**SPECIES FACT SHEET**

**Common Name:** sulphur pin lichen  
**Scientific Name:** Chaenotheca furfuracea (L.) Tibell  
Synonym: Coniocybe furfuracea (L.) Ach.  
Division: Ascomycota  
Class: Sordariomycetes  
Order: Trichosphaeriales  
Family: Coniocybaceae

**Technical Description:** Crustose lichen. Photosynthetic partner *Stichococcus*. Thallus visible on substrate, made of flour-like, fine grains, intensely yellow-green. Spore-producing structure (apothecium) pin-like, comprised of a spherical head (capitulum) 0.1-0.2 mm diameter on a relatively tall, slender stalk, the stalk 1.6-2.7 mm tall and 0.06-0.1 mm diameter; dark brown with dense yellow-green colored powder covering stalk, capitulum and spore mass. Stalk can also have branched, projecting hyphae, also covered with yellow-green powder. Capitulum covered by yellow-green powder when young, with a mass of powdery brown spores (mazaedium) becoming evident with age. Spore sacs (asci) cylindrical, 12-15 x 2-3 µm, formed in chains and disintegrating; spores arranged in one line in the asci (uniseriate), 1-celled, 2.3-3 µm, globose with ornamentation of tiny warts, not easily visible at 400x.

**Chemistry:** all spot tests negative. Thallus and powder on stalk (pruina) contain vulpinic acid, which gives them the chartreuse-yellow color. This acid also colors *Letharia* spp., the wolf lichens.


**Distinctive Characters:** (1) extensive, bright chartreuse-yellow thallus with yellow-green powder covering stalk and capitulum, (2) stalks tall and thin, (3) mazaedium of light brown spores.

**Similar species:** Many other pin lichens have yellowish powder on their heads or stalks, but few have powder covering the entire apothecium structure including stalk, head and spore mass. Similar species are listed here with brief descriptions, but microscopic characters must be used for final determination. See some of the references listed below.

*Chaenotheca brachypoda* has yellow-green powder covering the stalk and head. The spore mass is brown and made of 1-celled, globose to cuboid spores. The thallus is immersed in the substrate, so not visible.

*Chaenotheca gracilenta* has tall, thin stalks like *Chaenotheca furfuracea* but has grayish powder covering its stalk and head. The thallus is a thin grayish green layer of fine granules. The spore mass is brown to pale brown, made of 1-celled globose spores.
*Sclerophora nivea* has a pale yellow stalk and yellow powder on top of and beneath the head. The spore mass is pale and made of globose spores. The thallus is immersed, so not visible.

**Habitat:** Growing in dark situations under tree roots, tipped over stumps and under rock overhangs, where air may be moist but no direct rainfall hits. It covers surfaces of soil, rock, roots, rootlets and even leaf litter with its yellow-green powdery thallus. Elevations of 40 m to at least 1400 m (Rikkinen 2003).

**Life History:** Details for *Chaenotheca furfuracea* are not documented. The stalked apothecia may facilitate spore dispersal by wind or contact with passing arthropods and birds. Growth and dispersal rates of *Chaenotheca* are probably very slow.

**Range, Distribution, and Abundance:** Frequent and known from all states and provinces of the Pacific Northwest. Common west of the Cascades Range and also found on the eastern slopes of the Cascades in WA and OR.


Cool temperate to temperate areas of northern hemisphere (Eurasia, North America)

**Threats:** Altered fire frequency and intensity resulting from fire suppression and fuel buildup may threaten populations.

**Conservation Considerations:** Fire kills these crustose lichens. Survival through a burn depends on escaping the fire in deep crevices beneath tree roots and in rock piles or islands of unburned trees. Maintaining microhabitat humidity is critical to their survival; pin lichens avoid direct rainfall or trickle-down but need humidity provided by shade and retained moisture in the forest.

Search in areas of OR and WA where it has not yet been found to determine accurate range in the PNW.

Preparer: Daphne Stone  
Date Completed: February 2012

References


Peterson, E. no date. Crustose.net, photography from the lichenological community. Photographs of *Chaenotheca furfuracea* by John Villella.  
http://photos.crustose.net/main.php/v/jvillella/Chaenotheca+furfuracea.tif.html


Last visited 21 February 2012.
