

L. albofuscescens

Thallus absent or varying from a thin and membranous crust to subverruculose or verruculose, the verrucules 0.1-0.3 mm wide, white or greenish white, rarely sorediate, I-, K-. Apothecia usually solitary, 0.3-0.8 mm wide, adnate or varying to rather strongly constricted below; disk at first plane or slightly convex, becoming moderately to occasionally strongly convex, pale brown or more commonly dark reddish brown, dark brown, or brown-black, usually bare but sometimes strongly pruinose; margin often at first thick and conspicuous, dark, thinning, usually persistent but sometimes disappearing. Hypothecium reddish brown or brown to brown black, homogeneous or often with a dark basal layer, the hyphae ca. 2-4 μ m diam., usually vertically arranged above, conglutinate or \pm carbonized. Exciple a radial extension of the hypothecium or arising from the basal dark layer of the hypothecium, usually hyaline or pale brownish externally, within becoming concolorous with the hypothecium, the color often in the radial interstices of the hyphae; hyphae somewhat indistinct, apparently to 6 μ m diam., with distinct, slender lumina, radially arranged, usually gelatinized or rarely immersed in a gelatinized matrix. Epihymenium \pm brown. Hymenium hyaline or nearly so, 50-55 μ m thick. Paraphyses usually gelatinized, coherent, 1.5-2.5 μ m diam. or enlarged to 5 μ m above, and often brownish. Spores simple, ellipsoid to subfusiform, 8-13 x 3-5 μ m. Thallus KC-. On bark and old wood. New York, Newfoundland, Minnesota; Florida. [Description from Lowe, based partly on type material of L. peliaspsis, which Lowe synonymized under L. albofuscescens]

L. alpestris

Thallus thick to very thick, verrucose or subareolate; areoles verrucose uneven or becoming confluent, white or grayish, matt, K-. Apothecia mostly crowded and confluent, adnate, not constricted at base, 0.5-1.2(-2.0) mm diam., moderately elevated, convex and immarginate from the first; disc black, epruinose. Hypothecium hyaline to partly pale red especially in lower part; hyphae in K scarcely thickened, vertical or in narrow lower portion irregularly oriented. Hymenium in upper part or entirely blue-green. Paraphyses strongly coherent, gelatinous. Spores oblong, (10-)15-19 x 3 μ m. On bare soil, alpine.

L. atrobrunnea

According to Koerber, the thallus is nitid.

L. atroviridis

Thallus thin or very thin, verrucose- to verruculose-uneven; verrucae commonly depressed-convex, contiguous, white-glaucous or dirty white, without soredia; hypothallus gray-blue-green to blackish or obsolete. Apothecia often rather dense, completely adnate; disk depressed convex or rarely strongly convex, black or often at least partly livid to subcaerulescent blackish or livid brown, scarcely pruinose, often slightly shiny; margin rather thin and depressed, pale grayish or blue-blackish then often soon excluded. Hypothecium dirty or pale, or below brownish to subviolaceous or the central part dirty subviolaceous; texture variable; hyphae suberect to partly rather irregularly arranged, slightly thick-walled, densely septate; cells subglobose to ellipsoid, 1.5-5 μm wide. Excipulum ca. 40-120 μm thick, almost hyaline or inside pale to intense blue-green, rather thick walled, I+ partly or totally pale blue; hyphae radiating, rather thick-walled, simple or near the hymenium branched and anastomosing; cells narrow, ca. 1 μm wide, oblong. Hymenium 70-140 μm , I+ blue then wine red, scarcely granular, totally or the upper and lower parts bluegreen or partly with the epihymenium pale. Paraphyses strongly coherent, simple or towards the edge of the hymenium branched and anastomosing, the cells 1-1.5 μm wide, often elongated. Spores 8 but often a few aborting, simple, distichous, ellipsoid or oblong, 6-13(-16) x 3-4 μm . Thallus K+ slightly yellowish then brownish, C-. Blue-greenish parts of apothecia N+ violet. Hypothecium and hyaline I+. On bark of a wide range of trees, hardwood and conifer. Rather variable, with several forms described.

L. carnulenta

Thallus absent. Apothecia 0.2-0.5 mm diam., adnate or rarely moderately constricted below; disk at first plane, becoming moderately to strongly convex, pale yellow or pinkish brown or reddish brown to brown=black and black, bare or white pruinose, immarginate or the margin thin, often darker, usually soon disappearing. Hypothecium usually pale brownish above, hyaline below, then hyphae vertically arranged above in a layer to 50 μm thick, somewhat gelatinized, below 2-3 μm diam., with thin walls, irregularly arranged, highly gelatinized and immersed in a clear gelatinous matrix. Exciple arising from the lower part of the hypothecium, brownish or darker externally and often with a gelatinous cover, hyaline or pale brownish within, the hyphae 1.5-2.5 μm diam., with thin walls, radially arranged, immersed in a slightly cloudy gelatinous matrix. Epihymenium \pm brown or nearly hyaline. Hymenium hyaline, often with granules which dissolve at once in K, otherwise K- or upper part K+ slightly darker in upper part, 50-55 μm . Paraphyses usually separable with difficulty in K, probably gelatinized, sometimes brownish above, with lumina 1.5-2 μm wide or above

sometimes enlarged to 4 μm . Spores non-septate, oblong-ellipsoid to ellipsoid, 7-11 x 3-4.5 μm . On old wood. New York, New Brunswick, New Hampshire, Massachusetts, Illinois, Iowa.

L. cellularis

Thallus absent or poorly developed, verruculose, the verrucules scattered, flattened, white, 0.1-0.2 mm diam., K-, I-. Apothecia solitary or often conglomerate in groups of 2-5, 0.2-0.4 mm wide, adnate or more often moderately constricted below; disk at first pale olivaceous, darkening to olive-blackish, bare; margin indistinct. Hypothecium nearly hyaline, K+ pale yellow, I- or in part pale blue then reddish brown, pseudoparenchymatous; hphae with conspicuous cross walls, with lumina 4-8 μm wide, ellipsoid to subglobose, conglutinate, vertically arranged almost throughout. Exciple continuous with hypothecium, hyaline, K-, I-, conglutinate, pseudoparenchymatous, the hypahe radially arranged, with thin walls and lumina 4-6 μm long, 2-2.5 μm wide. Hymenium pale greenish black throughout, K-, I+ blue soon reddish brown, 50-55 μm thick. Paraphyses coherent, ca. 1.5 μm diam., or above moderately enlarged to 4 μm . Asci narrowly clavate. Spores 8 per ascus, simple, oblong and often slightly curved, 8.5-11 x 2.5 μm . Algal cells 5-15 μm diam. On bark of elm in a swamp. New York.

L. diapensiae

Thallus absent or rarely thin, membranous to subverruculose, white. Apothecia usually 0.4-0.8 mm wide, but sometimes to 2.1 mm, adnate to strongly constricted below; disk slightly concave to plane or occasionally strongly convex, brown-black to black or sometimes paler, olivaceous brown or reddish brown, epruinose; margin at first usually distinct and rather conspicuous, thinning but usually persistent in age. Hypothecium olivaceous- or reddish-brown and often tinged with bluish black or black, the hyphae sometimes somewhat nodulose, 3-9 μm diam., irregularly arranged, gelatinized or conglutinate. Exciple arising from the hypothecium, pale to dark reddish brown or blackish, except that all or part of the apical cells are hyaline, in K brighter and often with a violaceous tint, the hyphae 3-10 μm diam., radially arranged, gelatinized or conflutinate. Epihymenium some shade of brown, usually with a hyaline cover to 6 μm thick. Hymenium becoming concolorous with hypothecium in lower part, in K paler and brighter and occasionally with granular matter dissolving to form bright blue spots, 60-70(-90) μm thick. Paraphyses coherent, in K moderately coherent to rather easily separable, simple or 1-2 times branched or rarely somewhat netlike, 1.5-2(-2.5) μm diam., sometimes enlarged to 2.5-4(-5) μm above. Spores non-septate or in part 1-septate, oblong to

oblong-ellipsoid. 11-16(-19) x 3.5-5 μ m. Hypothecium and excipulum N+ fleeting reddish? ["electrino-rubricosa evadunt"]. Pycnidia black, punctiform; pycnospores subcylindrical, straight, 35-50 μ m long. On Diapensia, sometimes growing from it to peaty soil. New York; White Mountains. May be closely related to "L. fusca" (Mycobilimbia)

L. erythrophaea

Thallus white to greenish or olivaceous, thin (to immersed?), fibrous, or thickened to form minute granules or verrucules, K-, I-. Apothecia 0.3-0.6 mm wide, varying from adnate to strongly constricted below; disk usually plane or sometimes slightly convex, usually \pm reddish brown or brown black, or sometimes when young rather light yellowish brown, erpuinose; margin at first usually moderately thick, darker than the disk, persistent or sometimes disappearing. Hypothecium hyaline or pale yellowish; hyphae irregularly arranged or vertical in an upper layer 50-60 μ m thick, not gelatinized in the upper half, in the lower half highly gelatinized, confluent, the lumina 1.5-2 μ m diam. Exciple arising from either the lower or upper part of the hypothecium, \pm yellowish brown externally, hyaline within, K+ somewhat darker externally, the hyphae highly gelatinized, confluent, with distinct, branched lumina 1.5-2 μ m wide, or the apices distinctly limited, 4-7 μ m diam., frequently brown, especially in the upper part. Epihymenium yellowish brown, often with coarse granular matter, K+ darkening. Hymenium 50-65 μ m, hyaline. Paraphyses usually rather easily separable, 2-2.5 μ m diam., often brown and gradually or abruptly enlarged to 4-6 μ m above. Spores non-septate, oblong to ellipsoid or occasionally subfusiform, 9-14(-16) x 3-5 μ m. On cedar bark; also reported from Populus bark and from wood. New York; California.

L. flavidolivens

Thallus similar to that of Pyrrhospora quernea, but with black hypothalline lines. Apothecia also not dissimilar to those of P. quernea but olivaceous livid. Spores oblong, 9-17 x 3-4 μ m, often subbilocular. Paraphyses simple, \pm gelatinous and coherent. Asci broadly clavate. Hymenium pale or pale bluish. On hemlocks and other trunks (type material, from Massachusetts), or on cedar stumps (Minnesota, New Hampshire, Massachusetts), also rarely on rocks. Magnusson questioned whether Fink's material from cedar stumps was the same species.

L. furvonigrans [not furvonigricans]

L. holopolia

Thallus verrucose, greenish brown to somewhat greenish; verrucae to ca. 0.3 mm diam., densely dispersed, roundish to irregularly roundish, convex; hypothallus not evident. Apothecia dark brownish, to 0.7 mm diam., dispersed to 4-5 contiguous, roundish, sessile; disc subplane to moderately convex; margin thin, somewhat indistinct, persistent. Excipulum dark brown, \pm colorless inside. Hypothecium colorless. Hymenium colorless, 50-60 μ m thick; epihymenium red-brown. Spores rare, ovoid to ellipsoid, 7-11 x 3.0-6.5 μ m. On charred wood in the subalpine, Colorado [L. sp. 25 of Anderson]

L. hypopta

Thallus membranous, smooth to areolate, or subverruculose, the verrucules ca. 0.1 mm wide. Apothecia 0.4-0.7 mm diam., usually adnate, at first somewhat convex, becoming moderately to strongly convex. Hypothecium usually olivaceous- or reddish-brown in upper half, hyaline below, the hyphae in the upper part 2.5-4 μ m diam., with narrow lumina, conglutinate, usually vertically arranged, below irregularly arranged. Exciple thick, pale, usually arising from the lower part of the hypothecium; hyphae 4-7 μ m diam. at the apices, within the walls \pm confluent, the lumina ca. 1-2 μ m wide. Hymenium 40-60(-80) μ m. Paraphyses coherent, ca. 4 μ m diam., usually indistinct in outline below; lumina 1-2 μ m wide; tips in K often distinctly capitate. Asci subclavate. Spores non-septate, ellipsoid. Apothecial parts K-, N-. Hymenium I+ dirty (subviolaceous) blue. Pycnospores acicular, arcuate, 14-18 μ m long. On wood in humid habitats.

L. louisianae

Thallus 0.5 mm thick; granules minute, variously glomerate, forming a rather extensive, contiguous, often diffract crust. Apothecia numerous, mixed with the granules; margin thin, concolorous, entire. Epithecium pale yellow. Hymenium colorless. Hypothecium colorless. Paraphyses slender, coherent, the tips slightly enlarged. Asci clavate, the apices slightly thickened. Spores 8 per ascus, oblong. Hymenial gelatin I+ blue.

L. mutabilis

Paraphyses simple or rarely branched, seldom thickened, or much thickened towards apex. Asci clavate or cylindrico-clavate. Hymenium pale.

L. muriocarpella

Disks epruinose, scabrous. Spores 8 per ascus. Paraphyses gelatinous, the tips dark or purple. Asci ventricose-clavate.

L. myriocarpoides

In I-D, couplet 2, expand description by taking info. from I-C couplet 9.

L. olivascens

Thallus thin to very thin or almost immersed, effuse, granular-verruculose; granules dispersed to subcontiguous or occasionally confluent, 0.1-0.2 mm wide, rounded to variously crenate, subverrucose, soft but not crumbling, olive-gray to yellow-gray or greenish gray, I-, non-soresiliate.

Apothecia numerous, dispersed, 0.2-0.4(-0.5) mm diam., adpressed (adnate), at first \pm plane and indistinctly marginate, then soon depressed convex to strongly convex or sometimes hemispherical, and immarginate; disc epruinose or sometimes pruinose at the juncture with the margin, slightly shiny, olive-black to brown-black, or rarely at first pale olivaceous or brown; margin thin, olivaceous or whitish. Excipulum continuous with the hypothecium, olive brown externally, hyaline to olivaceous within, the hyphae 1.5 μ m diam., conglutinate, confluent. Hypothecium hyaline, or pale olivaceous above, K-, I-, the hyphae soon irregularly arranged, highly gelatinized and indistinctly limited, the lumina distinct, 1-1.5 μ m wide, appearing netlike. Hymenium 60-70 μ m high, hyaline or pale yellow to yellow-brown, at least in upper part; epihymenium pale to dark olive brown, K+ greenish, covered by \pm granular hyaline amorphous layer. Paraphyses conglutinate, indistinct, easily separated and rather robust in K, ca. 2 μ m diam., not thickened at tips. Asci clavate, or inflated- to subventricose-clavate. Spores 8, simple or sometimes 1-septate, oblong to fusiform-oblong, sometimes slightly curved, 12-17 x 4-5 μ m. Algal cells 8-20 μ m diam. Thallus K+ pale yellow, C+ rose. Hymenial gelatin I- or almost; asci I+ persistent blue, especially towards the tips. Apothecial structures K-, N-. On bark of alder, or on decorticate wood. New York.

L. paupercula

Thallus rather thin to rather thick, areolate; areoles contiguous, or dispersed (exposing the black hypothallus), 0.2-0.5 mm across, round to angular plane to slightly concave or rarely convex, reddish- to testaceous- brown or testaceous, or rarely gray-brown, often \pm distinctly ashy-margined.

Apothecia dispersed or partly rather dense, adnate, 0.5-1.3 mm diam., not constricted at base; disk almost flat or rarely becoming

convex, black, epruinose, matt; margin not or scarcely prominent, rather thick or commonly thin, black, epruinose, often persistent, matt. Hypothecium moderately thick, brown-black or rarely in some apothecia dirty white; hyphae vertical, conglutinate. Exciple brown-black, blue-green-brown at margin; hyphae thin, conglutinate. Hymenium 65-85(-100) μ m, I+ blue. Epihymenium aeruginose, brownish towards the top. Paraphyses strongly coherent, slightly gelatinous, simple, 1-1.5 μ m thick, the apices scarcely thickened. Asci clavate, the wall moderately thickened at apex. Spores distichous, oblong-ellipsoid, (7-)10-12(-16) x 5-6 μ m. Form theodori Vainio has the thallus thin or very thin, areoles red-brown, often ashy margin, often dispersed on black hypothallus; f. incrassata Vainio has the thallus moderately thick, areoles contiguous, and apothecial margin rather thick; f. subfumosa has an almost rimose-areolate thallus, with contiguous areoles which are often less distinctly white/gray-margined; according to Arnold, this form is identical to L. fuscoatrata Nyl. (which would have precedence at the species level; need to compare L. paupercula with that species). The species differs from L. atrobrunnea in that the areoles are thinner, not strongly convex or tumid, and the hypothecium is darker. The protologue of L. paupercula lists "L. fuscoatra Nyl." [not L. fuscoatrata] as a synonym.

L. phaeopelidna

Thallus thin to very thin; verrucules rather dense, white, 0.05-0.15 mm wide, convex; soredia absent; hypothallus indistinct. Apothecia rather dense, 0.3-0.5 mm diam., thin (ca. 0.2 mm), not distinctly constricted at base, almost completely adnate; disk plane or slightly convex, black or rarely brown-black, erpuinose, mattt, soon immarginate. Hypothecium pale brown; hyphae moderately thick-walled, K-, in upper part vertically arranged. Excipulum brown to subviolaceous, chondroid; hyphae radiating, scarcely branched and anastomosed; cells narrow, elongate; walls slightly gelatinous-thickened, K+ moderately turgid. Hymenium 60-100 μ m, often brownish towards base, I+ blue then sordid wine red. Epihymenium hyaline, somewhat granular. Paraphyses strongly coherent, slightly gelatinous, simple or partly slightly branched and anastomosing, tips not thickened, wall in K moderately turgid. Asci clavate, 45-50 x 15-17 μ m. Spores 8 per ascus, ellipsoid to ellipsoid-oblong, simple, mostly distichous, 11-18 x 5-9 μ m. Algae protococcoid. On bark of Salix.

L. plebeja

Thallus disappearing, indicated by whitish coloration of substratum or with very few whitish granules; sometimes with a distinct white hypothallus, or with a very thin olivaceous or grayish green crust of

compacted granules. Apothecia to 0.5 mm diam., adnate; disk flat to moderately convex, black, epruinose, matt; margin usually at first distinct, then thin and becoming excluded. Exciple continuous with the hypothecium, brown black, outer and lower parts paler; pigments mostly in the interstices of the hyphae; hyphae 4-8 μ m diam., with wide lumina, often dark at the apices, conglutinate. Hypothecium olive brown to reddish brown, K+ brighter brown but not purple; hyphae (2.5-)4-6 μ m diam., usually with narrow lumina, irregularly arranged, conglutinate. Hymenium 45-50 μ m, hyaline and grading into reddish toward hypothecium; epihymenium olive- or yellowish-brown. Paraphyses conglutinate, 1.5-2 μ m, unbranched, tips thickened to 3-5 μ m and darkened. Asci clavate. Spores 8, biseriate, simple, narrowly ellipsoid to subfusiform, 6-8 x 2.5-3 μ m. On rotting wood. New York; NW Territories; Alaska; California. Closely related to L. myriocarpoides, which differs principally in the negative reaction of the hypothecium to K.

L. pulla

Thallus thin, dark olive gray, subverrucose, the verrucules 0.15-0.3 mm wide, below \pm fused, K-, I-. Apothecia 0.3-0.4 mm wide, moderately constricted below, the disk at first depressed, becoming nearly plane, black, epruinose, the margin usually remaining quite thick. Hypothecium hyaline, K-, I+ blue then reddish brown, the hyphae 3-4 μ m diam., with moderately thick walls, vertically arranged in the upper half. Exciple dark brown and pseudoparenchymatous externally, hyaline and plectenchymatous in a narrow layer within, K-, I-, the hyphal tips 5-8 μ m diam., thin walled. Epihymenium olive brown to greenish black, K+ intensely or slightly purple. Hymenium hyaline, I+ blue then intensely reddish brown, 70-100 μ m. Paraphyses coherent, in K readily separable, usually several times branched, 1-2 μ m diam. Spores simple, broadly ellipsoid, 11-13 x 8-9 μ m. Algal cells 5-16 μ m diam. On white birch bark. New York.

L. punctella

Thallus absent, but the substratum somewhat discolored. Apothecia 0.1-0.25 mm diam., adnate; disk soon moderately to strongly convex, black, or sometimes with an olivaceous tinge when wet, epruinose, immarginate. Hypothecium pale yellowish brown, the hyphae ca. 3-4 μ m diam., with thick walls, vertically arranged above or sometimes nearly throughout, interwoven, with \pm nodose and inflated, thin-walled hyphae 3-5 μ m diam. Exciple absent or not differentiated from the hymenium or hypothecium, sometimes apparently represented by a dark line over the substratum. Epihymenium sometimes with a hyaline gelatinous cover ca. 8 μ m thick. Hymenium subhyaline or slightly olive

brown throughout, K- or evanescently violet, 40-50 μm . Paraphyses rather easily separable in K, 1.5-2.5 μm diam. Spores non-septate, oblong to ellipsoid or ovoid0ellipsoid, 5-7 x 2.5-3 μm . On wood in swamp. New York, Massachusetts. Closely related to and perhaps identical with L. globularis (Ach.) Nyl. as described by Vainio.

L. rufofusca

Thallus effuse, commonly thick, uneven, composed of conglomerate and sparse granules arranged into verrucules, pale ashy whitish, K- or indistinctly dirty yellowish, C-, I-. Apothecia numerous, to 1-1.2 mm diam., adnate to sessile, at first plane with concolorous to paler, elevated margin, then convex and immarginate, red-brown to dark brown or purple-black, epruinose. Excipulum \pm brown. Hypothecium hyaline to pale yellowish. Epihymenium brown, covered by hyaline layer. Paraphyses loosely coherent; tips brown and \pm distinctly capitate, to 2-3 μm . Spores oblong-ellipsoid to subovoid, 13-18(-21) x 5-8.5(-9) μm . Asci I+ deep blue or sometimes turning reddish. Apothecial structures K-, N-. On dead clumps of grass, rarely on mosses; sometimes on bark. [also see Anderson for more info.]

L. sphaerella

Thallus thin, greenish white to greenish gray, dirty white or glaucous white, or obsolete, subgranulose or verruculose-uneven, without soredia; hypothallus indistinct. Apothecia numerous, simple, from the first hemispherical to subglobose, 0.2-0.3(-0.4) mm diam., completely adnate or becoming slightly constricted at base, pale to flesh-brown, becoming reddish-black or brown-black, or dark from the first, scarcely pruinose, matt, in the center often deeper colored. Hypothecium in upper part \pm reddish or brown and I+ pale blue, K+ reddish, in lower part paler and I-; hyphae thick-walled, irregularly arranged, conglutinate, prosenchymatous, in narrow upper part suberect. Excipulum hyaline to pale yellowish, the marginal part scarcely developed, of radiating hyphae, I-; hyphae thick-walled, conglutinate; cells narrow, oblong or short. Hymenium 40-55 μm , concolorous with hypothecium in lower part, pale above, scarcely granular, I+ pale blue then reddish. Paraphyses strongly coherent, \pm distinct in K, unbranched, few discrete, tips slightly clavate thickened, colorless; wall not gelatinous-turgescient in K. Asci clavate. Spores 8, simple or a few obscurely 1-septate, oblong to oblong-ellipsoid, 7-13 x 3-4 μm . Algae 7-12 μm diam. Pycnospores filiform, slightly curved, 10-14 x 0.7 μm . Apothecial parts K-, N-. Differs from Biatora albohyalina (syn. L. sphaerella f. umbricola Hedl.) in the darker disk color and darker hypothecium. On bark of Alnus, Sorbus and Juniperus, and on wood.

L. sublimosa

Thallus indistinct, thin, minutely granular to "subverniceus", gray to dirty white. Apothecia 0.3-0.4 mm diam., strongly adpressed, plane and indistinctly marginate, then subconvex; disc and margin black, epruinose, rugose. Excipulum and hypothecium hyaline; hymenium pale blue-green below; epihymenium intense smaragduline green, covered by interrupted hyaline layer. Hymenium 70-80(-100) μm . Paraphyses strongly coherent, indistinct; tips in K capitate to clavate. Spores 8, simple or rarely 1-septate, mostly oblong, rounded at apices, (15-)18-31 x 7-9(-10) μm . Asci I+ persistently blue, especially at tips; rest of hymenium soon I+ yellow.

L. subramosa

Thallus moderately thick, pale gray to dark gray or bluish gray, compacted-verrucose, the verrucules 0.3-0.5 mm wide, subglobose or elongated and subcoralloid, K-, I-. Apothecia 0.5-1 mm wide, adnate; disk soon convex, black, epruinose, immarginate. Hypothecium hyaline, K-, I-, the hyphae 3-5 μm diam., with walls of varying thickness, often constricted at the septa, vertically arranged in a layer to 130 μm thick, immersed in a gelatinous matrix. Exciple hyaline or nearly so, K-, I-, the hyphae 2.5-3 μm diam., with wide lumina, radially arranged, immersed in a gelatinous matrix. Epihymenium black or bluish black, K-; hymenium I+ dark blue, 50-100 μm ; paraphyses coherent, 2-3.5 μm diam.; tips sometimes enlarged to 4 μm . Spores 8 per ascus, frequently becoming 1-septate, ellipsoid or broadly ellipsoid, 7-10 x 3-4(-4.5) μm . Algal cells 5-16 μm diam. On soil.