

**Placidiopsis** Beltram  
(VERRUCARIALES: VERRUCARIACEAE)

After Thomson (1987), and Breuss (1992, 1996)

Rev. 5/94

Thallus squamulose or  $\pm$  crustose; upper cortex pseudoparenchymatous; attached to substratum by intricate colorless or brownish rhizoidal hyphae. Photobiont trebouxoid. Perithecia immersed in the squamules. Involucrellum present or absent. True exciple of tangentially arranged,  $\pm$  elongate cells, pigmented around the ostiole, the lower part pale or darkening. Periphyses present; paraphyses absent. Asci thin-walled, clavate. Spores 8, clearly 1-septate, biseriata, ellipsoid, colorless. No substances. Mostly on soil or mosses.

**1. On non-calcareous pebbles. Squamules very small (< 0.8 mm across). Spores 8-10 x 4-5  $\mu$ m.** Squamules rounded or slightly lobed, pruinose. Growing in open, eroded areas, Michigan, Virginia, N. & S. Carolina. .... P. minor R. C. Harris

**1. On soil, moss or humus. Squamules larger. Spores over 10  $\mu$ m long and 5  $\mu$ m wide.** Squamules without rhizines or hyphal tuft, fastened by a hypothallus of intricate rhizohyphae (rhizohyphal web). Perithecia without involucrellum. .... 2

**2. Rhizohyphae hyaline; perithecial walls pale; in mediterranean climates.**

Squamules without a paraplectenchymatous lower cortex. Epinecral layer thick. Spores 15-19 x 6-7.5  $\mu$ m. Exciple pale. Rhizohyphae 3-4  $\mu$ m diam. California. .... P. cinerascens (Nyl.) Breuss

**2. Rhizohyphae dark; perithecial walls dark; northern arctic-alpine.** Spores ellipsoid to ovoid, 15-19 x 7.5-9  $\mu$ m. Squamules scattered or aggregated in small groups; marginal squamules not finely incised. On calcareous soil or associate humus, arctic-alpine. Alaska, Colorado. Resembles Catapyrenium cinerum, which has more elongate, oblong-clavate ascospores, which are simple but may partly be pseudoseptate. .... P. pseudocinerea Breuss

P. cinerascens

Squamules 0.3-3 mm diam., scattered to  $\pm$  aggregated, plane to slightly convex, margins roundish, somewhat lifted up and overlapping, rounded or lobed, partly also strongly crenate-lobed, rarely deeply split; upper side greenish gray to brownish, matt or "feinchagrinos", naked or slightly grayish overlain to (rarely) strongly pruinose, sometimes dark bordered; lower side pale, with rhizohyphal web. Thallus 150-350(-400)  $\mu$ m thick, cellular almost throughout; upper cortex indistinctly delimited and irregularly bordered, 15-25  $\mu$ m high, cells 5-9(-11)  $\mu$ m diam., uppermost ones brown; epinecral layer 10-30  $\mu$ m thick, mostly  $\pm$  uneven ("zerfurcht"); algal cells usually distributed throughout much of the thallus section, but towards the lower side somewhat sparser; algal free medulla apparent only in thicker squamules, loose to densely cellular, the cells globose, 6-11  $\mu$ m diam.; lower cortex indistinct, partly not generally delimited, often consisting only of 1-3 rows of densely gelatinized globose cells, the lowest ones hyaline to brown.

Rhizohyphae hyaline, 3-4  $\mu$ m thick, forming a loose to dense web.

Perithecia broadly pyriform to almost globose, to 300  $\mu$ m wide,  $\pm$  covered by thallus

(?--"den Thallus unten  $\pm$  vorbauchend"). Excipulum hyaline to yellowish; ostiole blackish, slightly prominent in age. Periphyses 20-30 x 2.5-3  $\mu$ m, the apical cells often weakly clavate swollen (-4  $\mu$ m wide). Asci narrowly clavate, 55-65 x 11-16  $\mu$ m. Spores (13-)15-19(-21) x (5.5-)6-7.5(-8)  $\mu$ m, ellipsoid or somewhat narrowed at one end and  $\pm$  clavate-ovoid, 1-septate, slightly constricted at septum.

#### P. minor

Thallus of minute squamules 0.25-0.75 mm across, rounded; upper surface gray, often with a black margin, broadly attached to substratum; lower surface dark brown; upper and lower cortices paraplectenchymatous. Perithecia immersed, 1-many per squamules; ostiole evident as a dark dot; exciple pale except near mouth; spores irregular in ascus, 2-celled with one cell shorter.

See Breuss (1996) for fuller description

#### P. pseudocinerea

Margins of thallus not or obscurely lobulate; Upper surface light brownish and not or weakly pruinose and then with whitish gray tinge. Spores (14-)15-18(-20) x (7-)7.5-9.5(-10)  $\mu$ m, ellipsoid to slightly ovoid, 1-septate. Thallus squamulose; squamules to 4 mm across, entirely closely adpressed, scattered or aggregated in small groups, rounded or slightly incised or lobed, faintly roughened, sometimes with thin intersecting lines forming a mosaic; underside blackish, with pigmented rhizoidal hyphae forming a dense dark hypothallus. Perithecia  $\pm$  3/4 immersed; ostiole sometimes slightly elevated; true exciple at first colorless, becoming brownish and eventually blackish around ostiole. See Breuss (1996) for fuller description

#### EXCLUDED:

Margins of thallus becoming  $\pm$  lobed. Upper surface of thallus grayish green to brown, variable even on the same thallus, quite green when wet, especially on the paler parts. Spores 14-23 x 8-10  $\mu$ m, elongate-ellipsoid to short-ellipsoid, simple to 1-septate. Thallus squamulose,  $\pm$  continuous to lobed, the lobes 1-3 mm long and ca. 1 mm broad, the edges curved downward; underside black and attached by dark rhizoidal hyphae but lacking rhizines (according to Thomson; true P. cervinula is rhizinate according to Breuss); cortex thin, paraplectenchymatous, reddish brown. Perithecia ca. 250  $\mu$ m diam.; exciple ca. 25  $\mu$ m thick, darkening to brown, the ostiole dark but not very conspicuous at the surface; hymenial gelatin I+ reddening; On soil and mosses. Not in North America according to Breuss & McCune. Thomson's reports from Alaska, California, and Quebec are either P. cinerascens or P. pseudocinerea. ..... (P. cervinula (Nyl.) Vainio)

#### Literature

Breuss, O. 1992. Placidiopsis. In: Purvis, et al., Lichen Flora of Great Britain and Ireland.

Breuss, O. and B. McCune. 1994. Additions to the pyrenolichen flora of North America. The Bryologist 97(4): 365-370.

Thomson, J. W. 1987. The lichen genera Catapyrenium and Placidiopsis in North America. The Bryologist 90: 27-39.

