

Leptorhaphis Krber

After Wirth, Harris, and others

Rev. 5/94

Thallus absent, or immersed, whitish gray to greenish, smooth, continuous, not well delimited. Photobiont absent; sometimes loosely associated with trentepohlioid algae.

Ascomata (pseudothecia) perithecioid, scattered singly or sometimes confluent, circular to ellipsoidal, immersed but becoming superficial, hemispherical to mammiform, ostiolate, simple or multilocular. Involucrellum dark brown to greenish black, K, clypeate, forming a "textura epidermoidea to intricata"; radiating hyphae sometimes extending to form a basal fringe. Exciple pseudoparenchymatous, colorless to pale brown, developed within the involucrellum, inconspicuous or not continuous below the asci. Hamathecium of cellular pseudoparaphyses, branched and anastomosed; paraphyses and paraphysoids absent; gel I+ yellowish orange to bluish green, never deep blue. Asci cylindrical clavate, bitunicate, with a broad and truncate, rarely short pointed, apex, fissitunicate, 8(16)spored. Spores long cylindrical to filiform or acicularfusiform, arcuate or sigmoid, colorless, 13septate (at least in British species, which include the N. American ones), smooth, thinwalled, arranged in one or two bundles in the ascus.

Pycnidia immersed to semisuperficial, hemispherical to spherical; conidiogenous cells enteroblastic, ampulliform to lageniform; macroconidia colorless, acicularfusiform, arcuate, smooth, thinwalled, somewhat reminiscent of the ascospores; microconidia colorless, bacilliform. No substances. On bark of deciduous trees, Temperate.

1. Spores over 30 um long. Exciple entirely brownblack. Spores straight or curved; septa indistinct 2

1. Spores mostly under 30 um long. Exciple brownblack only at the sides. 4

2. Perithecia + ellipsoid. Spores mostly 2(4)celled. Exciple subhemispherical, dimidiate.3

2. Perithecia not ellipsoid, globose to pearshaped. Spores , 68celled. Perithecia semiimmersed, with prominent ostiole. Spores 3090 x 1.53 um. On Quercus. L. quercus (Beltram.) Krber

3. Perithecia 0.150.2 mm long, 0.1 mm wide. Hymenium I+ orangish

(**bluish according to Harris**). Perithecia often 2 confluent, covered by elliptical "hat" or ring of dark hyphae (poorly developed in Great Lakes material); wall lacking below, dark brown, ca. 2530 um thick. Interthecial hyphae shortcelled, branched and anastomosed. Asci clavate, slightly thickened at tip, 3050 x 710 um. Spores 8, in a single bundle, colorless, acicular, with several indistinct septa, to 3050 x 2.53 um, rounded. Thallus nonlichenized, not visible. Ascocarps scattered or clustered and occasionally fused, dark brown, flattened, circular or elliptical in outline. On Prunus and Betula papyrifera. Massachusetts, New Hampshire, Michigan, N. Carolina, Tennessee. L. parameca (Massal.) Krber

3. Perithecia 0.15 mm across. Hymenium I. Perithecia in subhemispherical warts. Spores 8, in a single bundle, acicular, 1(3)septate, (18)3243(52) x 23 um, often contorted. Thallus nonlichenized, not visible or indicated only by a lighter area on the bark. Ascocarps scattered, black, occasionally quite shiny, subglobose to hemispherical, 0.10.2 mm diam.; wall lacking below, dark brown, 1525 um. Interthecial hyphae ca. 1.5 um thick, shortcelled, branched and anastomosed. Asci cylindrical, not much thickened at the tip, 5065 x 1012 um (4554 x 10.513 um according to Degelius, 1942a). On Quercus or Populus. Maine, Massachusetts, Ontario, Wisconsin, Michigan. L. contorta Degel.

4. Ascomata 0.30.45 mm diam., ellipsoidal, surrounded by a dark basal fringe, ca. 100 um diam. Hymenium I (I+ bluish according to Hawksworth & AguireHudson). Spores often sharply pointed at one or both ends, at first simple, then 2(4)celled when mature. Perithecia covered by an elliptical blackish "hat", in groups of 14. Spores 8, mostly in a single bundle, colorless, cylindricalacicular, 1(3)septate, 2035 x 24 um, straight or usually slightly curved or twisted, not constricted at the septum. Thallus nonlichenized, not visible. Ascocarps scattered, black, dull to slightly shiny, hemispherical or slightly flattened, ca. 0.2 mm diam., surrounded by an elliptical ring of dark hyphae ca. 0.1 mm wide; wall lacking below, dark brown, 2030 um thick. Interthecial hyphae ca. 12 um thick, shortcelled, branched and anastomosed. Asci short clavate to oblong, often truncate, not much thickened at tip, inner surface sometimes with a shallow indentation, 3245 x 1015 um. On Betula papyrifera, or sometimes Populus or Fraxinus, Cool temperate to subboreal, rare S of the HemlockWhite PineNorthern Hardwoods region. Ontario, Illinois, Michigan, Minnesota, New York, Wisconsin. L. epidermidis (Ach.) Th. Fr.

4. Ascomata 0.10.2(0.3) mm diam., somewhat circular, not surrounded by a basal fringe. Hymenium I+ orangish (occasionally initially pale bluish, rarely I). Spores usually rounded at the ends, at first 2celled, then 4celled when mature. Perithecia without "hat", often close together (less than 1 mm apart). Spores 8, cylindricalfusiform, 13septate, 1535 x 24 um, mostly curved. Thallus absent, or whitish gray, without algae. Ascocarps scattered, dark brown to black, subglobose to hemispherical, immersed then very soon almost completely exposed; wall dark brown, almost entire but usually lacking at the very base, 1530 um thick. Interthecial hypha not distinct, ca. 1 um thick, much branched and anastomosed, with short cells. Asci short clavate, not much thickened at the tip, inner surface mostly not indented, 4050 x 815 um. On Populus or sometimes Fraxinus. Borealtemperate. Ontario, Michigan, Iowa L. atomaria (Ach.) Szat.

Literature

- Galloway, D. 1985. Flora of New Zealand Lichens.
- Harris, R. C. 1973. Corticolous pyrenolichens of the Great Lakes region.
- Hawksworth, D. L. and B. AguirreHudson. 1992. Leptorhaphis. In: Purvis, et al., Lichen Flora of Great Britain and Ireland.
- Wirth, V. 1980. Flechtenflora.