

Polysporina Vezda
(ACAROSPORACEAE)

After various authors

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Thallus crustose, lichenized, often inapparent, or parasitic on other lichens. Photobiont, when present, chlorococcoid. Apothecia sessile or sunken in the substrate, lecideine, at first closed and perithecia-like with a central pore, then open; discs circular but slit-like, usually omphalodisc, around a central umbo, black-appearing; old apothecia often gyrose-contorted; umbo and gyri black, the persistent fertile compartments on the upper surface dark, the margins raised, cracked, involute. Exciple proper; outer part dark brown, carbonaceous; inner part colorless, of radiating, branched hyphae. Hymenium (85-)100-120(-200) μ m high, colorless, zone below umbo without asci, I+ yellowish to reddish or bluish in parts, K/I+ blue; epihymenium colorless to brown, but umbo region thick and dark brown (carbonaceous). Paraphyses usually richly reticulately branched and anastomosing, unclearly septate, 1-2 μ m wide, the apical cells shorter and \pm broader, colorless or surrounded by brown pigment, often confluent, producing an uneven epithecium. Asci clavate to cylindric, walls moderately thin, apices thickened, the wall K/I- but outer coat K/I+ blue; apical dome distinct, K/I-. Spores to very many (over 100), colorless, simple, ellipsoid to subspherical or bacillar, very minute.

Pycnidia apothecia-like, carbonaceous, often cracked; pycnospores ellipsoid, minute, simple, colorless. No substances. On hard rocks (siliceous or calcareous) or on other lichens.

Differs from Sarcogyne especially by the umbonate to gyrose apothecia, carbonaceous exciple, [\pm ?] carbonaceous epithecium, and the reticulately bound, unclearly septate paraphyses. The species can be at least superficially similar to Rimularia s. lato and some Lecidea spp., which have 8 spores per ascus.

1. Thallus often inapparent (endolithic or endoxylic), or thin and indistinct. 2

1. Thallus epilithic, grayish white, subareolate, 0.2-0.4 mm thick. External or dark stratum of exciple indistinctly limited; hymenium I+ blue or green-blue; spores 2-3(-4) x 1 μ m. Sarcogyne [Polysporina?] bicolor

2. Apothecia \pm completely immersed, leaving holes in the rock when they fall out. Hymenium 50-60 μ m. Thallus within rock, leaving holes when apothecia fall out. Apothecia dispersed, sunken in rock to slightly projecting, 0.2-0.4 mm broad, black; exciple black, 25-35 μ m, pale within; disc concave, surrounded by thick, wall-like rough margin; hypothecium hyaline; hymenium hyaline, 50-60 μ m thick, I+ blue or yellowish red; paraphyses 1.7-2 μ m, tips gradually broadening to 4-5 μ m and dark-capped, tips sometimes with short branches; asci broadly clavate; spores 100-200, elliptical, 3-04.5 x 1.5-2.5 μ m. On calcareous rocks. Arctic Canada. P. urceolata (Anzi) Brodo

2. Apothecia \pm adnate, not leaving holes in the rock. Hymenium mostly 90 μ m or more. 3

3. Algae absent from apothecium. Exciple 25-80 um thick. Thallus, if evident, thin, scurfy, pale gray or olivaceous, perhaps rarely thick and areolate. Apothecia often abundant, partly immersed to sessile, scattered to clustered, often in lines following cracks in the rock surface, (0.2-)0.3-0.5(-1) mm diam., 0.3 mm thick, black, usually rounded or broadly elliptic, with a central umbo surrounded by a slit-like disc; disc very uneven, rough; exciple divided by 4-8 fissures, sometimes contorted due to mutual pressure or regeneration; exterior stratum of exciple carbonaceous, distinctly limited, inner edge distinct, often lacking toward center of apothecium, running into upper side of hymenium as a 20-40 um thick carbonaceous epithecium, inward of this is a 15-25 um layer of clear or pale yellow-brown parallel hyphae; ascogenous layer not distinct, 10-40 um, hyaline or gray; hymenium (60-)90-120(-200) um tall, hyaline, often split into several units in an apothecium; asci narrowly clavate, (55-)65-100(-150) x (12-)15-17(-20) um; paraphyses 1-1.7 um, simple or branched and anastomosing; hymenium I+ reddish yellow or rarely blue; spores 200 or more per ascus, 3-5(-5.5) x 1-1.5 um, narrowly ellipsoid to bacilliform. On acid or weakly calcareous rocks, often in the xeric-supralittoral on rocky seashores, cliffs and on pebbles in stable shingle, also inland on tops of boulders in and by streams, sometimes on granite, rarely on consolidated soil. Temperate to Arctic. P. simplex

3. Algae sparsely present in margin and under hypothecium. Exciple 20-30 um thick. Thallus crustaceous, in lignicolous specimens very thin, ochraceous, rimulose, in saxicolous specimens very poorly developed, reduced to small, pale brown traces around base of apothecia. Apothecia adnate or immersed at base, 0.3-0.5 mm diam., black, rugulose; margin thick, obtuse; disc impressed or plane, often umbonate; exciple dark red-brown to black, 20-30 um thick, confluent with epithecium; algae rather sparse in margin and under hypothecium, usually not forming a distinct layer; hymenium ca. 100-150 um high; asci broadly clavate, 50-75 x 15-22 um; spores several hundred per ascus, oblong-bacilliform, 3-4 um long, 1 um wide. Hypothecium pale. Alaska; Greenland. P. lapponica (synonym Acarospora lapponica)

Literature

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