**Cetrelia** Culb. & C. Culb.
(LECANORALES: PARMELIACEAE)

After Culberson & Culberson, 1968

Rev. 5/94

Thallus foliose, dorsiventral, heteromerous, large (525 cm diam.), spreading, loosely attached; lobes 0.52.5 cm broad, rounded, pale above (ashy white to gray or tan, with atranorin), with small, punctiform pseudocyphellae, isidiate or sorediate; upper cortex prosoplectenchymatous (paraplectenchymatous according to Elix); lower surface black, shiny, corticate, rhizinate, sometimes punctate; without marginal cilia. Medulla I. Nonpored epicortex present. Cell walls containing isolichenan. Rhizines simple.

Apothecia laminal, occasionally marginal, 0.54 mm diam., round, stipitate, submarginal, usually perforate; thalline exciple persistent; hypothecium hyaline; hymenium colorless; paraphyses unbranched or little branched; asci cylindrical, Parmeliatype, unitunicate, thickwalled, I+ blue; tholus I+ blue; spores 8, ellipsoid, simple, hyaline, 1122(25) x 612 um.

Pycnidia marginal, immersed; fulcrum ?endobasidial; pycnospores bifusiform, simple, colorless, 5 x 1 um. Upper cortex K+ yellow, with atranorin. Medulla with a range of orcinol depsides and depsidones (imbricaric, alectoronic, collatolic, olivetoric, anziaic, perlatolic, microphyllinic). Photobiont Trebouxia. On bark or wood, less frequently rocks. Temperate to tropical; one species borealarctic.

Characterized by punctiform pseudocyphellae on upper surface, perforate apothecia with large, ellipsoid spores, and bifusiform conidia. Closely related to Platismatia; distinguished from that genus (at least from P. glauca) by having distinct pseudocyphellae, ± continuously rounded margins, the I medulla and distinctive medullary chemistry. May also be mistaken for Parmotrema species, but they lack pseudocyphellae.

**1. Thallus without soredia, isidia, or lobules. Pores (pseudocyphellae) very small, simple and punctiform. Lobes relatively thin, the margins darker than the center. On tundra soil, arctic.** Thallus to 7 cm broad, the lobes to 1.5 cm broad; upper surface greenish gray, turning pale yellowish tan in herbarium, often mottled with black, smooth; lower surface jet black centrally, the margins chestnut brown; rhizines few, short, papilliform or longer. Apothecia and pycnidia unknown. Medulla

K, KC or KC+ pale pink (unknown). In rather moist tundra on and between tussocks of Eriophorum. Alaska and NW Territories, infrequent. ..... C. alaskana

**1. Thallus with soredia, primarily along margins of lobes; without isidia. On trees or rocks, temperate or boreal.** Thallus loosely attached, 620 cm broad, forming wavy, widespreading patches; lobes broad and rotund, 0.51(2) cm wide; margins wavy,crisped, raised; upper surface greenish mineral gray (glaucous gray, sometimes tinged brown); lower surface black, somewhat wrinkled; rhizines scattereed, simple, with a wide, often paler, rhizinefree zone twards the margin. Medulla UV+ white (less intense in C. olivetorum s. str.), K, P. Apothecia rare. Hymenium 60110 um tall. Spores 1215 x 710 um. Pycnidia unknown. Amongst mosses on broadleaved trees, or less frequently rocks, in welllit, but moist or bogggy, sheltered, often longestablished, woodlands and Salix carr. The following species are lumped under C. olivetorum s. lato by Purvis. ..... 2

**2. Pores large, to 1 mm diam., visible without lens; soredia coarse. Medulla C, KC+ red (alectoronic and collatolic acids).** lower surface black at center, brown or mottled whitebrown at margins. Soredia very coarse and granular. Apothecia unknown. Common on rocks, more rarely trees, in open forests, Appalachians and Great Lakes region. ..... C. chicitae Culb. & C. Culb.

**2. Pores small (0.10.3 mm), not easily seen without lens; soredia fine. Chemistry various.** ..... 3

**3. Medulla C+ red, KC+ red (olivetoric acid).** Lower surface with broad bare zone along margins. Apothecia very rare. Common on trunks and large rock outcrops, Appalachians and Great Lakes region. ..... C. olivetorum (Nyl.) Culb. & Culb.

**3. Medulla C (no olivetoric).** C. cetrarioides s. lato. ..... 4

**4. Medulla with imbricaric acid, usually KC+ pinkish (unknown substance?).** Rather common, in the Appalachians. ..... C. monachorum (Zahlbr.) Culb. & C. Culb.

**4. Medulla with perlatolic acid, usually KC.** On bark or wood, Pacific NW in addition to Appalachians and Great Lakes region, rather uncommon. ..... C. cetrarioides (Del. ex Duby) Culb. & C. Culb.

**Literature**

Culberson, W. L. and C. F. Culberson. 1968. The lichen genera Cetrelia and Platismatia (Parmeliaceae). Contr. U.S. Nat. Herb. 34: 449558.

Elix, J. A. 1993. Genera of Parmeliaceae.

Galloway, D. 1985. Flora of New Zealand Lichens.

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

Rogers, 19 . Genera of Australian Lichens.