

**Pyrrhospora Körber**  
(LECANORALES)

After Hafellner, 1993, and others

Rev. 5/94

Thallus superficial, finely granular-sorediate or subareolate, pale, often yellowish, C+ orange (xanthonenes) or C-, KC+ yellow (usnic acid), or whitish, C-, KC-.

Apothecia (often) deep red to red-brown or brown-black and with the epihymenium K+ reddish purple or black-red (in section), with outer part of exciple orange-red, or (e.g., P. elabens) apothecia pure black, but... Apothecia biatorine, sessile, mostly soon convex and immarginate; thalline exciple absent; true exciple of conglutinated, thick-walled, radially oriented hyphae; hypothecium colorless; hymenium strongly gelatinized, colorless, I+ blue; paraphyses usually simple or branched towards apices, 1.5-2  $\mu$ m wide, septate, constricted at the septa, the tips weakly thickened; epihymenium hyaline or red-brown, with brownish granules, or (P. elabens) blackish; asci broadly clavate, with undifferentiated amyloid mass in the tip (Lecanora type according to Hawksworth, which would seem to imply a non-amyloid axial mass and amyloid ring); outer ascus wall not amyloid; spores ellipsoid to broadly ellipsoid, simple, rather thick walled, brown when old, smooth, without distinct perispore.

Pycnidia unknown. Anthraquinones (usually?) in apothecia. Photobiont trebouxiod. On bark or wood (in N. American species; some others occur on rock).

A segregate of Lecidea. [I do not fully understand this genus; P. elabens seems to deviate from other species].

**1. Thallus at least partly sorediate. .... 2**

**1. Thallus without soredia. .... 4**

**2. Thallus or at least soralia white or pale cream color, to brownish, C-, KC-, UV- (without xanthonenes), K-, P+ red or P-. Apothecia, when present, cinnabar red, K+ blood red. .... 3**

**2. Thallus dull yellowish or yellowish fawn (in shade greenish yellow), sometimes with reddish-brownish tint, K-, P- or weakly yellowish, C+ and KC+ orange-red, UV+ orange or red (thiophanic acid, isoarthothelin and  $\pm$  dichlornorlichexanthone). Apothecia, when present, dark red-brown, K+ reddish purple in section.** Thallus thin and continuous to thick and warty uneven, farinose to granular sorediate, often entirely dissolved into a mealy sorediose crust; granules to ca. 150  $\mu$ m, arising over surface of thallus, even, often indistinctly areolate; prothallus generally present, forming a delimiting black line to 250  $\mu$ m wide. Apothecia not rare, 0.4-1(1.5) mm diam., becoming strongly convex, often irregular in shape; proper margin entire or undulate, soon excluded. Epithecium interspersed with reddish brown granules, K+ dissolving, purplish. Spores (7-)8-12(-14) x (5-)6-7(-8)  $\mu$ m, short ellipsoid to ellipsoid. Apothecia containing 1,3,8-trihydroxy-2-chloro-6-methylanthraquinone. Usually on moderately nutrient-rich, rough bark (especially Quercus), occasionally on wood, mostly in well lit

situations, very rarely on sandstone rocks. Often very common, along the Pacific coast, at least from British Columbia to southern California. .... P. quercea (Dickson) Körber

**3. Soredia pale yellowish white, grayish or greenish. Thallus K+ yellow, C-; soralia P+ red; containing atranorin and fumarprotocetraric acid. Subalpine to alpine, on shrubs. ....**  
P. cinnabarina (Sommerf.) M. Choisy

**3. External soredia brown. Thallus K-, P-, C-, containing only fatty acids. Lowland, on trees.** Apothecia present; internal anatomy similar to that of L. cinnabarina. On bark (e.g., Acer), 400 m, British Columbia. .... (Pyrrhospora subcinnabarina (Tonsberg) ined.

**4. Discs bright (to somewhat dull) red. Thallus UV+ yellow (lichexanthone).** Thallus thin, greenish ashy to pale cream-colored,  $\pm$  limited by dark hypothallus. Apothecia to 1.5 mm, slightly concave to convex, the margin concolorous or lighter, thin, finally disappearing. Hypothecium yellow to reddish. Spores oblong-ellipsoid, 8-12 x 3-4  $\mu$ m. Widespread. On bark or wood. .... P. russula (Ach.) \_\_\_\_\_.

**4. Discs black or brown. Thallus UV- (without xanthonenes).** ..... 5

**5. Discs black, shiny.** Thallus K+ yellow (atranorin), P+ red (fumarprotocetraric acid) or P-. Thallus whitish or grayish, thin to moderately thick and verrucose, usually K+ yellow. Apothecia common, black, to 1 mm wide, often glossy, the margin usually thin and inconspicuous, disappearing. Hypothecium hyaline to pale yellow-brown. Epihymenium dark olivaceous to red-brown or brown-black. Spores non-septate, narrowly ellipsoid to ellipsoid, 8-10(-12) x 3-4  $\mu$ m. Usually on wood. New England (Massachusetts and New Hampshire); elsewhere.

..... P. elabens (Fr.) Hafellner

**5. Discs dull brown (or sometimes pale yellow or blackish).** Thallus pale ash color, green-grey, or yellow-green, with black hypothallus, K+ yellow, thin, granular, not sorediate. Apothecia common, under 0.3 mm diam., separate or often conglomerate, adnate, semitranslucent when wet, soon  $\pm$  convex and emarginate; margin thin. Spores 7-12(-15) x 5-7  $\mu$ m, ovoid. On bark or wood. .... P. varians (Ach.) R. C. Harris

ADD:

P.? sp.

**Apothecia to 0.3 mm diam.,** olive-green to black, immersed to adnate; disc flat to convex, the margin pale, soon disappearing. Thallus granulose, greenish to yellowish brown, on black hypothallus, the granules minute, irregularly, usually crowded and heaped forming a commonly widespread, continuous or somewhat scattered crust. Hypothecium brownish to brown. Spores simple, rarely 1-septate, oblong, (7-)9-14(-17) x 3-4  $\mu$ m. On cedar stumps. New England to Minnesota. .... (Lecidea flavidolivens) (= probably Pyrrhospora sp.) (Printzen 1995)

## Literature

Hawksworth, D. 1992. Pyrrhospora. In: Purvis, et al., Lichen Flora of Great Britain and Ireland.

Hafellner, J. 1993. Die Gattung Pyrrhospora in Europa. Herzogia 9: 725-747.

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