

## SPECIES FACT SHEET

**Common Name:** blue vinyl, blue jellyskin, blue oilskin

**Scientific Name:** *Leptogium cyanescens*

Division: Ascomycota

Class: Lecanoromycetes

Order: Peltigerales

Family: Collemataceae

**Technical Description:** Thallus foliose, gelatinous, 1-5 cm in diameter, with distinct upper and lower surfaces (cortices), blue-gray to occasionally turquoise in deeply shaded habitats, lacking brownish or blackish coloring, lower cortex often slightly paler than upper cortex. Photosynthetic partner (photosymbiont) the cyanobacterium *Nostoc*. Lobes rounded, 1-12 mm broad, margins entire to dentate to isidiate, matte, smooth to occasionally roughened but not wrinkled; lobes thin, especially near the edge of the thallus, about 50 – 70  $\mu\text{m}$  near the edge and up to about 110  $\mu\text{m}$  farther in. Thallus attached to substrate by scattered tufts of white hairs. Upper cortex of a single layer of cells with approximately even sides (isodiametric) 5-8  $\mu\text{m}$  in diameter, up to 10 rows thick beneath apothecia. Isidia the same color as the thallus, usually abundant on the lobe surface and also developing along the lobe margins, cylindrical and often branching with age, or flattened into club-shaped lobules; marginal isidia appearing as fine teeth along the lobe edges. Isidia emerging from the thallus as small, light-colored rounded bumps becoming round-topped cylinders. Medulla made of tightly packed hyphae, giving the impression of being woven (visible only in very thin cross-sections, 1-2 cells thick, viewed at 400x). *Nostoc* chains are scattered throughout the medulla. Lower cortex bare except for scattered tufts of whitish hairs attaching thallus to substrate. Apothecia not common, and not seen in specimens from the Pacific Northwest; sessile to short stipitate on the upper surface of the thallus, 0.5 – 2.0 mm across, plane to convex, light brown or reddish brown; the gray margin of the apothecium entire to abundantly isidiate, light grey to cream colored.

Chemistry: all spot tests negative.

**Distinctive characters:** Fairly large, blue-grey, thin, rounded lobes, with delicate isidia emerging as small whitish papillae on the upper surface and along the margins, whole thallus lacking brownish or blackish coloring.

**Similar species:** Many *Leptogium* species look similar to one another, and the lack of lichen acids makes identification difficult in this genus. *Leptogium polycarpum* is similar in size and color but (1) does not produce isidia and (2) usually has abundant apothecia. *Leptogium tacomae* is an isidiate species but (1) its isidia are branched and have alternately wide and skinny places making them look like knobby fingers (opuntoid) and (2) its thallus tends to turn

brown in exposed situations. *Leptogium subaridum* is an isidiate species but (1) grows on soil, (2) its lobes tend to be irregularly squared and (3) the isidia are dark brown or black, shiny, and look like deflated balloons with dimples. *Leptogium siskiyouensis* (in press) is an epiphyte with lobes that are (1) to 4 mm wide, (2) shiny, (3) grey to brown-tipped, and (4) with grey to brown coralloid isidia on raised margins and on the lamina. **Other descriptions and illustrations:** Brodo et al. 2001: 404-405; Goward 1994: 67-68; McCune and Geiser 1997: 141; Stone and Ruchty 2007; Sierk 1964: 300-301.

**Life History:** Details for *Leptogium cyanescens* are not documented. Apothecia are not known from the Pacific Northwest, so reproduction is probably restricted to vegetative reproduction from isidia and fragmentation. Because fragments and isidia are both relatively heavy, dispersal over distances greater than a few meters may be aided by birds, mammals, or invertebrates.

**Range, Distribution, and Abundance:** Cosmopolitan, in both temperate and tropical regions.

In the Pacific Northwest, from Alaska to Oregon, but rare throughout the region. Common in eastern North America.

National Forests: documented from the Mt. Baker-Snoqualmie National Forest. Suspected from Gifford Pinchot, Mt. Hood, Siuslaw, and Rogue River-Siskiyou forests. BLM Districts: none documented; suspected on Salem, Eugene, and Coos Bay Districts.

**Habitat:** On shaded twigs of deciduous trees and shrubs in humid habitats, rarely in exposed situations. The two Oregon sites are on the immediate coast at elevations of 15-30 feet, growing on twigs of *Pyrus fusca* near a lake and a marsh in coastal dunes. This habitat is one of those listed by McCune et al. (1997) as harboring concentrations of rare species. The Washington site is on *Acer circinatum* at elevation 1550 feet in the foothills of the Cascades.

**Threats:** The most immediate threat is industrial or housing development in forested dune areas. Both known sites in Oregon are on public lands. Air pollution and overcollecting may also be threats to *Leptogium cyanescens*. Lichens of dune woodlands and forests are at risk from air pollution because of fog penetration and patterns of prevailing winds, even on the outer coast (Klopatek et al. 2006). Trail maintenance by workers unfamiliar with lichen habitat requirements can be very destructive to rare species. Edges of dense thickets and dead lower branches are prime habitat for a group of uncommon to rare lichens and are easily destroyed.

**Conservation Considerations:** Consider revisiting known localities and monitoring the status of populations. Search for new populations in similar habitats on federal and state lands in Oregon. When maintaining trails and

coastal lakeshores in appropriate habitat for *Leptogium cyanescens* habitat including thinning or removal of shrubs along the shore, avoid edges of dense thickets and live or dead lower branches of *Pyrus fusca*. Critical features of this habitat include microsite moisture and light. Thinning or pruning of branches could alter the microhabitat necessary for the survival of this species. National: NNR; Oregon Natural Heritage Information Center: List 2 (S1).

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**Date Completed: 31 Dec 2007; updated by Rob Huff, March 2009 with addition of Attachment 2 (Map of Oregon and Washington locations) and February 2010 with updated suspected and Documented information for FS and BLM field units.**

**Updated April 2013 by Rob Huff. This update clarified that the two sites in Oregon do not occur on the Siuslaw National Forest, but on State Park lands.**

## **ATTACHMENTS:**

- (1) List of References**
- (2) Map of locations of *Leptogium cyanescens* 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.

Brodo, I.M, Sharnoff, S.D., & S. Sharnoff. 2001. Lichens of North America. Yale University Press, New Haven and London.

Global Biodiversity Information Facility. Accessed 31 December 2007.  
<http://data.gbif.org/species/14384422/>

Goward, T., B. McCune, & D. Meidinger. 1994. The Lichens of British Columbia. Part 1. Foliose and Squamulose Species. British Columbia Ministry of Forests. Crown Publications Inc., Victoria, B.C. 181 pp.

Klopatek, J.M., M.J. Barry & D.W. Johnson. 2006. Potential canopy interception of nitrogen in the Pacific Northwest, USA. Forest Ecology and Management 234: 344-354.

McCune, B. & L. Geiser. 1997. *Macrolichens of the Pacific Northwest*. Oregon State University Press. Corvallis, Oregon.

Sierk, H.A. 1964. The genus *Leptogium* in North America north of Mexico. *The Bryologist* 67(3): 245-317.

Stone, D. F.& A. Ruchty. 2007. *Leptogium cyanescens* – a catchall name for gray isidiate *Leptogium* species in the pacific Northwest? BLM-USFS T&E program. Accessed 31 December, 2007.  
<http://www.fs.fed.us/r6/sfpnw/issssp/>

Stone, D. F.& A. Ruchty. 2008. *Leptogium siskiyouensis*, a new epiphytic lichen species from the Pacific Northwest of the United States. *Pacific Northwest Fungi* (in press) [pnwfungi.org](http://pnwfungi.org)

# Attachment 2 - Map of locations of *Leptogium cyanescens* in Oregon and Washington

