

Rare Lichen Status Review: *Platismatia lacunosa*
Proposed Addition to California Rare Plant Rank 2B.3, G4 / S1
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[Changes to the original document in blue](#)

This species review is being expedited through a challenge cost share agreement between the California Native Plant Society and the USDA Forest Service, Pacific Southwest Region. Aside from being advanced as part of this agreement, the process, content, and information provided herein is not altered, modified, or developed differently in any way or form compared to other status reviews developed by CNPS.

Background and Taxonomy

Platismatia lacunosa (Ach.) W. L. Culb. & C. F. Culb. is a foliose lichen in the Parmeliaceae known from [the coastal zone of](#) western North America from northwest California to the Aleutian Islands of Alaska (Culberson and Culberson 1968, Brodo et al. 2001, Ponzetti 2006, Esslinger 2018, NatureServe 2022). Reports from other parts of North America are either misidentifications or are based on erroneous nomenclatural processes (Carlberg 2022 pers. comm., CNALH 2022). *Platismatia* contains approximately 14 species, all confined to the Northern Hemisphere (Thell et al. 2002). *Platismatia lacunosa* is distinguished from other species within the genus by having a pale grey-green to white upper surface with a very prominent network of veins, [no isidia or soredia](#), and a positive (orange-red) para-phenylenediamine reaction in the thallus medulla (Culberson and Culberson 1968, McCune and Yang 2022). The lower surface of the thallus is usually black near the center and brown near the edges, and there is often white, tan, or brown mottling (Culberson and Culberson 1968, Ponzetti 2006).

Ecology

In California, this species has been found in areas with cool, coastal influence in the Klamath Ranges and North Coast bioregions in Del Norte and Humboldt counties. It has been observed on the branches of alder trees from 200 to 2000 feet in elevation (Antoine 2021 pers. comm., Carlberg 2022 pers. comm.). Elsewhere, it may grow on other hardwoods or conifers or rarely on mossy rocks (Derr et al. 2002, Ponzetti 2006, CNALH 2022, McCune and Yang 2022). In the Pacific Northwest, this lichen is uncommon and usually found in moist, riparian forests or adjacent to wetlands or lakes in the Coast Range and Cascades from sea level to 3500 feet in elevation (Ponzetti 2006, McCune and Yang 2022). In that region, this species often occurs high in the tree canopy, usually on the upper side of branches. Its most common host is *Alnus rubra*, and it is sometimes associated with the lichens *Menegazzia terebrata* and *Hypotrachyna sinuosa* (Ponzetti 2006, McCune and Yang 2022). It is most common in mature to old-growth forest, but it does occur in second-growth forests with old-growth remnants or mature *Alnus rubra* (Ponzetti 2006).

Distribution and Abundance

There are four estimated occurrences of *P. lacunosa* currently documented in California (Antoine 2021 pers. comm., Carlberg 2022 pers. comm.). All four are from the northwest coastal region of California, two from Del Norte County and two from Humboldt County. Three of the

occurrences have been observed within the past 20 years, and the fourth is based on a recently reviewed herbarium collection from 1930. Two are from State Parks lands, one is from the Siskiyou Wilderness on the Six Rivers National Forest, and the historical collection is from private timber lands of unknown ownership. None of the occurrences have population size information, although both occurrences on State Parks land were thought to be uncommon where found (Antoine 2021 pers. comm.).

Seven California herbarium collections or observations identified as this species in the Consortium of North American Lichen Herbaria or the National Resource Information System have been researched and shown to not be *P. lacunosa* (Herre s.n. [BUT-L-0800022], Herre s.n. [WVA-L-0008212], Howe 146 [F-C1009309F], Lemmon s.n., Sierra County [NY3034094], Shallert 11297 [F-C1005874F], Wing s.n. [F-C1009297F], NRIS 051052PLLA6_2003_3) (NRIS 2020, Carlberg 2022 pers. comm., CNALH 2022). An eighth specimen (*Bolander s.n.*, from California, no exact location [O-143397]) is from too vague of a location to be included in this distribution analysis (CNALH 2022). These eight records are included as pink rows in the location spreadsheet that accompanies this status review.

Status and Threats

Platismatia lacunosa is the rarest *Platismatia* species in the Pacific Northwest, and in that region, it is never abundant in the locations where it occurs (Ponzetti 2006, NatureServe 2022). It is categorized as vulnerable (S3) in both Oregon and Washington states (NatureServe 2022), and under the Northwest Forest Plan, *P. lacunosa* is a Category C lichen (Rare, Status Undetermined; manage all known sites; perform strategic surveys) (USDA/USDI 2001). It is thought to be uncommon in the two State Park locations where it has been observed in California (Antoine 2021 pers. comm.). Based on the stability of the populations in the northern part of its distribution, *P. lacunosa* currently has a Global Rarity Rank of G4 (secure) (NatureServe 2022). A preliminary California Rarity Rank of S1 has been calculated by the Oregon Biodiversity Center as part of a contract related to the Survey and Manage Program which seeks to protect at-risk species that grow in old-growth forests (Stone 2003, ORBIC 2004); this is the California Rarity Rank recommended by the California Lichen Society (Carlberg 2022 pers. comm.).

As three of the four known California occurrences are on public lands, the threat to this species is not considered high (Carlberg 2022 pers. comm.). The most immediate threat to this species in California and the Pacific Northwest is the removal of its primary tree substrate, *Alnus rubra*, which could be cut or burned during forest management activities or trail maintenance (Ponzetti 2006, Carlberg 2022 pers. comm.); known populations could be protected by restricting removal of host trees and nearby habitat. In addition, this species is sensitive to air pollution, although the locations where it has been observed in California are not close to major population centers with high levels of air pollution (Geiser and Neitlich 2007). Another important long-term threat to this lichen in California is climate change, which may cause decreased coastal summer fog while increasing coastal temperatures and fire incidence (Fried et al. 2004, Torregrosa et al. 2014). *Platismatia lacunosa* is considered an indicator of cool, maritime climate in western Oregon and Washington, and as the coolest climate zones shrink, species such as this one may lose populations in the southernmost portion of their range (Geiser and Neitlich 2007). Predicted increases in fire frequency, especially in species-rich, old-growth stands, would worsen threats from climate warming and pollution (Geiser and Neitlich 2007).

Summary

Based on the available information on occurrence number and the fact that three of four of the known California occurrences are on public lands, *P. lacunosa* is recommended for addition to California Rare Plant Rank 2B.3 of the CNPS Inventory (T. Carlberg 2022 pers. comm.). If knowledge on the distribution, threats, and rarity status of *P. lacunosa* changes in the future, we will re-evaluate its status at that time.

Recommended Actions

CNPS: Add *Platismatia lacunosa* to CRPR 2B.3

CNDDDB: Add *Platismatia lacunosa* to G4 / S1

Draft CNPS Inventory Record

Platismatia lacunosa (Ach.) W. L. Culb. & C. F. Culb.

crinkled rag lichen

Parmeliaceae

USDA Symbol: PLLA6

Synonym(s)/Other Name(s): none

2B.3

Counties: Del Norte, Humboldt

States: Alaska (AK), California (CA), Oregon (OR), Washington (WA)

Quads: Iaqua Buttes (4012368), Blue Creek Mtn. (4112347), Requa (4112411), Fern Canyon (4112441)

Habitats: North Coast coniferous forest, Riparian woodland

Micro-habitat notes: Usually growing on *Alnus*

Elevation: 200 – 2000 meters

Life form: Foliose lichen, epiphytic

Threats: habitat disturbance, frequent wildfires

Selected References:

- Original description: *Methododus qua Omnes Detectos Lichenes* (1803)
- Taxonomic treatment: *Contributions from the United States National Herbarium* 34: 449–558.
- Species account: (coming soon)
- Other:
- Species Fact Sheet for Survey and Manage Species: *Platismatia lacunosa*. Bureau of Land Management and USDA Forest Service. Available at: <https://www.blm.gov/or/plans/surveyandmanage/files/sfs-li-platismatia-lacunosa-2006.pdf>

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Personal Communications

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