

Lahmia

After Keissler

Ascocarp sessile to stipitate, globose to urn-shaped or cup-shaped, mostly flat, thin margined. Exciple pseudoparenchymatous. Paraphyses furcate above, septate, thin, the tips swollen, forming a thick, pigmented epithecium. Asci clavate, stalked, mostly 8-spored. Spores hyaline, acicular to threadlike, straight or curved, many septate.

Spores 20-40(-70) x 2-2.5 μ m, at least 8-celled. Hypothecium hyaline. On Baeomyces.L. fuistingii

Lecidea

After Hertel, 1970

1. **Medulla I+ violet.** Hypothecium hyaline or pale ochre. 2
1. **Medulla I-.** [If paraphyses free and tholus of asci amyloid, see Lecidella spp.] 3
 2. **Thallus gray,** mostly large. Thallus K- or K+ yellow. On various crustose lichens, especially Aspicilia spp. L. tessellata s. ampl.
 2. **Thallus brown.** (Immersaria athroocarpa)
3. **Hypothecium colorless to slightly ochre.** Paraphyses coherent. Thallus yellow or yellowish white. Epihymenium green-brown to brown. Cortical zone of excipulum brownish. Spores 9-13 x 5-6 um. On various crustose lichens. L. sulphurea
3. **Hypothecium golden brown to brown-black.** Thallus yellowish brown, dark brown to almost black. Exciple carbonaceous. 4
 4. **Thallus (at least when moist) shiny, pale brown to dark brown.** Spores 8-12 x 4-6 um,. On Lecanora rupicola. Rimularia insularis
 4. **Thallus olivaceous brown-black (sometimes with reddish tone).** 5
5. **Thallus C+ red, often also P+ yellow. Spores 6.5-8.5 um. On various crustose lichens.** Rimularia furvella
5. **Thallus (if present) C-, P-.** Spores 3.5-5 um wide. On Rhizocarpon. Lecidea intrudens

Lecidella

After Hertel, 1970

1. Hypothecium hyaline to slightly ochre. 2
1. Hypothecium golden brown. Paraphyses free. Tholus strongly amyloid. Spores 9-15 x 6-9 um. Exciple dark. Epihymenium blue-green. L. carpathica s. lato
2. Thallus white, ± shiny. 3
2. Thallus yellowish, yellow, or greenish yellow. 4
3. Thallus bullate-areolate; areoles often somewhat folded. Medulla P+ yellow. Hymenium 45-65 um. Spores 7-14 x 4-8 um. Exciple with broad, opaque brownish gray marginal zone. Apothecia often somewhat pruinose. L. bullata
3. Thallus flat-areolate; areoles smooth. Medulla P-. Hymenium 60-80 um. Spores 11-18 x 6.5-10 um. Exciple with usually narrow, blue-green to brown marginal zone. Apothecia always epruinose. L. stigmathea
4. Thallus C+ yellow-orange. Tholus of asci strongly amyloid. Epihymenium and marginal zone of exciple bluegreen. Apothecia 0.2-0.8 mm diam. L. viridans
4. Thallus C-. Tholus at most entirely weakly amyloid. Epihymenium and marginal zone of exciple dirty brownish. Apothecia 0.4-1.8 mm diam.
(Lecidea sulphurea)

Leciographa

After Dennis

Apothecia sessile, erumpent, black, subgelatinous; asci 8-spored; spores becoming brown, 27-septate; paraphyses forked; hymenium I+ blue.

L. lamyi

Leptosphaeria

Not yet reported from N. America.

Ascomata immersed, not in convex deformations of the host, scattered, 75-125 um diam.; asci bitunicate, 8-spored; ascospores 3-septate, almost hyaline to pale yellowish brown, 19-21(-22) x 4.5-6(-6.5) um. On Peltigera. L. clarkii D. Hawksw.

Lethariicola

After Lumbsch & Hawksworth, 1990

Ascomata at first immersed, subglobose and perithecioid, later becoming erumpent and opening to become apothecioid, either by radial splits in the exciple or not, arising singly or loosely aggregated, black; exciple massively developed, dark brown to black, brittle, composed of thick-walled interwoven short celled hyphae (textura intricata), pale brown inside and to almost black at outer margin, the margin lacking external marginal hairs, with small periphysoids in lower parts; hamathecium of persistent delicate filiform paraphyses, septate, unbranched, not or slightly swollen at apex; centrum I-; asci narrowly cylindrical, with a single functional wall alayer, short stalked, the apex abruptly thickened and with an internal apical beak sometimes evident when young; discharge by apical rupture; outer membrand I- or slightly bluish, other tissues I-; 8-spored. Spores irregularly overlapping monostichously, ellipsoid, rounded at apices, colorless, smooth walled, lacking gelatinous sheath, 3-septate to submuriform. Anamorph unknown.

1. Ascospores 3-septate transversely, lacking longitudinal septa, (12-)14.5-17 x (4-)5-5.5(-6) um; exciple fissured. On Letharia and Foraminella. Oregon and Washington; British Columbia. L. cucularis (syn. L. sipei)

1. Ascospores 3-5(-6)-septate transversely, with (0-)1(-2) incomplete longitudinal septa, (10-)14-17(-19) x (4-)6-8(-10) um; exciple not fissured. On Lecanora. Not yet reported from N. America. L. figulina

Lettauia D. Hawksw. & R. Sant.

After Ihlen & Tonsberg, 1996

1. On Loxospora L. santessonii

1. On Cladina L. cladoniicola

L. santessonii Ihlen & Tonsberg

Ascomata apothecia, 0.2-0.4 mm diam., slightly immersed in host thallus, scattered or in groups; disc more or less flat, pale brownish; exciple distinct, uneven, paler than disc, consisting of radiating hyphae. Hypothecium hyaline. Hymenium hyaline, 37-54 μ m high, K/I+ blue; epithecium hyaline to pale orange. Hamathecium formed by paraphyses; paraphyses slightly branched or unbranched, not anastomosed, to 2 μ m diam., with slightly swollen apices to 2.5 μ m. Asci elongate-clavate to broadly clavate, 42-52 x 10-12 μ m, upper part of innermost layer and periascal gel K/I+ blue, 6-8-spored. Ascospores \pm distichously arranged, narrowly ellipsoid to \pm cylindric-fusiform, with rounded ends, hyaline, (1-)2-3-septate, (12.5-)14.5-18.7(-20) x (2-)2.9-4.5(-5) μ m. On Loxospora pustulata, Tennessee

L. cladoniicola D. Hawksw. & R. Sant.

On Cladina rangiferina, Tennessee. [See Bibl. Lichenol. 38: 138 (1990) for description]

Ihlen, P. G. and T. Tonsberg. 1996. The lichenicolous genus Lettauia in North America. The Bryologist 99: 32-33.

Libertiella Speg. & Roum.
(COLEOMYCETES)

Mesoconidial state of Scutula

PYCNIDIA globose, subimmersed to sessile; on the upper and lower surface of the host thallus; wall apically colorless, pale to dark brown, basally colorless to pale brownish, \pm pseudoparenchymatic, inner cells elongated and periclinally oriented; **conidiophores** short, composed of 1-2 cells; cells cylindrical to short rectangular, colorless; **conidiogenous cells** enteroblastic, phialidic, lageniform to cylindrical; conidia predominantly arising acrogenously, occasionally pleurogenously; **conidia** non-septate, bacilliform to falcate, often irregular in shape, colorless.

Literature

Triebel, D., M. Wedin and G. Rambold. 1997. The genus Scutula (lichenicolous ascomycetes, Lecanorales): species on the Peltigera canina and P. horizontalis groups. Symb. Bot. Ups. 31(1): 323-337.

Lichenochora

After Triebel, et al., 1991

PHYLLOCORALES (see Hafellner, 1989)

Perithecia densely aggregated, completely immersed (visible under the dissecting scope only as small black dots), pyriform, ca. 200-250 μm long, ca. 175-200 μm broad; wall brown, around the ostiole darker than at the base, ca. 20-30 μm thick, pseudoparenchymatous (textura angularis); cells tangentially flattened, ca. 10-15 x 4-5 μm . Periphyses numerous, mostly hyaline, ca. 25-35 μm x 2-4 μm ; some filamentous hyphae visible between the young asci (ca. 3 μm broad). Asci cylindrical, unitunicate, thin-walled, ca. 78-85 x 9-12 μm , 8-spored. Spores uniseriate, 1-septate, hyaline, smooth-walled, broadly ellipsoid, (10.5-)12-15(-16) x 8-9(-9.5) μm . Some brownish vegetative hyphae ca. 4-5 μm diam. present near base of perithecia. Epiplasma orange ("dextrinoid reaction") in Lugol's solution. Tissues K-. Numerous lipid drops present in all parts of the perithecium. On thallus and apothecia of Xanthoria elegans, causing small galls. Utah. L. xanthoriae Triebel & Rambold

Lichenoconium

After Hawksworth, 1983, and Keissler

COELOMYCETES

1. Pycnidia mainly exceeding 0.1 mm diam. 2

1. Pycnidia mainly 0.05-0.1 mm diam. Conidiophores (2-)3-3.5(-4) um wide. 3

2. Conidia (2-)2.5-3.5(-4) x 2-3 um. On podetia of Cladonia pyxidata and other cup-forming species, discoloring them brownish. Arizona. L. pyxidatae (Oudem.) Petrak & H. Sydow.

2. Conidia mainly over 3.5 um long. 2b

2b. On Teloschistaceae or Parmeliaceae. 2c

2b. On Lobaria. L. follmannii

2c. On thallus and apothecia of Teloschistaceae (Xanthoria) and Parmeliaceae (Melanelia and Tuckermannopsis). Sonora, Mexico. L. xanthoriae M. S. Christ.

2c. On Parmelia. British Columbia. L. edgewoodensis Alstrup & M. Cole

3. Conidiogenous cells (5-)7-9(-11) um tall; conidia 3-4(-7) x 4-4.5 um. On Usnea, Bryoria, Cladina, Ramalina, Physcia, Melanelia, Neofuscelia, and Xanthoparmelia. Forming gray green spots, limited then spreading over entire apothecia. Pycnidia ± immersed, black, globose to oblate or lens-shaped, (0.04-)0.05-0.08(-0.12) um, the ostiole simple. Exciple pseudoparenchymatous. Mainly occurring in the apothecia, which are turned dark brown to black, only rarely spreading beyond. British Columbia. L. usneae

3. Conidiogenous cells (4-)5-7(-8) um tall; conidia (2.5-)3-4.5(-5.5) um diam. Pycnidia (0.03-)0.04-0.08(-0.1) mm diam. On Lecanora, Rhizoplaca, Parmelia s. lato, or Evernia. Turning the apothecia of Lecanora conizaeoides jet black. On Parmeliaceous lichens a single pycnidium is usually found in each infection spot, the surrounded by a black margin. Arizona. L. lecanorae (Jaap) D. Hawksw.

ADD:

On Pertusaria. Conidophores simple, brownish, densely tufted, 20-25 x 2.5 um, densely tufted; conidia brownish, 3.5 x 2 um. Florida (reported by Keissler, 1933). L. lichenicolum v. buelliae Keissler

Pycnidia abundant on upper and lower (sometimes more abundant on lower than on upper) surfaces of host thalli, aggregated into small groups forming complete circles c. 0.5-1.0(-3) mm diam., which are sometimes situated on brownish or blackish spots on host thalli, superficial or sometimes up to 1/3 immersed or sessile, black, 180-220(-250) um diam., 125-160(-200) um high, with conspicuous ostiole c. 11.0-13.5 um diam.; outer pycnidial wall dark brown, almost black to reddish brown, 12.5-21.5 um thick, consisting of thick-walled cells 9.0-12.5 x 5.5-8.0

um, the inner paler c. 10 um thick. Conidiogenous cells lining the internal wall of the pycnidial cavity, except near ostiole, phialidic or annelidic with one annelation, subcylindrical or ampulliform, mainly hyaline but sometimes becoming slightly or moderately pigmented and verrucose apically, 7.0-10.0(-12.0) x (3.5-)4.0-4.5(-5.0) um. Conidia arising singly from the apices of the conidiogenous cells, ellipsoid or clavate (rather variable in shape), distinctly truncated at the base, brown to dark brown; wall smooth or slightly verrucose in SEM photos, (9.0-)10.5-13.5(-14.5) x (5.5-)6.5-8.0(-9.0) um. On Lobaria pulmonaria. Canada. L. follmanii Kondratyuk & Galloway

L. edgewoodensis

Pycnidia dispersed, immersed to semi-immersed, to ca. 0.15 mm diam., with broad ostiole. Conidiogenous cells ca. 6-8 x 2 um, conidia oblong with rounded ends or slightly constricted in median part, smooth-walled, thick-walled, 5-6 x 3.0-3.5 um.

Lichenodiplis

After Triebel, et al., 1991, and Hawksworth, 1983

COELOMYCETES

Conidia 1-septate, sometimes with a marginal frill, 4-7.5 x 2-3 um. Conidiogenous cells annellate. In apothecia or more rarely the thalli of corticolous species of Lecanora, Rhizoplaca, Pertusaria, Caloplaca, Xanthoria, Evernia. Arizona. Conidia similar in shape, color and size to ascospores of Muellerella lichenicola, but basal ends of the conidia squared-off due to their mode of development. L. lecanorae (Vouaux) Dyko & D. Hawksw.

Lichenopeltella

After Aptroot, et al. 1997

1. Ostiolar setae divergent. Ascomata 50-70 um diam., 25-40 um high. Asci 25-35 x 9-11 um; ascospores 15-22 x 3.5-4.5 um, with 3 pairs of setulae. On Peltigera polydactyla. British Columbia. L. peltigericola (D. Hawksw.) R. Sant.

1. Ostiolar setae convergent, forming an elongated cone. Ascomata 100-160 um diam., 40-60 um high. Asci 36-50 x 9-12 um, 8-spored. Ostiolar setae 18-34 um long. Ascospores 16-20 x 2.5-3.5 um, without setulae. On Peltigera membranacea. British Columbia. L. santessonii (P. M. Kirk & Spooner) R. Sant.

Literature

Aptroot, A., P. Diederich, E. Serusiaux and H. J. Sipman. 1997. Lichens and Lichenicolous Fungi from New Guinea. Bibl. Lichenol. 64.

Lichenosticta

On Cladonia. British Columbia. L. alcicorniaria (Linds.) D. Hawksw.

Lichenostigma

After Triebel, et al., 1991

Asci arising in locules in a pseudparenchymatous stroma. Ascospores (8-)10-13(-14.5) x 5-7(-8) um. On Diploschistes, perhaps becoming lichenized when living on the apothecia of the host. Utah, Colorado, Arizona; British Columbia. L. rugosum G. Thor

Lichenothelia

On yellow species of Acarospora. California, Arizona. L. sp.

Llimoniella Hafellner & Nav.-Ros.

On Lepraria. Colorado, British Columbia. L. neglecta (Vainio) Triebel & Rambold