GROUP N

[Thallus saxicolous, fertile; apothecia disciform]

1  Ascospores 8 per ascus, 30–47 µm long; thallus K+ yellow then red, containing norstictic acid ............

................................................................. P. erubescens

1:  Ascospores 1 per ascus ............................................................. 2

2  Ascospores 106–220 µm long; thallus Pd+, containing usnic and 5-O-methylhiasic acids............

................................................................. P. flavoexpansa

2:  Ascospores 164–281 µm long; thallus Pd+ red, containing protocetraric acid ....... P. parathalassica


Thallus off-white to pale grey, areolate and cracked, smooth and dull. Soredia and isidia absent. Apothecia numerous, scattered, disciform, concolorous with the thallus, 0.4–0.7 mm diam.; disc black, epruinose or slightly white-pruinose. Ascospores 8 per ascus, irregularly uniseriate, ellipsoidal, smooth, 30–40 (~47) × 17–25 µm.

Chemistry: Thallus K+ yellow then red, KC–, C–, Pd+ yellow; containing norstictic acid (major) and connorstictic acid (trace).

Occurs in southern N.S.W. and Vic., usually inland and on granite at altitudes of 300–1750 m; also in South Africa, New Zealand, the Falkland Islands and Antarctica.

Pertusaria flavoexpansa Kantvilas & Elix, Sauteria 15: 253 (2008)

T: Crater Peak, Tas., 41°39’S 145°56’E, on soil, shrubs and stones in alpine heathland, 1200 m alt., 16 Feb. 1984, G.Kantvilas 415/84 & P.W.James; holo: HO; iso: BM
Illustration: G.Kantvilas & J.A.Elix, op. cit. 254, fig. 2.

Thallus pale lemon-yellow, occasionally ±maculate, usually thick (to 2 mm) and widespread, continuous, smooth to verrucose, papillate or glomerulate. Apothecia scattered, immersed in gall-like verrucae 0.4–1.0 mm wide, ±globose, superficial, basally constricted, pale brownish, pale greyish to pale yellowish, splitting by up to 5 ±radial fissures, becoming coarsely abraded and exposing the ‘disc’; disc initially convex and brown, at length eroded and becoming ±plane and black, with a thin rather ragged rim of thalline tissue resembling a lecanorine margin. Verrucae in section subtended by a band of dark brown tissue 20–40 µm thick, occasionally with flecks or streaks of a purple-black K+ aeruginose greenish pigment. Ascospores 1 per ascus, broadly ellipsoidal to ovate to oblong, (106–) 130–168 (~220) × (40–) 84 (~112) µm, colourless, but sometimes becoming pale brown with age and internally sculptured with transverse strands; wall 5–10 µm thick, generally swelling noticeably in KOH. Pycnidia not seen.
**Chemistry:** Thallus K−, KC+ orange-pink, C+ pink, P−, UV−; containing usnic acid, 5-O-methylhiascic acid (major), two unknowns (minor; with UV spectra comparable with that of 5-O-acetyl-4-O-methylhiascic acid) and lecanoric acid (trace).

A widely distributed species endemic to Tas.; grows on soil, pebbles, rocks and low shrubs in mountainous areas.

Tas.: Western Arthur R., G.Kantvilas 441/06 (HO); Clear Hill, G.Kantvilas 105/92 (HO); Reservoir Lakes, A.M.Buchanan 2986A (HO); Jubilee R., A.Moscal 9238 (HO); Elliot R., G.Kantvilas 23/85 (BM, HO); Mt Bobs, G.Kantvilas 59/98 (HO); summit of Snowy North, G.Kantvilas 98/93 (CANB, HO); Greystone Bluff, G.Kantvilas 106/86 (herb. A.Vězda, HO); Mt Mawson, G.Kantvilas 771/81 (BM, HO); 4 km N of Precipitous Bluff, G.Kantvilas 109/90 (CANB, HO); Weindorlers Forest, G.Kantvilas s.n. (CANB, HO).

This conspicuous lichen is characterised by its yellowish, wide-spreading thallus that can form patches of more than 50 cm in extent, the single-spored asci and the presence of usnic and 5-O-methylhiascic acids. However, fertile asci and ascospores are not easily observed.


T: Coal Pt, Bruny Is., Tas., 43°20’S, 147°19’E, alt. 1 m, on sandstone rocks within the spray zone, 14 June 2005, G.Kantvilas 145/05; holo: HO; iso: CANB.

Illustration: G.Kantvilas & J.A.Elix, op. cit. 259, fig. 4.

Thallus whitish to pale dull grey, deeply cracked and areolate, 0.4–1.5 (~2.0) mm thick, very hard, brittle, lacking isidia and soredia, ecorticate. Apothecia disciform, 0.8–1.5 (~2.5) mm wide, single or with 2 or 3 fused, usually rather deformed and squashed; hymenia at first deeply immersed within the verrucae and obscured by a thick sterile ‘plug’ of thalline tissue, at length exposed and revealing an orange-brown to greyish disc, soon becoming abraded, eroded and excavate. Asci 1-spored, elongate-oblong, soon rupturing. Ascospores oblong-ellipsoidal, hyaline, 164–281 × 51–109 μm; wall 3–4 μm thick, internally smooth.

**Chemistry:** Thallus K−, KC−, C−, Pd+ red, UV−; containing protocetraric acid.

A locally common saxicolous species on southern coasts of Tas.; endemic.

Tas.: Roaring Bay, G.C.Bratt 68/529 & J.A.Cashin (HO); channel between Penguin Is. and Grass Pt, Bruny Is., G.Kantvilas 115/04 (HO); Cape Hauy, G.Kantvilas 420/01 (HO).

The lichen is characterised by large, disciform apothecia, single-spored asci, exceptionally large ascospores and the presence of protocetraric acid. It is distinguished from the chemically similar saxicolous species *P. macloviana* Müll.Arg., recorded from southern South America and the Falkland Islands, by the smaller ascospores in the latter (147–187 × 49–74 μm) and the disciform apothecia that become coarsely sorediate.