The IUCN Red List of Threatened Species™
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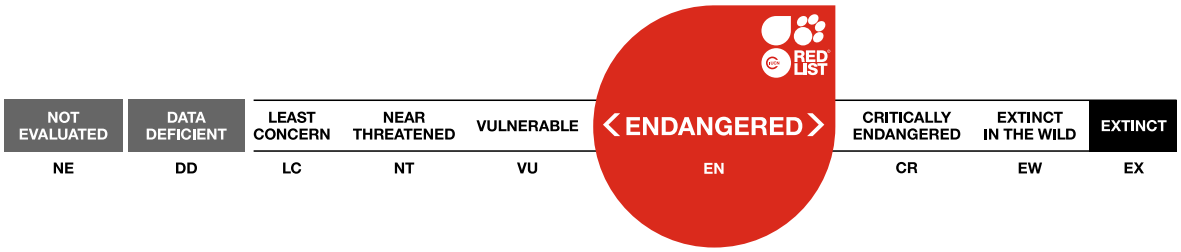
Scope(s): Global
Language: English

Xylopsora canopeorum

Assessment by: Reese Næsborg, R.



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Taxonomy

Kingdom	Phylum	Class	Order	Family
Fungi	Ascomycota	Lecanoromycetes	Umbilicariales	Umbilicariaceae

Scientific Name: *Xylopsora canopeorum* Timdal, Reese Næsborg & Bendiksby

Taxonomic Source(s):

Index Fungorum Partnership. 2021. Index Fungorum. Available at: http://www.indexfungorum.org.

Taxonomic Notes:

This species was described by Bendiksby *et al.* (2018), and the type specimen was found in Big Basin Redwoods State Park, Santa Cruz County, CA.

Assessment Information

Red List Category & Criteria: Endangered B2ab(i,ii,iii,iv,v) ver 3.1

Year Published: 2022

Date Assessed: August 1, 2021

Justification:

Xylopsora canopeorum appears to be endemic to old-growth coast redwood forests in California where it grows on the trunks of redwood trees. The species has currently only been verified from three localities of which the type locality burned in a high intensity fire in 2020. The extent of known occurrence is 5,893 km^2 and the area of occurrence is 24 km^2. The subpopulations are severely fragmented by large-scale timber harvesting reducing old-growth redwood forests to ca. 5% of it's original range. An ongoing decline in quality and extent of habitat is estimated and ongoing decline in extent and area of occurrence due to large, high-intensity wildfires and climate change. Therefore, it is assessed as Endangered, B2ab(i,i,iii,iv,v).

Geographic Range

Range Description:

This species occurs in old-growth coast redwood forest in northern California. The species has been found in Jedediah Smith Redwoods State Park, Armstrong Redwoods State National Reserve, and Big Basin Redwoods State Park. It could be present in the other old-growth parks between Jedediah Smith Redwoods SP and Big Basin Redwoods SP, but this has not been verified. This would increase the AOO and the number of localities up to a maximum of around 132 km^2 and 30 localities.

Country Occurrence:

Native, Extant (resident): United States

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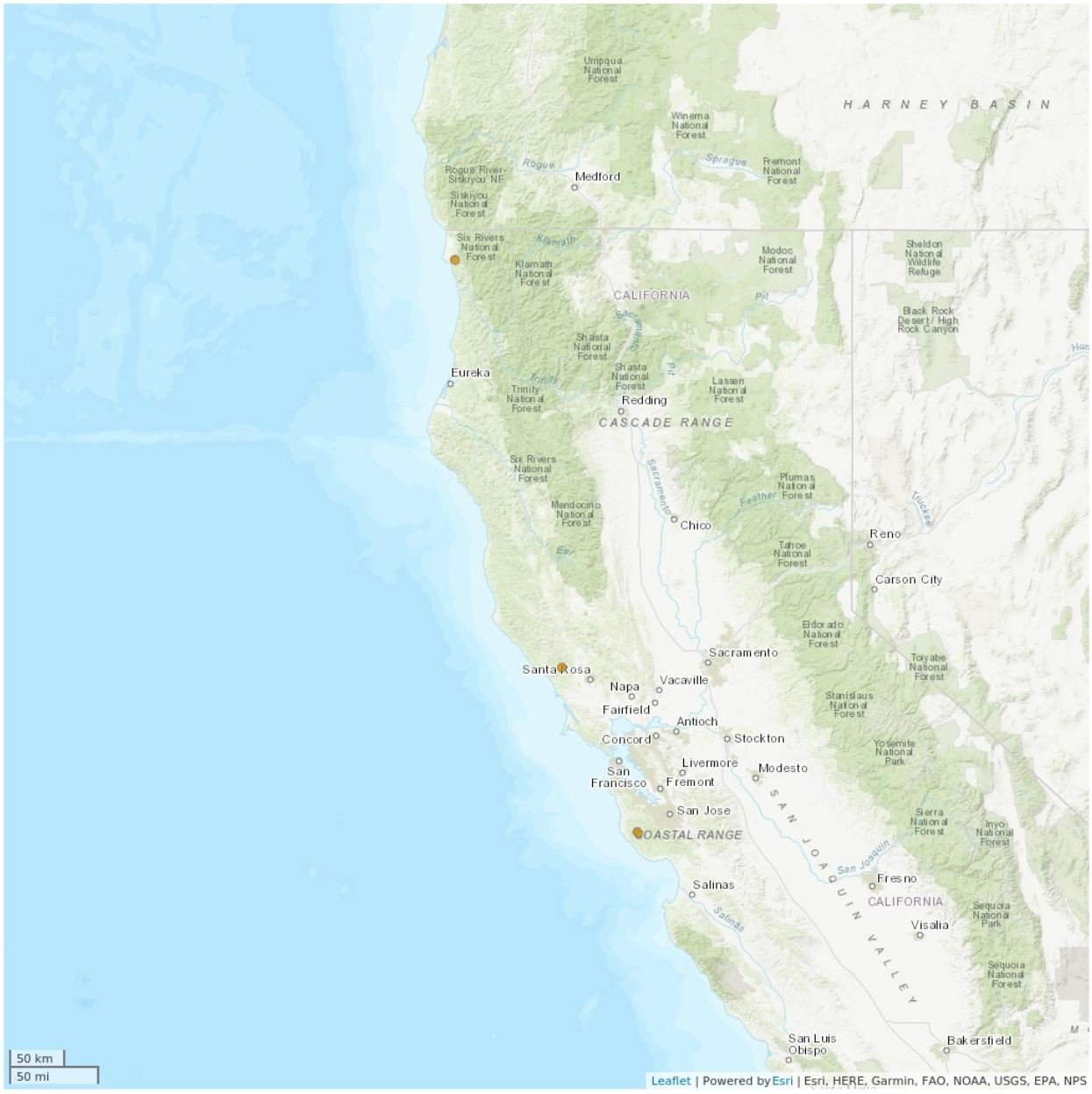
Distribution Map



Legend

EXTANT (RESIDENT)

Compiled by:

IUCN 2021

The boundaries and names shown and the designations used on this map do not imply any official endorsement, acceptance or opinion by IUCN.

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Population

The species has so far only been found on old-growth coast redwood (*Sequoia sempervirens*) trees. Historical logging led to significant declines in the species' population size and left coast redwood forests severely fragmented, and thus this species' population is severely fragmented. Ongoing losses are now likely due to frequent, high-intensity wildfires throughout the region.

Current Population Trend: Decreasing

Habitat and Ecology **(see Appendix for additional information)**

The species was observed on coarse, fibrous bark and occasionally on charred bark between 5 and 75 m above ground level along the trunks of large coast redwood trees (*Sequoia sempervirens*) in old-growth redwood forests. It appears to have an affinity for old and stable bark surfaces on the main trunks.

Systems: Terrestrial

Threats **(see Appendix for additional information)**

Only ca. 5% of old-growth coast redwood forest are left after decades of timber harvest, so the lichen subpopulations are likely severely fragmented. However, most old coast redwood trees are currently protected in State and National Parks. Wildfires, which are projected to increase in frequency and severity, are the most imminent threat. The southernmost location, Big Basin Redwoods State Park experienced a high intensity fire in 2020, and as conditions get warmer and drier, even parks in the north may experience hot, devastating fires in the future. The occurrences in Big Basin were likely, if not extirpated, then severely impacted by the fire. Extirpation from Big Basin would result in a 97.7% reduction of EOO and a 33% reduction in AOO.

Conservation Actions **(see Appendix for additional information)**

Actions to stop climate change from getting worse are needed. This species is difficult to get accurate knowledge about since it requires climbing of the trees to get to where it grows. The species is too tiny to see from the ground and anatomical and chemical test need to be performed to confidently identify it. Climbing without a research permit is strictly prohibited in all State and National Parks.

Other possible hosts could be other members of Cupressaceae that share similar bark textural characteristics to coast redwood, and these should be explored.

Credits

Assessor(s): Reese Næsborg, R.

Reviewer(s): Allen, J.

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Bibliography

Bendiksby, M., Reese Næsborg, R. and Timdal, E. 2018. *Xylopsora canopeorum* (Umbilicariaceae), a new lichen species from the canopy of *Sequoia sempervirens*. *MykoKeys* 30(1-15).

Farjon, A. and Schmid, R. 2013. *Sequoia sempervirens*. The IUCN Red List of Threatened Species 2013: e.T34051A2841558. Available at: https://dx.doi.org/10.2305/IUCN.UK.2013-1.RLTS.T34051A2841558.en. (Accessed: 2021).

IUCN. 2022. The IUCN Red List of Threatened Species. Version 2022-1. Available at: www.iucnredlist.org. (Accessed: 21 July 2022).

Citation

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External Resources

For Supplementary Material, and for Images and External Links to Additional Information, please see the Red List website.

Appendix

Habitats
(http://www.iucnredlist.org/technical-documents/classification-schemes)

Habitat	Season	Suitability	Major Importance?
1. Forest -> 1.4. Forest - Temperate	-	Suitable	-

Plant Growth Forms
(http://www.iucnredlist.org/technical-documents/classification-schemes)

Plant Growth Form
LC. Lichen

Threats
(http://www.iucnredlist.org/technical-documents/classification-schemes)

Threat	Timing	Scope	Severity	Impact Score
7. Natural system modifications -> 7.1. Fire & fire suppression -> 7.1.1. Increase in fire frequency/intensity	Ongoing	-	-	-
	Stresses:	1. Ecosystem stresses -> 1.1. Ecosystem conversion 1. Ecosystem stresses -> 1.2. Ecosystem degradation		
11. Climate change & severe weather -> 11.1. Habitat shifting & alteration	Ongoing	-	-	-
	Stresses:	1. Ecosystem stresses -> 1.1. Ecosystem conversion 1. Ecosystem stresses -> 1.2. Ecosystem degradation		
11. Climate change & severe weather -> 11.2. Droughts	Ongoing	-	-	-
	Stresses:	1. Ecosystem stresses -> 1.1. Ecosystem conversion 1. Ecosystem stresses -> 1.2. Ecosystem degradation		

Conservation Actions in Place
(http://www.iucnredlist.org/technical-documents/classification-schemes)

Conservation Action in Place
In-place research and monitoring
Action Recovery Plan: No
Systematic monitoring scheme: No
In-place land/water protection

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Conservation Action in Place
Conservation sites identified: Yes, over entire range
Occurs in at least one protected area: Yes

Conservation Actions Needed

(http://www.iucnredlist.org/technical-documents/classification-schemes)

Conservation Action Needed
5. Law & policy -> 5.1. Legislation -> 5.1.1. International level

Research Needed

(http://www.iucnredlist.org/technical-documents/classification-schemes)

Research Needed
1. Research -> 1.2. Population size, distribution & trends

Additional Data Fields

Distribution
Estimated area of occupancy (AOO) (km²): 24-132
Continuing decline in area of occupancy (AOO): Yes
Estimated extent of occurrence (EOO) (km²): 5893
Continuing decline in extent of occurrence (EOO): Yes
Number of Locations: 3-30
Continuing decline in number of locations: Yes
Population
Continuing decline of mature individuals: Yes
Population severely fragmented: Yes
Habitats and Ecology
Continuing decline in area, extent and/or quality of habitat: Yes

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The IUCN Red List Partnership

The IUCN Red List of Threatened Species™ is produced and managed by the IUCN Global Species Programme, the IUCN Species Survival Commission (SSC) and The IUCN Red List Partnership.

The IUCN Red List Partners are: ABQ BioPark; Arizona State University; BirdLife International; Botanic Gardens Conservation International; Conservation International; Missouri Botanical Garden; NatureServe; Re:wild; Royal Botanic Gardens, Kew; Sapienza University of Rome; Texas A&M University; and Zoological Society of London.