

Conservation Status Assessment

Scientific Name: *Tricholoma venenatum*

Classification: Fungus

Assessment area: Global

Heritage Rank: **G3?**

Rank Date: 6/15/2018

Rank Reasons: A good species closely related to *T. pardinum* as supported by phylogenetic analyses by Hibbett & Binder (2002), Vizzini & Ercole (2012), and Heilmann-Clausen et al. (2017, who generated a new ITS sequence from a California specimen, which with the closely related *T. pardinum* was supported in their new section, *Pardinicutis*: "our tree supports "*T. huronense* & *T. venenatum*" as distinct species.) Earlier sequences were generated from eastern North American (NY) type material where the species associates with oak & beech, not conifers. The recent 2017 analyses based on Californian material, however, support the conifer associate as close to (if not identical to) *T. venenatum*. In light of these recent analyses, the listing of the preferred placement in *Melanoleuca* by IndexFungorum is in error (On March 6, 2017, IF Curator Paul Kirk agreed to change the preferred genus to *Tricholoma*). Murrill's placement in *Melanoleuca* is acknowledged in MycoBank but noted as an obligate synonym based on the same type. (Hibbett, David S.; Binder, Manfred. 2002. Evolution of complex fruiting-body morphologies in Homobasidiomycetes. *Proc. Roy. Soc. Lond. B* 269: 1963–1999. PDF available online. ; Vizzini, Alfredo; Ercole, Enrico. 2012. *Paralepistopsis* gen. nov. and *Paralepista* (Basidiomycota, Agaricales). *Mycotaxon* 120: 253–267. ; Heilmann-Clausen, J.; Christensen, M.; Frøslev, T.G.; Kjølner, R. 2017. Taxonomy of *Tricholoma* in northern Europe based on ITS sequence data and morphological characters. *Persoonia* 38: 38–57. [PDF available online] ;

Range Extent: H = >2,500,000 sq km (> 1,000,000 sq mi)

Comments: The range of this species is over 4 million sq. km. The type specimen is from New York state. There are several collections from Michigan. There are additional collections from Massachusetts, Pennsylvania, North Carolina, Minnesota, Wisconsin, and Iowa in eastern North America. There are also collections from Colorado and New Mexico. Castellano, et al. (1999) mention a single Washington collection from the Olympic Peninsula, but the in the 2002 ranking, L. Norvell states that the specimen was misidentified. She mentions that the eastern collections were associated with hardwoods, which are not present in the Olympic rainforest. The Olympic collection is not in the agency database in the 2016 download, but there is a herbarium record from Cispus, Washington (collected in 1977 but not mentioned in Castellano 1999 or the 2002 ranking). Cispus is also unlikely to have ectomycorrhizal hardwood tree species. In Oregon there are a number of collections from the Siskiyou and Cascade foothills of Douglas, Jackson, and Josephine County, areas with significant amounts of *Quercus*. There are also two sites in the Cascades of Lane and Klamath Counties (the Klamath collection is identified as *T. venenatum* C.F.). Those sites are unlikely to have *Quercus*, but they may have *Castanopsis*. Castellano, et al. 1999 and the 2002 ranking mention collections from the Sierras and Shasta County, California. They mentions several collections in the SFSU herbarium, but the mycoportal.org database does not have a record of them. There are no records in the region 5 Forest Service database from California either. It may be that the western collections are an undescribed species that differs from the eastern *T. venenatum* in that it is mycorrhizal on conifers rather than hardwoods (Kuo 2004). (Castellano et al. 1999. Handbook to Strategy 1 Fungal Species in the Northwest Forest Plan. USDA-FS PNWRS PNW-GTR-476. ; Kuo, M. (2004, December). *Tricholoma venenatum*. Retrieved from the MushroomExpert.Com Web site: http://www.mushroomexpert.com/tricholoma_venenatum.html, accessed January 2017).

Population Size: Not assessed

Comments: None

Number of Occurrences: C = 21 - 80

Comments: There are 23 known occurrences of this species across its range.

Area of Occupancy: E = 26-125 4-km² grid cells

Comments: This species occupies 28 grid squares across its range.

Good Viability: B = Very few (1-3) occurrences with excellent or good viability or ecological integrity

Comments: The Colorado site is in Rocky Mountain National Park.

Environmental Sensitivity: B = Narrow. Specialist or community with key requirements common

Comments: Mycorrhizal on hardwood and potentially conifer trees.

Short Term Trends: Not Evaluated

Comments: None

Long Term Trends: Not Evaluated

Comments: None

Threat Impact: BC = High - Medium

Comments:

13 of 23 occurrences have a college campus or city (including Detroit and Ann Arbor, Michigan) as the location information. Many of those collections are relatively old as well. Those sites may be threatened by residential development. Approximately 97% of sites are not in permanently protected areas. If those sites are logged on a 40 year rotation, around 24% of sites would be impacted over 10 years and around 97% of sites would be impacted over 100 years.

Intrinsic Vulnerability: Not Evaluated

Comments: None

Calculated Rank: G3?

Rank Author: Michael Russell; Lindsey Wise

Rank Reviewer: Lorelei Norvell; Lindsey Wise

References:

No additional references listed.

Definitions and Resources:

Rank Prefixes

	G	Global rank, applied to taxon's full geographic range
	S	State rank, applied to taxon's range within the designated state
Rank Values		
	1	Critically imperiled
	2	Imperiled
	3	Vulnerable
	4	Apparently secure, uncommon but not rare
	5	Secure, common, abundant, and widespread

Suggested citation:

Oregon Biodiversity Information Center. 2017. Fungi Conservation Status Assessments. Institute for Natural Resources, Portland State University and Oregon State University. Portland, Oregon and Corvallis, Oregon.

More assessments available at <http://inr.oregonstate.edu/orbic/rare-species/ranking-documentation>

Element rank calculator resources at <http://www.natureserve.org/conservation-tools/conservation-rank-calculator>

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