

Phaeocalicium A. Schmidt
(CALICIALES)

After Tibell, and others.

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Thallus immersed, inapparent, saprobic. Photobiont absent. Apothecia stalked, black to brownish black; head obovoid to lens-shaped or strongly compressed. True exciple well developed, persistent, consisting of dark brown, periclinally arranged hyphae. Asci cylindrical, formed singly from ascogenous hyphae with croziers, with a single wall layer; apex strongly and uniformly thickened, persisting until the maturity of the ascospores, then deliquescing. Spores not aggregated into a dry mass, uniseriately arranged, simple or 1-septate, ellipsoid with rounded apices, dark brown, smooth or warted. No substances in TLC, some species with pigments that change color in K or N. Mainly on twigs of vascular plants, more rarely on bryophytes; species are usually confined to one genus of host plants.

1. Capitulum strongly flattened when mature (funnel-shaped and narrow when young). Spores simple, 10-14 x 4.5-5 μ m. Capitulum 0.1-0.3 mm wide, black. Stalk pale to dark brown or black, 0.2-0.5 mm high. On bark.P. compressulum

1. Capitulum not flattened. Spores simple or (often indistinctly) 1-septate....2

2. Growing on old polypore fungi. Spores 10-14 x 3-5 μ m. Stalk to 0.5 mm high; capitulum to 0.3 mm wide. Apothecia black, not pruinose.P. polyporeum

2. Growing on bark (twigs and branches).3

3. On Rhus. Capitulum top-shaped, 0.05-0.1 mm wide; exciple black, shiny. Stalk white to reddish or black, under 0.4 mm tall. Spores 11-14(-16) x 3.5-5(-7) μ m.P. curtisii

3. On Populus. Stalk anatomy different. 4

4. Spores 1-septate. Apothecia 0.2-0.6 mm tall. Stalk pale to dark olive-brown or black, K+ red inside. Capitulum narrow and funnel-shaped to spherical, 0.1-0.3 mm wide, black, not contracted at opening, not flattened. Stalk to 0.08 mm wide; outer part of colorless, swollen hyphae. Hymenium K+ red. Spores 10-13(-18) x 4-6(-7) μ m, smooth. On Populus twigs and branchesP. populneum

4. Spores simple. Apothecia 0.5-1.3 mm tall; stalk black,

internally reddish brown, K+ green, 0.05-0.1 mm wide, not pruinose; capitulum 0.15-0.35 mm wide, top- or lens-shaped. Stalk 0.05-0.1 mm wide. Spores 12-17 x 5-7 um, uniseriately arranged. On Populus twigs and branches. P. praecedens

Detailed descriptions

P. compressulum

Thallus on twigs and bark; no algae.

Apothecia small, 0.3-0.5 mm high, strongly flattened, fan-like, black, on short brown-black stipes with an outer hyaline layer of hyphae; exciple dark brown, of conglutinate, longitudinal hyphae; hymenium l+ blue; asci cylindrical, 75-90 x 5-6 um, tips thickened but without canal; spores 8, uniseriate, brown, ellipsoid to oblong, simple with minutely irregular surface, 10-14 x 4-5.5 um. On twigs and bark of Alnus. Boreal, and Greenland.

P. curtisii (Tuck.) Tibell

Thallus endosubstratic. Algae unassociated. Pycnidia not seen.

Apothecia 0.51-0.57 mm tall, dark brown to black, epruinose, with cup-shaped to obconical excipula; hyphae of stalk narrow, periclinally arranged, brown throughout; stalks occasionally forked; mazaedium absent; spores 8, predominantly 1-septate, some rarely 3-septate, uniseriate in cylindrical asci, elliptic to elongate, brown when mature, (10.78-)9.59-[14.52]-19.44(-18.62) x (3.43-)3.60-[4.76]-5.93(-5.39) um, surface papillate to areolate, subtly to conspicuously indented at septa; larger spores with cracks.

Corticolous near the base of dead main stem of otherwise living Rhus. Maine; elsewhere.

P. polyporaeum (Nyl.) Tibell

Apothecia (0.40-)0.55-[0.68]-0.8(-0.92) mm high, with black capitulum, and paler dull olivaceous brown stalk; capitulum obconical, (0.08-)0.09-[0.13]-0.16(-0.22) mm diam.; stalk 0.04-[-0.06]-0.07(-0.08) mm thick; hyphae of stalk periclinally arranged, in the outermost part the hyphae are brownish with cells 2-3 times as long as broad, 4-5 um thick, forming a thin cortex which continues upwards to form the excipulum; hyphae of the inner part of the stalk pale, 2-3 um thick. Hypothecium pale. All parts of the apothecia K-, N-. Asci when mature (71-)80-[89]-98(-115) x (3.3-)3.4-[3.9]-4.3(4.9) um. Spores uniseriate, ellipsoid, broadly to narrowly ellipsoid, finally 1-septate, (9.8-)10.9-[12.5]-14.1(-17.4) x (2.7-)3.2-[3.7]-4.2(-4.9) um, pale brown, the septum thin.

On fruit-bodies of Trametes versicolor and Trichaptum biformis, usually on the upper side. Common in eastern U.S. (Appalachian-Great Lakes area, south to Georgia).

P. populneum (Brond. ex Duby) Schmidt

Thallus endosubstratic, the substrate not noticeably stained by its

present; algae unassociated. Pycnidia not seen.

Apothecia 0.38-6.4 mm tall, brown to dark brown, epruinose, with cup-shaped to obconical excipula; stalks occasionally forked; hyphae of stalk narrow, periclinally arranged, brown centrally, hyaline at surface; meazaedium absent; spores 8, 1-septate, uniseriate in cylindrical asci, elliptic to narrowly elliptic, brown when mature, (10.78-)10.04-[14.10]18.16(-21.56) x (3.92-)4.00-[5.16]-6.33(-6.86) μ m, 1-septate (septum difficult to see without oil immersion), surface indistinctly marked to distinctly papillate.

Corticolous on dead branches of living trees, trunks and dead trees, and main stems of Populus spp. Maine; elsewhere.

P. praecedens

Thallus on Populus; no algae.

Apothecia on stipes up to 1.3 mm tall; capitulum round to lens-shaped but not compressed; stipes black, lacking an outer hyaline layer of hyphae; exciple cells thick-walled and dark brown; hymenium I+ blue; asci cylindrical, 75-90 x 5-7 μ m; spores 8, uniseriate, oblong to subfusiform, brown, 1-celled, 9-17 x 4-6 μ m. Arcic.

Literature

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