

SPECIES FACT SHEET

Common Name: Ambiguous pin

Scientific Name: *Chaenothecopsis pusilla*

Division: Ascomycota

Class: Eurotiomycetes

Order: Mycocaliciales

Family: Mycocaliciaceae

Taxonomic Note: *Chaenothecopsis pusilla* is a non-lichenized, free-living fungus that lacks a photosynthetic algal partner (photobiont, phycobiont). Although not a lichen, it and several similar fungi are usually included in treatments of pin lichens because they often occur in the same habitats and are difficult to differentiate in the field. *Chaenothecopsis* is poorly understood in the Pacific Northwest and a number of undescribed species are probably present. In its present form, *C. pusilla* is probably a complex of several different species (Goward 1999; Rikkinen 2003).

Technical Description: Thalli tiny, crustose. Algal partner lacking. Thallus embedded in the substrate (immersed), often visible as an indistinct whitish stain. Spore-producing structure (apothecium) attached to decaying wood. Apothecia 0.4-1 (2) mm tall, comprised of a cup-shaped head (capitulum) on a slender cylindrical, usually unbranched stalk (stipe), the stipe smooth, brownish-black, shiny. The capitulum contains a brownish-black layer of persistent spore-producing asci (hymenium) forming a disc typical of most ascomycetes, lacking the powdery black spore mass (mazaedium) occurring in most other calicioids. Spores smooth, (4) 6-8 (9) x 2-3 μm , mostly two-celled but sometimes one-celled, or the dividing wall (septum) poorly defined.

Chemistry: hymenium I+ blue (Thomson 1997); all spot tests negative (Goward 1999).

Distinctive characters: (1) black, stalked apothecium with typical brownish hymenial disc, lacking the loose powdery spore mass of a mazaedium, (2) spores smooth, two-celled, (3) growing on decaying wood.

Similar species: Two undescribed species of *Chaenothecopsis* resemble *C. pusilla* but have green or bluish-green apothecia (Goward 1999). One is parasitic on the squamulose lichen *Hypocoenomyce scalaris* and the other is a saprobe (Goward 1999). Species of *Calicium* and *Microcalicium* have mazaedia on the capitulum instead of the hymenium in

Chaenothecopsis that is more typical of most ascomycetes. **Other descriptions and illustrations:** Goward 1999: 95; Thomson 1997: 206; Tibell 1999: 23; Groner 2006: 395.

Life History: Details for *Chaenothecopsis pusilla* are not documented. It is thought to be a saprobe but may also parasitize algae. The stalked apothecia may facilitate spore dispersal by wind or contact with passing arthropods and birds (Peterson 2006). Growth and dispersal rates of *Chaenothecopsis* are probably very slow, and substrate requirements are such that it does not appear in forests until they are at least 100 years old (Peterson 2003). For this reason it has been documented as an indicator of forest age and continuity (e.g., Selva 1996).

Range, Distribution, and Abundance: Interruptedly circumboreal and bipolar. In the Pacific Northwest, Yukon and British Columbia south to California, east to Colorado. Scandinavia, Europe, Asia, eastern North America, Australasia, central and South America.

Rikkinen (2003) found *C. pusilla* to be relatively frequent at all elevations and reported over 30 occurrences in California, Oregon, and Washington.

Habitat: On bark and wood of *Abies amabilis*, *Acer macrophyllum*, *Alnus rubra*, *Chamaecyparis lawsoniana*, *Picea sitchensis*, *Pseudotsuga menziesii*, *Quercus garryana*, *Thuja plicata*, *Tsuga heterophylla*, *Tsuga mertensiana*, and on rock (Rikkinen 2003). It usually occurs in relatively open stands in drier microhabitats where sheltered from precipitation, such as in crevices of bark, the dry side of leaning trunks, or the underside of limbs. In the Pacific Northwest, *Chaenothecopsis pusilla* is probably restricted to old-growth forests because its host species often appear only in forests older than 100 years (Peterson 2003b). Elevations range from sea level to 6000 feet. Forest types include *Abies grandis*, *Abies amabilis*, *Tsuga heterophylla*, *Tsuga mertensiana*, and *Picea sitchensis* associations. In other parts of its range it occurs on *Salix*, *Populus*, and *Acer* (Thomson 1997).

Threats: Logging of old-growth has probably diminished habitat and opportunities for dispersal of *Chaenothecopsis pusilla*, but there is evidence that it can survive forest fragmentation and disperse to new sites (Peterson 2003).

Conservation Considerations: On federal lands, consider revisiting all known localities and monitoring the status of populations. Search for new populations on federal lands. Protection of known sites from logging and road or trail work will minimize risk to populations.

Conservation rankings: Global: G4G5Q; National: NNR. Oregon Natural Heritage Information Center: Drop list, too common. Washington Natural Heritage Program SNR, Review List 1.

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ATTACHMENTS:

- (1) List of References**
- (2) Map of *Chaenothecopsis pusilla* locations in Oregon and Washington**

Attachment 1-List of References

Links are provided below to guide you to additional information that be helpful in understanding this species. Included are links to illustrations, photographs, maps and ranking information used to determine threats and status by State Heritage Programs.

Goward, T. 1999. The lichens of British Columbia. Part 2. Fruticose species. British Columbia Ministry of Forests. 319 pp.

Groner, U. 2006. The genus *Chaenothecopsis* (*Mycocaliciaceae*) in Switzerland, and a key to the European species. *The Lichenologist* (2006), 38: 395-406

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http://oregonstate.edu/ornhic/2007_t&e_book.pdf

Peterson, E.B. 2003. Heritage rank status factors for *Chaenothecopsis pusilla*: global, California, Oregon, Washington.
http://oregonstate.edu/ornhic/survey_manage_ranks.html

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http://calscc.crustose.net/sponsorships/Calicium_adpersum.pdf

Rikkinin, J. 2003. Calicioid lichens and fungi in the forests and woodlands of western Oregon. *Acta Botanica Fennica* 175: 1-41.

Selva, S. B. 1996. Using lichens to assess ecological continuity in northeastern forests. Pp. 35-48 in: M. B. Davis (ed.), *Eastern old-growth forests: prospects for rediscovery and recovery*. Island Press, Washington, D. C. 399 pp.

Thomson, J.W. 1997. *American Arctic Lichens. 2. The Microlichens*. University of Wisconsin Press, Madison. 675 pp.

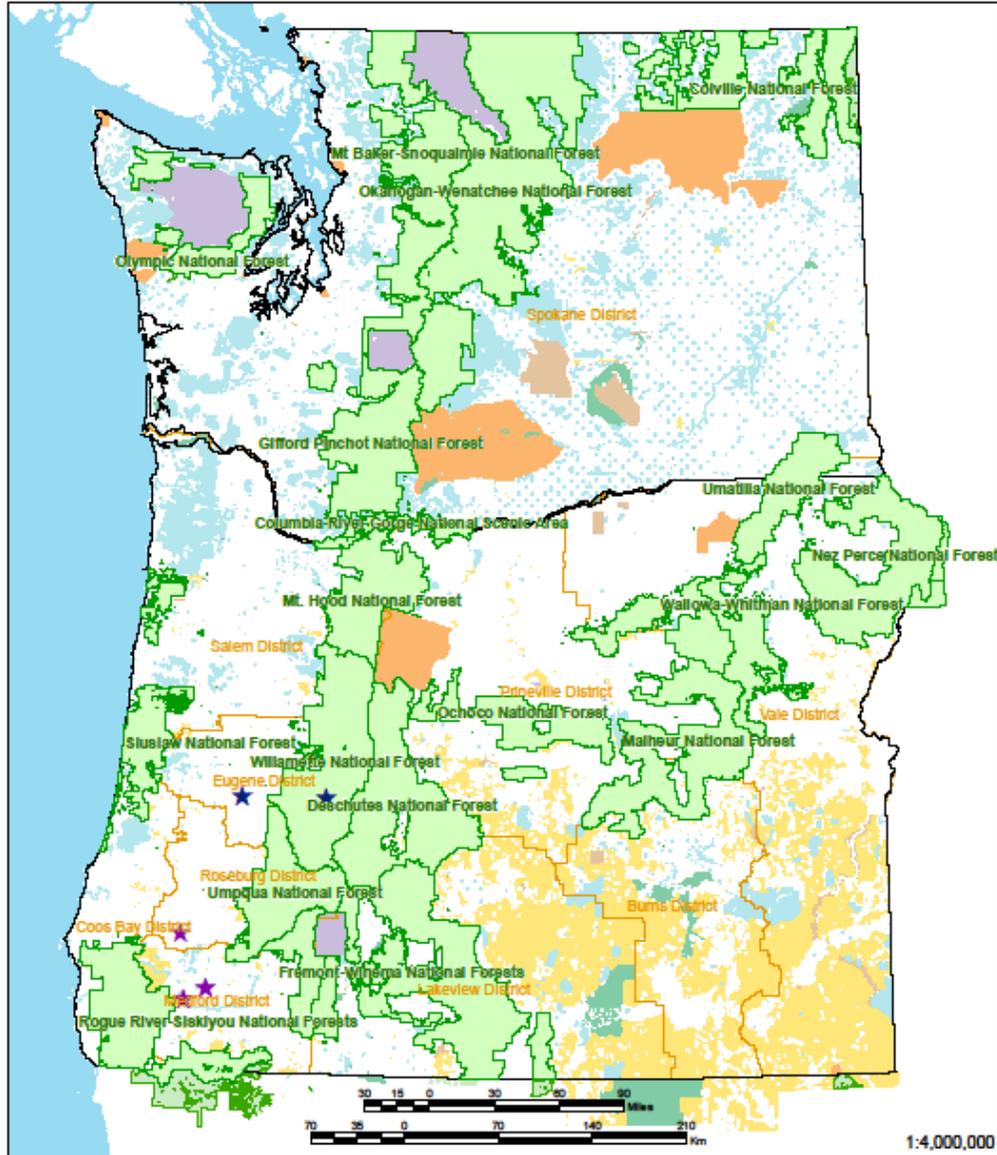
Tibell, L. 1975. The Caliciales of boreal North America. *Symbolae Botanicae Upsalienses* 21(2): 1128.

_____. 1999. Caliciales. *Nordic Lichen Flora. Volume 1. Calicioid lichens and fungi*, pp. 20-93. The Nordic Lichen Society, Uddevalla, Sweden. 94 pp.

Attachment 2- Map of *Chaenothecopsis pusilla* locations in Oregon and Washington

Lichen
Chaenothecopsis pusilla

CHPU7



Legend

- ★ Data Source NRIS
- ★ Data Source GeoBOB
- Bureau of Land Management
- U.S. Forest Service
- National Park Service
- U.S. Fish and Wildlife Service
- Bureau of Indian Affairs
- Other Federal
- State
- Local Government
- Private/Unknown



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