

Ahtiana Goward
(LECANORALES: PARMELIACEAE)

After Goward, 1985, and Thell, et al., 1995

Rev. 4/96

Thallus foliose, \pm closely adpressed, to 8 cm across; upper surface pale yellow to pale yellow-green, rugose and subplicate, without pseudocyphellae; lower surface usually light tan or pale brown (to olive-black), with sparse to abundant simple rhizines to the margins. Isidia and cilia present in one species. Epicortex non-pored. Upper cortex paraplectenchymatous (leptodermatous or pachydermatous), 15-25 μ m thick, composed of ca. 3 cell layers; lower cortex also paraplectenchymatous, 15-20 μ m thick, composed of 2-3 layers of somewhat brownish cells; medulla white; medullary hyphae 3-4 μ m thick; algal cells to 10 μ m. Cell walls containing Cetraria-type lichenan (medulla I+ blue).

Apothecia frequent, laminal or marginal, to 13 mm across; disc brown, non-perforate; hymenium including subhymenium 50-60 μ m thick; exciple 2-layered, upper layer 10-30 μ m thick, composed of periclinally arranged hyphae; lower layer 35-50 μ m thick, paraplectenchymatous; asci narrowly to rather broadly clavate, 45-60 μ m high; axial body 2-5 μ m wide; paraphyses straight, somewhat branched; spores 8, \pm uniseriate, globose or subglobose, 4-6 μ m diam.

Pycnidia laminal or marginal, emergent, often abundant, black, conspicuous, to 0.2 mm across. Pycnospores usually bifusiform or occasionally bacillariform, citriform or sublageniform, 5-7(-9) \times ca. 1 μ m. Upper cortex with usnic acid. Medulla with aliphatic acids (caperatic acid major, lichesterinic-protolichesterinic group minor). On bark or wood, boreal western N. America. Type species: A. sphaerosporella.

1. Lobe and their margins appressed. Apothecia and pycnidia laminal. Thalline margin of apothecia smooth. Upper cortex of thallus and lower layer of exciple leptodermatous (thin-walled). Upper surface of thallus pale yellowish green, in part olivaceous. Asci rather broadly clavate. A. sphaerosporella

1. Lobes or their margins ascending. Apothecia (sub-)marginal; pycnidia marginal or laminal. Thalline margin of apothecia wrinkled. Upper cortex of thallus and lower layer of exciple pachydermatous (thick-walled). Upper surface of thallus light yellow to pale greenish yellow. Asci narrowly clavate. 2

2. Lobes 4-10 mm wide, the tips not indented. Pycnidia conspicuous, blackened, immersed, appearing as "tubercles"; upper surface very pale; lower surface light yellow. Discs light

brown. Western N. America. On conifers (especially Larix or Pseudotsuga), Yukon to Oregon and Idaho. A. pallidula
2. Lobes 0.5-2.0(-3.0) mm wide, the tips usually indented.
Pycnidia inconspicuous, usually somewhat raised. Discs usually dark brown. Eastern N. America. Common on trunks and branches of conifers (especially Thuja) in open woods, Great Lakes region and Appalachians. A. aurescens

A. aurescens

Thallus foliose, closely adnate, 2-6 cm broad; upper surface light yellowish green, "smooth" but somewhat ridged [without lens]; lobes 0.5-2(-3) mm wide, often with somewhat indented but rounded tips; lobe margins slightly raised; lower surface pale to light tan, strongly reticulate; abundantly (sparsely according to Hale) rhizinate. Isidia sparse to rather frequent in central parts of a few specimens; cilia absent or sparse and black. Upper and lower cortex pachydermatous.

Apothecia common, marginal, rarely submarginal, usually numerous, especially in central portions of thallus, to 7 mm diam.; thalline margin sometimes strongly wrinkled, disk usually dark brown; exciple 2-layered, upper layer composed of horizontally arranged hyphae, lower layer pachydermatous; asci narrowly clavate 45-60 x 13-17 μm , axial body 2.0-3.5 μm ; spores 4.0-5.5 μm diam.. Pycnidia common, marginal or laminal, usually somewhat raised. Pycnospores bifusiform (dumbbell shaped), ca. 5 x 1 μm .

Most common on Thuja, Appalachian-Great Lakes regions.

A. pallidula

Thallus foliose with ascending lobes, rather loosely adnate; lobes 4-10 mm wide, \pm linear-elongate, apically rounded; upper surface pale yellow to pale greenish yellow, occasionally covered with a white pruina, strongly ridged; lower surface pale yellow, strikingly reticulate; cilia absent; rhizines often abundant. upper and lower cortex pachydermatous;

Apothecia rather frequent, marginal or to submarginal, situated on ascending lobes; thalline margin wrinkled; disc predominantly pale brown; exciple 2-layered, upper layer composed of horizontally arranged hyphae, lower layer pachydermatous; asci narrowly clavate, 45-60 x 13-17 μm , axial body 3.0-4.5 μm wide; spores 4-6 μm diam.

Pycnidia common, marginal or laminal, immersed; pycnospores usually bifusiform (dumbbell-shaped, rarely disc-bar-shaped), but occasionally bacillariform, citriform, or sublageniform, 5-7 x ca. 1 μm .

On bark, especially Pseudotsuga and Larix, British Columbia to central California, east to Idaho.

A. sphaerosporella

Thallus foliose, closely adnate, 4-8 cm across; lobes 2-3(-4) mm wide, \pm linear-elongate, apically rounded; upper surface light yellowish green

(often rather more yellowish than green, occasionally becoming dark olive green), strongly and finely wrinkled (without lens) to more often becoming folded; without pseudocyphellae; lower surface white to buff or partly olivaceous, reticulately wrinkled, sparsely to more often abundantly rhizinate to lobe tips; rhizines concolorous with or slightly darker than lower surface, usually simple. Cilia absent. Upper and lower cortex leptodermatous.

Apothecia numerous, laminal, mostly restricted to thallus center; disc light brown; margin smooth; exciple 2-layered, upper layer composed of horizontally arranged hyphae, lower layer leptodermatous; asci rather broadly clavate, 40-50 x 13-18 µm; axial body 3-5 µm; spores spherical, 4-6 µm diam.

Pycnidia laminal, generally conspicuous, often abundant, black; Pycnosporangia bifusiform (dumbbell shaped or slightly disc-bar shaped), 5-7(-9) x ca. 1 µm, endobasidial.

Widespread on conifers, especially Pinus albicaulis or Abies, at higher elevations, Pacific NW (British Columbia to south-central California, and to Wyoming and SW part of NW Territories, east of Sierra-Cascade summits except rarely in northern California).

Literature

Goward, T. 1985. Ahtiana, a new lichen genus in the Parmeliaceae. The Bryologist 88(4): 367-371.

Elix, J. 1993. Genera of the Parmeliaceae.

Thell, A., T. Goward, T. Randle, E. I. Kärnefelt, and A. Saag. 1995. A revision of the North American lichen genus Ahtiana (Parmeliaceae). The Bryologist 98: 596-605.