

Hypocenomyce M. Choisy
(LECANORALES)

Thallus crustose to squamulose, pale gray to greenish, yellowish, brownish, or dark brown, not coralloid or isidiate, often sorediate at the margins of squamules; squamules, if present, usually \pm peltate or shelllike, often geotropically oriented, mostly 0.5-1.5 mm (or more) in diameter, but sometimes small and appressed; C+ red (lecanoric acid) or C. Upper cortex usually of 2 layers, the upper of colorless, \pm periclinally oriented hyphae, the lower (when present) of randomly arranged or \pm anticlinally oriented hyphae. Medulla, when present, white, of loosely interwoven, randomly oriented, \pm thinwalled hyphae, I. Attached by medullary hyphae.

Apothecia laminal, sessile, dark, redbrown to black, flat or convex; disc frequently gyrose and margin flexuose; thalline exciple absent; true exciple raised, persistent or becoming excluded, of radiating hyphae, colorless to dark brown in inner part, the rim green or brown. Hypothecium shallow and not appearing chondroid; hymenium 40-50 μ m high, I+ blue; epihymenium bluegreen to brownish green or brown. Paraphyses septate, thin, sparingly branched, not anastomosing, weakly conglutinate, apices not or only slightly thickened. Asci 8-spored, clavate to cylindrical; apical dome K/I+ blue but poorly developed in some species. Spores simple or 1(3)-septate, ellipsoid-fusiform, nonhalonate.

Pycnidia sessile, globose-ovate, black; conidia subglobose to filiform, colorless. Fumarprotocetraric, protocetraric or lecanoric acids, or unidentified substances. Photobiont ? Trebouxia. Almost exclusively on wood or bark, often on burnt substrates, rarely on rocks and walls. Mostly boreal to temperate.

Distinguished from Lecidea by the usually squamulose thallus, weakly conglutinate paraphyses, \pm fusiform and sometimes septate ascospores, sessile pycnidia, and preference for charred wood.

After Timdal (1984)

Rev. 2/90

1. Thallus crustose, areolate, P+ yellow, K+ yellow, C+ red, KC+ red, UV, containing alectorialic acid and xanthococca unknown; with erupting, nonlabriform soralia, or not sorediate. Apothecia attached to areoles or apparently directly to substrate, persistently plane and marginate, black, epruinose; margin

becoming slightly flexuose; hypothecium brown; epihymenium green, K+ violet, N+ violet. On unburnt wood, very rarely corticolous.2

1. Thallus squamulose, P or P+ red, K, C+ red or C, KC+ red or KC, without alectorialic acid and xanthococca unknown; margins with labriform, farinose soralia.4

2. Thallus sorediate. Areoles to 0.5(1.0) mm diam., endoxylic to epixylic, bursting into diffuse, farinose soralia; surface pale gray to yellowish brown, matt; soralia greenish to yellowish brown. Apothecia rare, to 0.6(0.8) mm diam., disc egyrose; spores ellipsoid, simple, 67.09 x 2.53.34.5 um. Pycnidia not common. S. Dakota.H. sorophora

2. Thallus esorediate.3

3. Conidia ellipsoid (average length:width ratio 1.82.8:1). Areoles usually thick. Usually on wooden fences in agricultural areas, temperate. Areoles to 1.0(1.5) mm diam., epixylic, esorediate, pale gray to yellowish brown, matt. Apothecia not common, to 0.8(1.1) mm diam.; spores ellipsoid, simple, 78.911.5 x 33.74.5 um. Pycnidia normally abundant. Mainly on conifer wood. S. Dakota, Wyoming.H. praestabilis

3. Conidia subglobose (ratio 1.21.7:1). Areoles usually thin. Usually on dry, decorticated trunks in open pine forests, boreal. Areoles to 0.7(1.2) mm diam., normally epixylic, pale gray to yellowish brown, matt. Apothecia normally present (but sometimes absent), to 0.8(1.2) mm diam., attached to areoles or apparently directly to substrate, persistently plane and marginate, black, epruinose; disc rarely becoming somewhat gyrose, Pycnidia normally present, to 0.2 mm diam.; conidia subglobose, 2.53.24 x 1.52.33 um. Usually on erect, decorticated dry trunks of pines in open situations. Western.H. xanthococca

4. Squamules C+ red, KC+ red (lecanoric acid); shellshaped, ascending, with sorediate margins; epihymenium dirty green, K, N+ violet, containing C+ red crystals; upper side matt; lower side white; apothecia rare, plane, black, marginate. Squamules to 1.2(2.0) mm diam., ascending, geotropically oriented, discrete or more rarely becoming somewhat conglomerate, weakly convex to hemispherical; margin slightly upturned, entire or crenulate, upper side grayish green to dark brown; margin concolorous; soredia along margin yellowish brown, on underside green.

Apothecia not common, to 1.5(2.5) mm diam., attached amarginally to base of squamules, persistently plane and marginate, black, normallly white pruinose; disc rarely becoming somewhat gyrose; margin becoming flexuose. Hypothecium brown; spores very rare, immature. Pycnidia uncommon. Medulla UV+ faintly white; thallus K, P. Containing scalaris unknowns 1,2 and 3. Rather variable in morphology and color. On wood, or bark at base of conifers or hardwoods (often, but not always, burnt), rarely on rock, soil, or other substrates. Borealtemperate, very common. Arizona, Colorado, Idaho, Minnesota, new York, S. Dakota, Washington, Wisconsin, Wyoming, British Columbia.H. scalaris

4. Squamules C, KC+ or ; epihymenium brown, K, N, C; upper side + shiny; lower side pale brown. other characters various.5

5. Apothecia normally common, plane, black, marginate; squamules normally adnate, esorediate, somewhat shiny; mature spores ellipsoid; paraphyses apical cell not or only slighgtly thickened, not distictly pigmented; hypothecium pale to dark brown.

Squamules to 1.0(1.5) mm diam., adnate or rarely somewhat ascending, discrete, concave to convex, esorediate; margin entire, crenulate or incised, not upturned; upper side grayish green to dark brown; margin concolorous. Apothecia to 1.0(1.4) mm diam., attached laminally to squamules or apparently directly to the substrate, persistently plane and marginate, black; disc becoming gyrose, margin becoming flexuose. Spores simple, 4.56.27.5 x 2.53.03.5 um. Medulla UV+ faintly white, containing friesii unknown; other reactions negative. On wood (usually burnt) or bark of conifers and deciduous trees. Massachusetts, Minnesota, New York, Wyoming, Ontario, British Columbia.H. friesii

5. Apothecia rare, strongly convex, brown, immarginate, marginal or attached to the underside of the squamules; squamules ascending, geotropically oriented, normally sorediate, shiny.

Mature spores narrowly ellipsoid to fusiform; paraphyses apical cells slightly thickened to capitate, with dark brown, sharply delimited pigmented area in upper part of cell; hypothecium hyaline. Underside pale brown; soralia farinose, gray. Medulla and soralia KC+ purple, UV+ bluish white, containing anthracophila unknowns 1,2,3 and 4; thallus K,

C.6

6. Squamules (at least the cortex) P+ red (fumarprotocetraric and protocetraric acids), rarely proliferating; margins white to pale brown, usually entire, somewhat upturned; young squamules more or less concave; upper side greenish brown to medium brown,

often darker towards base. Squamules to 0.8(1.3) mm diam., later weakly to strongly convex. Apothecia to 0.8(1.3) mm diam., simple or more rarely compound, when young sometimes plane and with indistinct margin, then convex, reddish brown. Spores simple or more rarely 1-septate, 79.913 x 1.52.12.5 um. Pycnidia uncommon. On wood (usually burnt) or rarely bark. Massachusetts, Michigan, Minnesota, New York, S. Dakota, Ontario, British Columbia. (Timdal describes this species as having brown squamules; a common form in California appears similar but is green. Hafellner, 1993 places this species in Biatora, but doesn't explain it well or deal with the rest of the genus)

.....H. anthracophila

6. Squamules P, brownedged, normally proliferating; young squamules more or less convex; margin concolorous, rarely slightly upturned, often crenulate; upper side greenish brown to deep castaneous brown, usually evenly pigmented. Squamules to 0.8(1.3) mm diam., later moderately convex to hemispherical. Apothecia to 0.5(0.7) mm diam., normally compound, convex, dark brown; spores rare, simple, 79.613 x 22.22.5 um. On wood (usually burnt), very rarely bark. Arizona; Washington.H. castaneocinerea

Literature

Timdal, E. 1984. The genus Hypocenomyce (Lecanorales, Lecideaceae) with special emphasis on the Norwegian and Swedish species. Nord. J. Bot. 4: 83108.

In: Purvis, et al., Lichen Flora of Great Britain and Ireland. Poelt & Vezda. 1981. Erg. II. Galloway, D. 1985. Flora of New Zealand Lichens.