

Protoblastenia (Zahlbr.) Steiner
(LECANORALES: PSORACEAE)

After Poelt & Vezda, 1977, and others

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Thallus crustose, smooth, continuous to rimose, endolithic to epilithic, whitish to gray-green or pale brown to yellowish (granular and yellow according to Rogers), uniform, ecorticate, attached to substrate by medullary hyphae. Photobiont chlorococcoid (Trebouxia according to Rogers).

Apothecia \pm flat to strongly convex, soon immarginate, yellow to orange or orange-red to deep red or brown, K+ black-red; thalline exciple absent; true exciple poorly developed, of colorless branched hyphae; hypothecium hyaline or yellowish or brown, occasionally \pm violet; hymenium colorless to orange, I+ blue; epithecium with orange granular material (anthraquinone), K+ red; paraphyses 2-3.5 μ m wide, rather conglutinate, sparingly branched and anastomosed; apices not or scarcely swollen. Asci 8-spored, cylindrical-clavate, unitunicate, thin-walled, I+ blue; tholus I+ blue, Porpidia-type; spores simple, rarely spuriously 1-septate, colorless, ellipsoid or globose, thin to rather thick-walled, without a thickened perispore.

Pycnidia immersed; fulcrum endobasidial; pycnospores bacilliform. No substances in thallus; anthraquinones (principally parietin) in apothecia. Usually on calcareous rock (most if not all corticolous species included by some authors are now in Pyrrhospora).

1. On calcareous soil and humus. Thallus thick, warty-areolate, white, K-. Apothecia sessile, to 1.5 mm broad; proper exciple concolorous with disk; disk orange-yellow to olive-brownish, K+ purple. Hymenium hyaline, yellowish above. Paraphyses unbranched. Hypothecium sometimes brownish. Spores ellipsoid, 7-10 x 4-5 μ m. Arctic-alpine, Ellesmere Island to Alaska, south to Alberta. P. terricola

1. On rock. Thallus thin or immersed. 2

2. Thallus clearly epilithic, coherent to fissured and \pm areolate, thin, minutely granulose, gray-greenish to dirty gray-brown, sometimes bleaching whitish; areoles 0.1-0.4 mm wide; in shaded habitats sometimes sorediate (according to Fröberg). Apothecia (always present in the usual non-sorediate morph) 0.3-1 mm wide, red-orange to red-brown or \pm dirty or dull orange, without granules on the surface, sessile, slightly elevated, not in pits; disc flat to moderately convex, usually irregular in outline; margin thin, soon disappearing, concolorous with disk; spores 8-14(-17) x 5-8 μ m, ellipsoid. Hypothecium hyaline to yellowish, without crystals. Paraphyses brownish above. Epihymenium yellowish brown to dark brown. On calcareous rock, usually in moist, shaded conditions,

seepage areas on cliffs, etc., and on wide range of other solid calcareous substrata; also in relatively dry and sunny habitats. Arctic to temperate, Alaska; widely distributed, at least in the East (Fink reports it from Vermont to Georgia, W to W. Virginia and Tennessee, but he included P. calva and probably other species).P. rupestris (Scop.) Steiner

2. Thallus \pm endolithic, with smooth to somewhat mealy upper surface. Hypothecium without crystals. 3

3. Apothecia entirely to almost entirely sunken into pits in substrate, only 0.2-0.5 mm wide, flat to moderately or finally strongly convex, orange-yellow to orange-ochre (often rather pale), without granules on the surface; spores 9-15 x 4-6 μ m (5-7 x 3-4 μ m according to Fröberg). Hypothecium hyaline to yellowish. Thallus sometimes yellowish. Thallus whitish to light gray, often growing in small, rounded patches. Apothecia immersed, rounded, not confluent.

Epihymenium light brown. On hard limestones, often at the edge of cracks, on N-facing vertical surfaces.P. incrustans (DC.) Steiner

3. Apothecia sessile (immersed according to Thomson), not in pits at maturity, often very isolated, 0.4-2.6(-2) mm, soon highly convex, orange, yellow-orange or brownish orange, dull orange or reddish orange (usually dark, but paler when young), with granules on the surface. Hypothecium hyaline to yellowish, rarely violet. Spores (8-)11-15 x 5-8 μ m, ellipsoid. Thallus white to dirty gray. Thallus sometimes indistinctly epilithic and granular. Apothecia elevated, when fully developed hemispherical, sometimes almost black when old, often surrounded by a minute fissure. Exciple with rather narrow, anastomosing hyphae. Paraphyses anastomosing and branched, not thickened at apex. On hard limestones, often at the edge of cracks, extending a few cm downwards, on N-facing vertical surfaces, tolerant of shaded, not too damp habitats. Arctic to temperate.P. calva (Dickson) Zahlbr.

Literature

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