

# *Hypotrachyna riparia*

Assessment by: Stone, D., Vilella, J. & Root, H.



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## Taxonomy

Kingdom	Phylum	Class	Order	Family
Fungi	Ascomycota	Lecanoromycetes	Lecanorales	Parmeliaceae

**Scientific Name:** *Hypotrachyna riparia* McCune

**Taxonomic Source(s):**

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

**Taxonomic Notes:**

This species was originally described by McCune (1998) based on collections from two sites in Oregon.

## Assessment Information

**Red List Category & Criteria:** Vulnerable A4ce; B1ab(i,ii,iii,iv,v)+2ab(i,ii,iii,iv,v) [ver 3.1](#)

**Year Published:** 2022

**Date Assessed:** February 3, 2021

**Justification:**

*Hypotrachyna riparia* is known from nine locations in Oregon state in the United States of America. Large wildfires pose a serious threat to this species, and in 2020 one of the largest subpopulations was likely extirpated, and at minimum led to a 25% decline in the total population size. The invasion of the Emerald Ash Borer poses an additional threat to the species as it expands its range into Oregon in the coming years. Based on the species' ongoing decline, limited extent of occurrence and area of occupancy, and the ongoing decline of its habitat, it is assessed as Vulnerable (A4ce; B1ab(i,ii,iii,iv,v)+2ab(i,ii,iii,iv,v)).

## Geographic Range

**Range Description:**

This species is found in Oregon, United States of America. It is known from the foothills of the central western Cascade Range in Clackamas, Lane, Linn, and Marion Counties in Oregon. It has been documented in the Willamette National Forest in Oregon, the Northwest Oregon BLM District, and in Fisherman's Bend Recreation Site and a nearby site in Linn County, Oregon.

**Country Occurrence:**

**Native, Extant (resident):** United States (Oregon)

## Population

The site in Fisherman's Bend, Oregon (largest or second largest subpopulation) was impacted by a large wildfire in 2020. All individuals were lost in the fire, which represents ~25% reduction in the overall population size. A nearby site downriver from Fisherman's Bend was not burned and has a small population. The trend in large-scale wildfires in the Pacific Northwest is projected to continue, which will likely lead to continued and future declines in the species' distribution as lichens are not resilient to fires (Miller *et al.* 2018). Furthermore, *Hypotrachyna riparia* primarily occurs on ash trees, and the invasive insect the Emerald Ash Borer is projected to move north into the lichen's range (Nisbet *et al.* 2015). Loss of the primary substrate for *Hypotrachyna riparia* is suspected to lead to substantial declines in the species' population size.

**Current Population Trend:** Decreasing

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

*Hypotrachyna riparia* is most frequently found on shrubs, growing on twigs, and is also found on twigs and boles of deciduous trees such as *Fraxinus latifolia*.

**Systems:** Terrestrial

## Use and Trade

This species is collected for scientific research purposes.

## Threats (see Appendix for additional information)

This species is primarily threatened by large wildfires spreading through lowland forests on the west side of the Cascades. Controlled burns may pose a threat to undocumented locations. The Cottage Grove site is on BLM land and has a potential for logging impacts. The species occurred at Fisherman's Bend campground where intentional thinning to maintain the campground poses a threat. Following thinning, a wildfire destroyed most habitat and no *Hypotrachyna riparia* remain. The species is still extant in riparian forests nearby, along the North Santiam River, but it is close to spreading human populations where recreational use has an impact on the habitat. There is also a possible threat in an invasive species (the Emerald Ash Borer, *Agrilus planipennis*) which is anticipated to disperse to Oregon soon and would cause a loss of substrate and habitat (Nisbet *et al.* 2015). Ongoing logging activities in Pacific Northwest may pose an additional threat (Alig 2003).

## Conservation Actions (see Appendix for additional information)

It has been documented in the Willamette National Forest in Oregon, the Northwest Oregon BLM District, in Fisherman's Bend Recreation Site on the North Santiam River and downstream on private land in Linn County, Oregon. It is currently listed as a rare species by the Oregon Natural Heritage Program. Monitoring extant subpopulations, surveys to locate undocumented occurrences, and research on fire and Emerald Ash Borer impacts would aid in conservation management for this species. This species should be protected at all sites where it occurs.

## Credits

**Assessor(s):** Stone, D., Vilella, J. & Root, H.

**Reviewer(s):** Allen, J.

**Contributor(s):** Loring, S.

**Facilitator(s) and  
Compiler(s):** Lymbery, C. & Allen, J.

## Bibliography

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Nisbet, D., Kreutzweiser, D., Sibley, P. and Scarr, T. 2015. Ecological risks posed by emerald ash borer to riparian forest habitats: A review and problem formulation with management implications. *Forest Ecology and Management* 358: 165-173.

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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	Resident	Suitable	Yes

## Plant Growth Forms

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

Plant Growth Form
M. Fungus
E. Epiphyte
LC. Lichen

## Use and Trade

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

End Use	Local	National	International
14. Research	No	Yes	No
15. Sport hunting/specimen collecting	No	Yes	No

## Threats

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

Threat	Timing	Scope	Severity	Impact Score
5. Biological resource use -> 5.3. Logging & wood harvesting -> 5.3.4. Unintentional effects: (large scale) [harvest]	Ongoing	Majority (50-90%)	Slow, significant declines	Medium impact: 6
	Stresses:	1. Ecosystem stresses -> 1.1. Ecosystem conversion 1. Ecosystem stresses -> 1.2. Ecosystem degradation 2. Species Stresses -> 2.1. Species mortality		
6. Human intrusions & disturbance -> 6.1. Recreational activities	Ongoing	Minority (50%)	Slow, significant declines	Low impact: 5
	Stresses:	2. Species Stresses -> 2.2. Species disturbance		
7. Natural system modifications -> 7.1. Fire & fire suppression -> 7.1.1. Increase in fire frequency/intensity	Ongoing	Majority (50-90%)	Very rapid declines	High impact: 8
	Stresses:	1. Ecosystem stresses -> 1.1. Ecosystem conversion 1. Ecosystem stresses -> 1.2. Ecosystem degradation		

		2. Species Stresses -> 2.1. Species mortality		
8. Invasive and other problematic species, genes & diseases -> 8.1. Invasive non-native/alien species/diseases -> 8.1.2. Named species ( <i>Agrilus planipennis</i> )	Future	Whole (>90%)	Unknown	Unknown
		Stresses:	1. Ecosystem stresses -> 1.2. Ecosystem degradation 2. Species Stresses -> 2.1. Species mortality	

## Conservation Actions in Place

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

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

<b>Conservation Action Needed</b>
1. Land/water protection -> 1.1. Site/area protection

## Research Needed

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

<b>Research Needed</b>
1. Research -> 1.2. Population size, distribution & trends
1. Research -> 1.5. Threats
3. Monitoring -> 3.1. Population trends

## Additional Data Fields

<b>Distribution</b>
Estimated area of occupancy (AOO) (km <sup>2</sup> ): 36
Continuing decline in area of occupancy (AOO): Yes
Extreme fluctuations in area of occupancy (AOO): No

<b>Distribution</b>
Estimated extent of occurrence (EOO) (km <sup>2</sup> ): 9658
Continuing decline in extent of occurrence (EOO): Yes
Extreme fluctuations in extent of occurrence (EOO): No
Number of Locations: 9
Continuing decline in number of locations: Yes
<b>Population</b>
Continuing decline of mature individuals: Yes
<b>Habitats and Ecology</b>
Continuing decline in area, extent and/or quality of habitat: Yes
Generation Length (years): 10



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