

SPECIES FACT SHEET

Common Name: fir pin, black stubble

Scientific Name: *Calicium abietinum*

Division: Ascomycota

Class: Lecanoromycetes

Order: Lecanorales

Family: Caliciaceae

Technical Description: Crustose lichen. Photosynthetic partner *Trebouxia*. Thallus immersed in substrate. Spore-producing structure (apothecium) pin-like, comprised of a lenticular to bell-shaped head (capitulum) 0.2-0.3 mm diameter on a slender stalk, the stalk 0.6-0.9 mm tall and 0.08 -0.13 mm diameter; stalk height : width ratio of 6-11, black or brownish black or with an olive tinge, surface (cortex) of stalk hyaline. Capitulum containing a mass of powdery black spores (mazaedium) with no fine colored powder (pruina). Spore sacs (asci) cylindrical, 44-60 x 4-5 μm and disintegrating; spores 2-celled (1-septate), arranged in one line in the asci (uniseriate), 11-15 x 5-7 μm with ornamentation of minute warts and some irregular cracks.

Chemistry: Thallus I- and all parts of apothecium I-, all other spot tests negative.

Distinctive characters: (1) On decorticated wood (lignum), (2) immersed thallus with (3) black to olive brownish stalks without any pruina, and (4) large minutely warty spores. **Similar species:** *Calicium glaucellum* has an immersed thallus but (1) has smaller pins (ascmata 0.5-0.9 mm tall) that (2) are relatively shorter (4-8 times as high as width of stalk) and (3) the capitulum may have whitish pruina on the edge and lower side and (4) has smaller spores (9-13 x 5-6.5 μm) that are ornamented with ridges and cracks, and (5) its immersed thallus is K+ dull yellow. **Other descriptions and illustrations:** Goward 1999: 71; Peterson (no date); Purvis et al. 1992: 139, Tibell 1975: 24; Tibell 1999: 22-23.

Life History: Details for *Calicium abietinum* are not documented. The stalked apothecia may facilitate spore dispersal by wind or contact with passing arthropods and birds (Peterson 2006). Growth and dispersal rates of *Calicium* are probably very slow, and substrate requirements are such that it does not appear in forests until they are at least 100 years old.

Range, Distribution, and Abundance: *Calicium abietinum* is circumboreal. In the Pacific Northwest, known from the Coast Range and west Cascades, California to British Columbia and Idaho. North America from Mexico to Canada and from the Pacific Northwest to Minnesota. England, central Europe to central Scandinavia, Asia, South America.

National Forests: documented from Siuslaw, Mt. Hood, Gifford Pinchot, and Okanogan-Wenatchee forests. BLM Districts: documented from the Salem and Roseburg Districts.

Habitat: Forming small thalli on lignum or occasionally bark of conifer trees or lignum of oak logs and stumps, also fenceposts, especially in the open ecotone between forests and meadows. Most calicioid lichens and fungi inhabit aged bark or wood in sheltered locations protected from direct rain interception. It usually occurs on snags and old wood of trees at least 200 years old, but occasionally is found on old weathered wooden fenceposts. This species is mostly found in sparsely forested regions, becoming very rare in drier, non-forested areas and wetter, densely forested areas (Peterson, unpublished data).

Threats: Removal of standing snags from appropriate habitat. Removal of old-growth forest in North America and throughout the rest of the species' distribution has undoubtedly had severe impacts on the number of populations, population sizes, and average dispersal distance necessary to colonize new substrates. It is considered rare in Scandinavia. Its ability to colonize fenceposts may add some security to the survival of the species.

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, road and trail work, and protection from scorching of tree trunks and old fenceposts during prescribed fire will help minimize risk to populations. Manage understory in known sites to maintain open conditions.

Conservation Rankings: Global: G4G5; National: N4; Oregon Natural Heritage Information Center: List 4 (S3); Washington Natural Heritage Program SNR (Review List 1).

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References

Links are provided below to guide you to additional information that might 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.

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