Halecania M. Mayrh.

(LECANORALES)

After Coppins, Mayrhofer, and others

Rev. 5/94

Thallus crustose, ± effuse, rimose-cracked or granular to warted, mostly whitish to bluish- or brownish-gray; cortex usually thin or indistinct, the terminal cells often with a brown cap; medulla I-. Photobiont chlorococcoid. Apothecia sessile; thalline exciple soon receding, with a broad algal zone and a broad to indistinct cortex; outer edge ± with brown layer of apically capped cells. True exciple thin laterally, usually expanding above with a surface layer of apically brown-capped cells. Hymenium I+ blue. Hypothecium colorless. Paraphyses simple or occasionally forked, spetate, the apices swollen, mostly dark brown, capitate. Asci clavate to subcylindrical, Catillaria-type. Spores 8, colorless, 1-septate, ellipsoid or ovoid- to oblong-elliposid, sometimes ± sole-shaped, perispore swelling markedly in K (not apparent in over-mature spores). Pycnidia usually present, immersed; wall colorless except around the ostiole; conidiogenous cells enterblastic, arranged in branched chains, pleurogenous; conidia simple, bacilliform, colorless. Argopsin (K-, C-, P+ red), ± zeorin; surfaces often with brownish (K-, N-) or greenish (K-, N+ reddish) pigments.

1. Spores (in asci) 8-10 x 4-5 um. Apothecia 0.4-0.5 mm diam., ± plane at first, soon slightly to moderately convex; thalline exciple soon excluded. Thallus light olive gray to pale yellowish green, mottled with brownish to blackish granules. On shaded rocks, Connecticut. ..... "Lecania" pepegospora H. Magn. (=? H. spodomela (Nyl.) M. Mayrh.)

1. Spores 14-17 x 5-7 um (in water, incl. perispore) [x 4.5-5 um in K, excl. perispore]. Apothecia 0.3-0.8 mm diam., at first ± globose with pore-like disc, expanding to reveal a flat to slightly convex disc; thalline exciple usually persistent. Thallus pale to dark brownish gray. On calcareous rocks, arctic-alpine. ..... H. alpivaga (Th. Fr.) M. Mayrh.

Detailed Descriptions

H. alpivaga (Th. Fr.) M. Mayrh. (Syn. Lecania alpivaga, L. thallophila; also L. disceptans [new synonym, based on my examination of the type])

Thallus of dispersed or clustered to heaped granular warts, to ca. 1 mm thick, matt, pale to dark brown-gray, K-, I-. Apothecia at first subglobose, gray, with impressed punctiform disk at apex, then adnate and expanded, 0.3-0.8(-1) mm diam.; disk plane to slightly convex, blackish brown (paler when wet), plane to slightly convex; thalline margin thick, inflexed, mostly entire and persistent, sometimes crenulate, occasionally receding in old apotheica; cortex distinct, without crystalline inclusions; epihymenium and outer edge of true exciple brown, K-, N-. Subhymenium hyaline; hymenium I+ blue, the asci turning wine red; paraphyses rather laxly coherent, the apices brown, capitate; epihymenium brown; asci clavate to inflated-clavate; spores 8, oblong to subcylindrical-oblong (blunt ellipsoid according to Thomson), 1-septate, 14-17(-21) x 5-7 um (in water, including perispore; 4.5-5 um wide in K, excluding perispore). Pycnidia usually present; upper wall brown, N-. On calcareous rocks. Arctic, or at high elevations in

boreal-temperate areas. Alaska to Greenland.

"Lecania" pepegospora H. Magn. (holotype, UPS!)

THALLUS covering large areas, thin, effuse, granulate or rimulose, uneven, in some parts greenish with confluent, low irregular granules, mostly sordid from a mixture of brownish and green-gray granules, confluent to areole-like, ± plane areas separated by cracks, surface almost coarsely furfuraceous, light olive gray to pale yellowish green (121) mottled with olive black to brownish black or black granules (blastidia?); cortex absent; algae densely filling thallus, 5-7 um diam.

APOTHECIA 0.4-0.5 mm diam., partly rather dense, partly absent, sunk with their base into the thallus, gradually appressed, 0.3 mm thick, pale part 150-200 um deep; discs dark brown, paler when wet, ± plane at first, soon slightly to moderately convex; margin concolorous with thallus (concolorous with disc according to protologue), thin, below disc, soon excluded; algal layer 60-70 um thick, ± continuous, horizontal; excipulum hyaline, 25-30 um all around, continuous, at edge with exterior dark olivaceous cover, 20-25 um thick, 70 um high; subhymenium hyaline, I+ pale blue; hymenium 50 um, hyaline; epihymenium 4-8 um, dark olive, K-; paraphyses contiguous, 1(-1.5) um, tips at least partly thickened, 2-3 um; asci 40-45 x 10-12 um, oblong-clavate, wall much thickened at apex, 8-spored; spores 1-septate with very thin septum (c. 1 um), not at all escaping from the asci, 8-10 x 4-5 um, with gelatinous halo.

SPERMOGONIA immersed, 50-80 um diam., inconspicuous, dark; spermatia 1.5 x 0.5 um, ellipsoid.

SPOT TESTS AND CHEMISTRY: Thallus K-, P+ red-orange [argopsin?], I-.

DISTRIBUTION AND ECOLOGY: On shaded rocks, Connecticut.

NOTES: The very thin paraphyses, halonate ascospores, short pycnospores, and chemistry suggest that this species belongs in Halecania, and is possibly a synonym of H. spodomela

Literature

Coppins, B. 1992. Halecania. In: Purvis, et al., Lichen Flora of Great Britain and Ireland.

Mayrhofer, M. 1987. Halecania.