

GROUP H

[Thallus isidiate, these usually with terminal apothecia; asci usually 1- or 2-spored]

1	Thallus corticolous or muscicolous	2
1:	Thallus saxicolous	3
2	Protocetraric acid present	P. gymnospora
2:	Fumarprotocetraric acid present	P. dactylina
3	K+ violet, Pd-; hypothamnolic acid present	P. subdactylina
3:	K+ red, Pd+ orange	4
4	Salazinic acid present	P. pseudodactylina
4:	Norstictic acid present	P. dactylinella

Pertusaria dactylina (Ach.) Nyl., *Acta Soc. Sci. Fenn.* 7: 447 (1863)

Lichen dactylinus Ach., *Lich. Suec. Prodr.* 89 (1798). T: Spenlaf Region, Sweden, *E.Acharius s.n.*; holo: H-ACH *n.v.*

Illustrations: W.Martin & J.Child, *New Zealand Lichens* 109, pl. 21 (1972); R.Moberg & I.Holmasen, *Lavar* 209 (1982).

Thallus off-white to pale fawn, thin, growing on dead moss and peat, smooth, continuous, engulfing the substratum, lacking soredia, densely isidiate. Isidia usually simple, occasionally branched, 1.0–1.5 mm tall, 0.10–0.15 mm wide. Apothecia disciform, terminal in the tips of the isidia. Ascospores 1 per ascus, ellipsoidal, thin-walled, c. 200 µm long and 80 µm wide [apothecia and ascospores not seen in Australian material].

Chemistry: K- or + weak brown, KC-, C-, Pd+ red; containing fumarprotocetraric acid (major) and protocetraric acid (trace).

This subalpine to alpine bipolar species is Circumarctic in the Northern Hemisphere and grows over dead moss and other plant debris. Also in Macquarie Island and New Zealand.

Macquarie Island: Handspike Pt, on peat-covered rocks, *D.McVean* 6975 (COLO).

Pertusaria dactylina is characterised by the isidiate thallus and the presence of fumarprotocetraric acid. It resembles *P. gymnospora* (*q.v.*), but that species contains protocetraric acid.

Pertusaria dactylinella Kantvilas & Elix, *Sauteria* 15: 250 (2008)

T: Sleepy Bay Rd, 1.6 km W of coast, Freycinet Penin., Tas., 20 m alt., on vertical granite rock face in dry forest, 2 Feb. 1984, *G.Kantvilas* 158/84 & *P.W. James*; holo: HO; iso: BM, MEL.

Illustration: G.Kantvilas & J.A.Elix, *op. cit.* 251, fig. 1 (2008)

Thallus crustose, dull olive-grey to whitish grey, deeply cracked, to c. 0.5 mm thick, ecorticate, isidiate. Isidia cylindrical, to c. 1.2 mm tall, 0.3–0.4 (–0.5) mm thick, mostly simple but occasionally furcate, with rounded apices, often discoloured greyish, very brittle and easily abraded or fractured. Apothecia not seen. Pycnidia occasional, immersed in the thallus and isidia; conidia fusiform, 4–5 × 0.5 µm.

Chemistry: Thallus K+ yellow then red, KC-, C-, Pd+ orange, UV-; containing norstictic acid (major), connorstictic acid (minor) and salazinic acid (trace).

This endemic, saxicolous species is known only from Tas.

Tas.: The Hazards, near Wineglass Bay Lookout, *G.Kantvilas* 176/05 (HO); Mt Dove, *G.Kantvilas* 138/95 (HO).

Pertusaria dactylinella is characterised by a saxicolous thallus, generally dominated by isidia and by the presence of norstictic acid depsidones or β-orcinol depsides. Similar species

are separated from each other by chemical means: *P. dactylina* (Ach.) Nyl. contains fumarprotocetraric acid, *P. pseudodactylina* A.W.Archer contains salazinic acid and *P. subdactylina* Nyl. contains hypothamnolic acid.

***Pertusaria gymnospora* Kantvilas, *Lichenologist* 22: 292 (1990)**

T: Howards Rd, near Henty Mine, Tas., 1 May 1989, *S.J.Jarman s.n.*; holo: HO; iso: BM, WELT.

Illustrations: G.Kantvilas, *op. cit.* 291, fig. 1B; 294, fig. 2A & B; 295, fig. 3B.

Thallus whitish grey to pale grey, thick, warty. Soredia absent. Isidia conspicuous, numerous, to 3 mm tall, 0.8–1.2 mm wide, simple, rarely branched; apices becoming subglobose. Apothecia immersed in the tips of the isidia. Ascospores 1 per ascus, broadly ellipsoidal to subglobose, 85–180 × 50–150 µm.

Chemistry: Thallus K–, KC–, C–, Pd+ red; containing protocetraric acid (major).

Muscicolous and corticolous on mossy trunks and branches in rainforest in western and south-western Tas. Also in New Zealand.

Tas.: near dam, Serpentine R., *G.Kantvilas 35/80* (BM, HO); near L Judd, *G.C.Bratt 73/900* (NSW); Mt Sprent, *G.Kantvilas* (CANB, HO); Greystone Bluff, *G.Kantvilas 104/86* (HO).

The lichen is characterised by an isidiate thallus with apothecia terminal on the isidia and the presence of protocetraric acid. It resembles *P. dactylina* (*q.v.*), from Macquarie Is. and New Zealand, but it can be distinguished from that species by the chemistry and the more robust isidia.

***Pertusaria pseudodactylina* A.W.Archer, *Mycotaxon* 41: 238 (1991)**

T: Mt Cameron, Tas., 25 Nov. 1973, *G.C.Bratt 73/1240*; holo: HO.

Thallus greyish white, slightly cracked, smooth and glossy. Soredia absent. Isidia densely crowded, concolorous with the thallus, unbranched, 1–2 mm tall, 0.3–0.5 mm wide. Apothecia not seen.

Chemistry: Thallus K+ red, KC–, C–, Pd+ orange; containing salazinic acid (major) and consalazinic acid (trace).

This saxicolous species is endemic to Tas.

Tas.: Sleepy Bay, Freycinet Penin., *G.Kantvilas 145/84* & *P.W.James* (BM, HO, MIL).

The lichen is characterised by the densely isidiate thallus containing salazinic acid.

***Pertusaria subdactylina* Nyl., *Flora* 68: 603 (1885)**

T: Port Clarence, Bering Strait, Alaska, [U.S.A.], 1879, *E.Almquist s.n.*; syn: *S n.v.*

Illustrations: M.J.Dibben, *The Chemosystematics of the Lichen Genus Pertusaria in North America North of Mexico* 150, fig. 106 (1980); A.W.Archer, *Biblioth. Lichenol.* 69: 214, fig. 81 (1997).

Thallus off-white, smooth and dull. Soredia absent. Isidia scattered, mostly simple, rarely branched, 1.0–1.5 mm tall, 0.3–0.8 mm wide. Apothecia not seen in Australian specimens.

Chemistry: Thallus K+ violet, KC+ red-violet, C–, Pd–; containing hypothamnolic acid (major).

This saxicolous species is uncommon in Tas.; also in boreal North America.

Tas.: Mt Kelford, Cape Barren Is., Furneaux Group, Bass Str., *J.Whinray s.n.* (MEL 1516837); Mt Cameron, *G.Kantvilas 138/97* & *J.A.Elix* (HO).

Pertusaria subdactylina is characterised by the isidiate thallus containing hypothamnolic acid. In North America it was reported to be humicolous and muscicolous as well as saxicolous, and some isidia have terminal apothecia with 1-spored asci.