

HERPOTHALLON

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Herpothallon Tobler, *Flora* 131: 92 (1937); from the Greek *herpo* (to creep), in reference to the growth habit of the thallus.

Type: *H. sanguineum* (Sw.) Tobler [= *H. rubroinctum* (Ehrenb.: Fr.) Aptroot, Lücking & G.Thor]

Thallus crustose, superficial, ecorticate, ±white, pale yellowish, greenish grey, green or with yellow, orange or red colouration, byssoid, usually with calcium oxalate crystals, to 0.3 mm thick; hyphae 1–3 µm wide; soredia absent. Hypothallus ±distinct, when loosely attached to the substratum ±byssoid below the entire thallus, when firmly attached to the substratum compacted or reduced, whitish, yellow, red, brown to black; hyphae 1–5 µm wide. Prothallus usually distinct, byssoid, mainly of interwoven and radiating hyphae, whitish or brownish, yellow, orange or red, to 3 mm wide. Pseudoisidia usually present, few to numerous, cylindrical to globose, unbranched or sparingly branched, rarely coralloid, ±felty with projecting hyphae or sometimes rather compact, arising perpendicularly, in some species often slanted, concolorous with the thallus, rarely paler, often with pigments of the same type as those found in the prothallus, 0.05–1.00 mm tall, 0.05–0.60 mm wide. In a few species, large soredia-like granules, pustules or minute granules (instead of pseudoisidia) present on the thallus surface. Photobiont trentepohlioid; cells solitary or a few aggregated, 4–22 × 4–18 µm. Ascospores usually lacking; mature asci known only from the Neotropical *H. fertile* Aptroot & Lücking. Ascigerous areas consisting of distinctly constricted (when mature) egg-like warts of thalline structure but often paler, aggregated in groups of 1–15, 0.15–0.25 mm wide, to 0.3 mm tall. Asci originating below the thallus surface, pushing the thallus up and eventually forming discrete structures with a 100–150 µm thick wall of densely intricate hyphae that react I+ orange-red, K/I+ blue. Thallus warts each containing 1 ascus, with a rather deep pale apical ostiole. Asci ellipsoidal, 2–8-spored, thick-walled (to 30 µm), to 250 × 150 µm, with a prominent but comparatively narrow ocular chamber, I–, K/I–. Ascospores densely muriform, with straight thin septa, curved to wavy and moustache-shaped, colourless, 75–250 × 30–40 µm, K/I+ brownish, one or both ends ±attenuated. Conidiomata pycnidial, in thalline warts or at the tips of pseudoisidia. Conidia colourless, simple, bacilliform, straight, 3–5 × 0.7–1.0 µm.

A pantropical genus of c. 29 species, six of which occur in Australia. These lichens grow on bark, wood or leaves.

F.Tobler, Über den Bau der Hymenolichenen und eine neue zu ihnen gehörende Gattung, *Flora* 131: 438–447 (1937); J.A.Elix, Four new crustose lichens (lichenized Ascomycota) from Australia, *Australas. Lichenol.* 60: 14–19 (2007); A.Aptroot, G.Thor, R.Lücking, J.A.Elix & J.L.Chaves, The lichen genus *Herpothallon* reinstated, *Biblioth. Lichenol.* 99: 19–67 (2008).

1	Thallus foliicolous.....	2
1:	Thallus corticolous.....	3
2	Thallus C–, P+ yellow, containing psoromic acid (1).....	1. H. australasicum
2:	Thallus C+ red, P–, containing gyrophoric and confluent acids.....	5. H. queenslandicum
3	Thallus C+ red, containing gyrophoric acid (1:).....	6. H. rubroinctoides
3:	Thallus C–, not containing gyrophoric acid.....	4
4	Thallus P–, containing confluent acid (3:).....	2. H. confluenticum
4:	Thallus P+ yellow, not containing confluent acid.....	5
5	Hypothallus white to pale brown or greenish; psoromic acid present (4:).....	3. H. echinatum
5:	Hypothallus brown-black; norstictic acid and aspicilin present.....	4. H. mycelioides