irregularly roundish, scattered, slightly basally constricted to adnate; disc pale orange to red-brown, waxy, matt, convex, sometimes rather wrinkled and contorted; proper exciple in section 20–40 µm thick, soon excluded, pale to deep orange-brown, K⁺ orange-red to red (sometimes fleetingly), soon becoming ± persistently pale yellow. Subhymenial tissues poorly differentiated, sometimes similarly pigmented. Hymenium 70–80 µm thick, intensely I⁺ blue, with an orange-brown epithelial layer c. 10 µm thick, K⁺ red as in the exciple; asci 60–75 × 12–22 µm; paraphyses c. 1 µm thick, with apices 1.5–2 µm. Ascospores broadly ellipsoid to ovate, 10–13.4–18 × 5–6.4–8 µm, hyaline but becoming grey or brown with age, usually with one or more large vacuoles.

Widespread and common in wet forests and heathlands in Tasmania from lowland to alpine elevations, usually occurring on wood but occasionally also on bark. It is one of the earliest colonisers of bleached eucalypt lignin in forests regenerating after logging. Similarly widespread in the temperate Northern Hemisphere, *A. rufum* is recognised macroscopically by the immarginate, bright orange apothecia occurring on wood, and anatomically by the *Trapelia*-like asci and simple ascospores. In one Tasmanian specimen, the apothecia are particularly deep reddish brown, yielding a very strong K⁺ red reaction, and the younger

1 This work can be cited as: Kantvilas G (2023). *Agyrium*, 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/lichens/genera/agyrium/> (accessed 27 September 2022).

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

apothecia have a sparse orange pruina. This reaction should not be confused with the K⁺ purple reaction displayed by genera such as *Caloplaca* which contain orange, anthraquinone pigments.

Arthur River, 41°12'S 145°30'E, 250 m, 1982, *G. Kantvilas s.n.* (HO); summit of Wild Dog Tier, 41°47'S 146°35'E, 1390 m, 2001, *G. Kantvilas 375/01* (BM, HO); W of Tahune Bridge, 43°06'S 146°42'E, 100 m, 2003, *G. Kantvilas 20/03* (HO, STU).

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INDEX

| | |
|-----------------------------|----------------------------|
| A | S |
| <i>Agyrium</i>1 | <i>Stictis rufa</i>1 |
| <i>Agyrium rufum</i>1 | T |
| C | <i>Trapelia</i>1 |
| <i>Caloplaca</i>1 | |