

SPECIES FACT SHEET

Common Name: speckled rag lichen, sea-storm lichen, giant shield lichen

Scientific Name: *Cetrelia cetrarioides* (Duby) Culb. & C. Culb.

Kingdom: Fungi

Division: Ascomycota

Class: Ascomycetes

Order: Lecanorales

Family: Parmeliaceae

Genus: *Cetrelia* Culb. & C. Culb.

Technical Description:

Thallus foliose, medium to large (generally 5-20 cm diameter), with broad, ascending, rounded lobes (7-15 mm) that are usually ruffled or wavy at the margins. Upper surface whitish gray to greenish gray, lower surface black with brown margins and black, simple, sparse rhizines. Pseudocyphellae present as small white spots on both upper and lower surfaces. Soredia present in elongate marginal soralia. Isidia absent. Apothecia rare in the Pacific Northwest. Photobiont green algal (Brodo et al. 2001; McCune & Geiser 1997).

Chemistry

Medulla C-, KC- or rarely KC+ faint pink. Cortex K+ yellow (Brodo et al. 2001).

Identification Tips

From a distance, this species is visible as a large pale whitish to greenish gray foliose lichen, usually on trunks of *Alnus* or other hardwoods. It can be distinguished by its pseudocyphellae and marginal soralia. Pseudocyphellae are holes in the lichen cortex, revealing the medulla below; in *C. cetrarioides*, the pseudocyphellae are small, on both upper and lower surfaces, and reveal the white medulla under the cortex. The soralia are only on the lobe edges, and are often 5-10 mm long or more (McCune & Geiser 1997).

Similar Species

This is the only species of *Cetrelia* in the Pacific Northwest, and the only with pseudocyphellae on both upper and lower surfaces.

Platismatia glauca may appear similar. Some forms have only marginal soralia and no isidia, but *P. glauca* never has pseudocyphellae and has coarser soredia.

Parmotrema species appear similar, but they usually have marginal cilia, which are lacking in *C. cetrarioides*. Additionally, *Parmotrema* species never have pseudocyphellae.

Parmelia species have much narrower lobes, usually <5 mm wide, and are typically more appressed to the surface.

Punctelia subrudecta has pseudocyphellae on the upper surface only, and its lower surface and rhizines are tan to light brown, not black. In contrast, *C. cetrarioides* has black rhizines and a mostly black lower surface with brown margins. Additionally, *P. subrudecta* has soredia on the lobe surface (laminal soralia); soredia are strictly marginal in *C. cetrarioides*.

Keys to Identification of the Species

Useful dichotomous keys are available in McCune & Geiser (1997), Goward et al. (1994), and Brodo et al. (2001).

Life History:

This species is visible year-round, unless visibility is impeded by snow cover or inclement weather. The medium to large thallus can be recognized on tree trunks from a distance (McCune & Geiser 1997). It is identifiable year-round; apothecia are extremely rare, but are not necessary for identification. Asexual reproductive structures (soredia) are typically present year-round.

Range, Distribution, and Abundance:

This species is incompletely circumpolar. In Eurasia it is known from the Iberian Peninsula (Barbero et al. 1995) to China and the Russian Far East (Guseva et al. 1993). It is considered to be very common in Europe (Brodo et al. 2001). In North America, *C. cetrarioides sensu lato* is thought to be common in the Appalachian Mountains but rare elsewhere (Culberson and Culberson 1978). On the west coast, it occurs sporadically from coastal Alaska to Oregon, mainly in the Coast Ranges; it is not found east of the Cascades (McCune and Geiser 1997). In Oregon, it occurs in the Coast Range, Willamette Valley, and Western Cascades Physiographic Provinces. In Washington, it is documented from the Olympic Peninsula, Western Cascades, and Western Lowlands Physiographic Provinces. It has also been collected in Mexico (Oregon Natural Heritage Information Center 2006).

Documented occurrences of *C. cetrarioides* on federal lands in the Pacific Northwest include: Olympic National Park; Olympic, Mount Baker-Snoqualmie, Gifford-Pinchot, Mt. Hood, Siuslaw and Willamette National Forests; the Columbia River Gorge National Scenic Area; and the Salem, Eugene, and Coos Bay BLM Districts.

Habitat Associations:

This species grows primarily on bark, and occasionally on mossy rock. The most common tree host is *Alnus rubra* (Culberson & Culberson 1968), but it has also been found on other hardwoods and conifers, including *Acer circinatum*, *Pseudotsuga menziesii*, and several others (U.S. Department of Agriculture 2006). It is most common in moist riparian and valley bottom forests, especially older *Alnus rubra* stands over seepy or swampy ground (McCune and Geiser 1997). McCune et al. (2002) found *C. cetrarioides* to be exclusively associated with large streams in the McKenzie watershed of the Western Cascade Range. However, Peterson & McCune (2003) found this species only in upland areas in a study that encompassed the Oregon Coast Range and Western Cascades. Detection levels for this species were low in both studies, which may explain the apparent discrepancy in habitats.

Threats:

The primary threat to this species is forest management activities that remove host trees or degrade habitat. Timber harvest and hardwood conversion projects that remove alder and other hardwoods may directly threaten populations or remove habitat.

Conservation considerations:

Known populations could be protected by restricting removal of host trees and nearby habitat. Protection of riparian zones and wetland areas and retention of hardwood trees and shrubs would minimize habitat loss. Riparian stands with a high proportion of hardwoods are important “hotspots” of lichen diversity, providing habitat for many species that are poorly represented in typical forests (Peterson & McCune 2003).

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ATTACHMENTS:

- (1) List of References**
- (2) Photographs**
- (3) Map of Range and Distribution in Oregon and Washington**

Attachment 1 - List of References

Barbero M., Etayo J., Gomez-Bolea A. 1995. Chemotypes of *Cetrelia cetrarioides* s.l. in the Iberian Peninsula. *Cryptogamic Botany* 5(1): 28-30.

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Attachment 2 - Photographs



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Attachment 3 - Map of Range and Distribution in Oregon and Washington

This map reflects all sites entered into the GeoBOB database as of 16 Oct. 2006.

