

Xylographa (Fr.) Fr.
(AGYRIACEAE)

After Fink, Poelt, and others

Rev. 5/94

Thallus crustose, little differentiated and usually mostly immersed, at most thinly superficial, effuse, sometimes with scattered, brown goniocysts, or with soralia, attached to substrate by medullary hyphae.

Apothecia semi-immersed to superficial, minute (to ca. 1 mm in longest dimension across); disc narrowly elongate, lirelliform, to roundish or irregular, usually aligned parallel to the grain of the wood, pale to dark brown or black, or sometimes pinkish, \pm flat; thalline exciple absent; true exciple absent or little developed, thin, slightly raised, brown at least in outer part, not black; hypothecium hyaline; hymenium colorless, I+ blue; epihymenium brown, rarely with an olivaceous tinge; paraphyses simple or sparingly branched and anastomosed, the apices brown, sometimes branched, gradually widening; asci clavate-cylindrical, \pm Trapelia-type, with an apical wall thickening, I+ blue then green, unitunicate, without an I+ blue tholus, in K/I the wall blue, the apical dome distinct with convex base, light blue laterally surrounding a broad, colorless apical cushion; ocular chamber absent; spores 8, simple, hyaline or a few old spores becoming gray-brown, ellipsoid to oblong-ellipsoid, thin walled, without a distinct thickened perispore.

Pycnidia \pm globose, \pm immersed, brown-black; conidia narrowly falcate, colorless. Norstictic, stictic, atranorin, unknowns, or no substances. Photobiont protococcoid. On wood, rarely on bark. Temperate regions.

The genus is in need of revision in North America.

A somewhat similar genus on wood is the apparently closely related, though non-lichenized, Agyrium with roundish, convex, dull orange to orange-brown apothecia without a raised exciple.

1. Thallus sorediate; apothecia rare. Thallus immersed, pale grayish, without brown goniocysts; soralia erumpent, mostly discrete, roundish to narrowly elliptic, 0.2-1 x 0.18-0.42 mm, \pm flat, brown to dark gray or indigo, or yellow-gray to blue-gray or brownish, or eroding and creamy white, usually P+ orange, K+ yellow, C- (stictic, usually with other members of the complex, including norstictic acid); soredia 19-30 μ m diam., with brown pigment which is unchanged in K. Apothecia \pm flat, pale brown to red-brown or dark brown, roundish or deformed, 0.2-1 x 0.15-0.4 mm; spores 8-12(-16.5) x 3-6(-7.5) μ m. Pycnidia usually present, inconspicuous. On conifer wood, including driftwood, common in maritime to high montane sites in

Pacific NW (Alaska, British Columbia, Washington); also reported from Colorado, S. Dakota, Wyoming, Montana, Alberta, northern Ontario, NW Territories.X. vitiligo (Ach.) Laundon

1. Thallus not sorediate; apothecia common. 2

2. Spores 14-25 x 4-6 um. Apothecia 0.2-0.4 x 0.2-0.25 mm, circular to irregular or oblong-ellipsoid, adnat; disc closed to open and concave to flat, dark brown to black; exciple thick, then thin. Spores oblong, sometimes reportedly 1-3-septate. Thallus thin, continuous or scattered, greenish gray to ashy, composed of minute, sphaeroidal granules. On wood. New England. X. disseminata Willey

2. Spores under 16 um long. 3

3. On bark. Thallus epiphloedal, thin. Apothecia roundish to elongated, black, to 1 mm long and 0.25 mm wide. Spores ellipsoid, 10-15 x 7-8 um. N. America? (not mentioned by Esslinger). [X. minutula Körber]

3. On slow-decaying wood, usually of conifers. 4

4. Apothecia 0.4-2(-2.7) x 0.2-0.3 mm, ovoid to elongate, straight, pointed at the ends, unbranched, semi-immersed to superficial; disc closed to open, flat (to concave), pale brown to usually dark brown or black; margin thin, concolorous with disc or usually paler, often prominent when young, later inconspicuous, sometimes disappearing. Spores 10-17 x 5-7 um. Pycnidia frequent but inconspicuous, resembling large goniospores. Thallus immersed, light grayish, usually minutely speckled with brown goniospores 17-40 um diam., P± yellow, K± yellow (stictic acid, often with traces of other members of complex, including norstictic acid, or no lichen products; the strain with substances may correspond to X. hians). On driftwood and rotting logs, maritime and inland (to subalpine zone).

Circumboreal. Very common in the Pacific NW. [Note: X. micrographa G. K. Merr. is probably a synonym according to Noble; according to Merrill it has the internal characteristics of X. abietina and external characteristics of X. hians].X. abietina (Pers.) Zahlbr.

4. Apothecia under 1 mm long, roundish to elliptical, fusiform, or irregular, sometimes branched. 5

5. Apothecia 0.2-0.3 x 0.1-0.2 mm, round to irregular, sometimes 1-3 times short branched, becoming adnate; disc closed to open and concave, pale to darker brown; exciple thin, concolorous with disc. Spores oblong-ellipsoid, 11-16 x 3-5 um. Thallus becoming thick, rough and warty, greenish gray to pale brownish, rarely disappearing. On wood, along coast of New England. X. opegraphella Nyl. ex Rothr.

5. Apothecia mostly over 0.3 mm long. 6

6. Ascocarps at least when young K+ red (norstictic acid).

Spores oblong-ovoid, 9-14 x 5-7 μ m. Apothecia usually pale, often pinkish, but sometimes blackening, round to irregular or oblong, or fusiform to elongate and acuminate, 0.3-0.5(-1) x 0.2-0.3 mm; disc concave (to flat); margin prominent, slightly inflexed, disappearing. On wood, common in high montane to subalpine sites, Pacific NW (Washington, Oregon). Wetmore (1968) questioned whether this species is truly distinct from X. abietina. Some specimens from Washington state (including a paratype of X. hians in WS) have irregularly roundish to almost branched ascocarps that are mottled in color and appear compound, quite different from those of a typical Xylographa). X. hians Tuck.

6. Ascocarps and thallus K-, P-, C- (unidentified substance, or no substances). Apothecia 0.2-1.1 x 0.1-0.3 mm, roundish to narrowly elliptic, pale to dark brown. Spores 9-12.5 x 4.5-6 μ m. Otherwise similar to X. abietina; in similar habitats to that species but often preferring slightly more moist conditions. X. trunciseda (Th. Fr.) Minks ex Redinger

ADD:

Siberia. See Thomson 1997 for description. X. sibirica Zahlbr.

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