

Heritage Rank Status Factors

Elcode NFSM000108
Gname MYTHICOMYCES CORNEIPES
Gcomname

Number of Occurrences

C = 21- 80

Comments The number of occurrences worldwide is not known but it is regarded everywhere as rare; probably fewer than 30 occurrences have been documented, although it may be more common than has been demonstrated. Redhead & Smith 1986 report 17 collections from North America, and Huhtinen & Vauras (1992) note 5 occurrences in Scandinavia. In the northern spotted owl region of the US, there are 9 occurrences represented by 10 collections of *Mythicomycetes corneipes* in OR and WA (Redhead & Smith 1986; Norvell 1998, 10-23-02; ISMS-ONH 2002). Continued fungal surveys and closer scrutiny of boggy or frequently flooded forested areas for small somewhat inconspicuous mushrooms should uncover more sites.

Number of Occurrences with Good Viability

U = Unknown what number of occurrences with good viability

Comments Too much is unknown about the dispersal of *Mythicomycetes corneipes* to predict the number of viable occurrences from known sites. However, Huhtinen & Vauras (1992) were successful in monitoring one site over a one year period.

Population Size

U = Unknown

Comments Records reflect only species occurrence, i.e. fruitbodies, not numbers of individuals. Fungal genets cannot be delimited without DNA sampling.

Range Extent

G = 200,000-2,500,000 km² (about 80,000-1,000,000 square miles)

H = > 2,500,000 km² (greater than 1,000,000 square miles)

Comments A boreal, rare mushroom with a wide distribution; Redhead & Smith (1986) and Huhtinen & Vauras (1992) verified collections from eastern and western Canada, the western United States, Great Britain, Norway, Sweden, and Finland. Within the northern spotted owl region in western North America, *Mythicomycetes corneipes* is known only from Washington and Oregon. (Norvell (1998); ISMS Database 2002 and GIS map for *Mythicomycetes corneipes*).

Area of Occupancy

U = Unknown

LU = Unknown

Comments Area of occupancy can only be roughly approximated from fungal fruitbodies as the vegetative organism is hidden from site within the substrate. Saprophytic fungi have spotty distributions that are tied to the presence of appropriate substrates.

Long-term Trend in Population Size, Extent of Occurrence, Area of Occupancy, and/or Number or Condition of Occurrences

Comments Collection data is too sparse and occurrences are too spotty and rare to predict extant occurrences, frequency, occupancy, or short and long-term trends. Presumably stable as long as the habitat is retained (boggy or frequently inundated areas in association with conifers and alders).

Short-term Trend in Population Size, Extent of Occurrence, Area of Occupancy, and/or Number or Condition of Occurrences

Comments Collection data is too sparse and occurrences are too spotty and rare to predict extant occurrences, frequency, occupancy, or short and long-term trends. Presumably stable as long as the habitat -- boggy or frequently flooded areas in association with conifers and alders -- is retained.

Threats

D = Moderate, non-imminent threat. Threat is moderate to severe but not imminent for a significant portion of the population, occurrences, or area.

Scope Moderate Severity Moderate Immediacy Unknown

Comments *Mythicomyces corneipes* is found along margins of northern bogs or on wet soil under conifers and alders. Whatever threatens the general habitat, microclimates, and/or substrate can imperil *Mythicomyces corneipes*. All populations are at risk to incidental catastrophic events, such as hot fires, and unmonitored human interference. Unprotected occurrences are at risk from logging activities such as brush clearing or stream diversion or clearcutting (Norvell pers comm 2002).

Number of Appropriately Protected and Managed Occurrences

U = Unknown whether any occurrences are appropriately protected and managed

Comments Too much is unknown about the dispersal of the species to predict the number of viable occurrences from the few known sites on a worldwide basis. ISMS-ONH (2002) lists 7-8 past occurrences in protected areas: 5 in permanent protected reserves, 2 in late-successional reserves, and 1 either in riparian reserves or in the unprotected matrix. The opening of late-successional and/or riparian reserves to logging, road construction, or development, could decrease the protected sites to 5. No sites are managed specifically for *Mythicomyces corneipes*.

Intrinsic Vulnerability

A = Highly Vulnerable. Species is slow to mature, reproduces infrequently, and/or has low fecundity such that populations are very slow (> 20 years or 5 generations) to recover from decreases in abundance; or species has low dispersal capability such that extirpated populations are unlikely to become reestablished through natural recolonization (unaided by humans). Ecological community occurrences are highly susceptible to changes in composition and structure that rarely if ever are reversed through natural processes even over substantial time periods (> 100 years).

Comments *Mythicomyces corneipes* is presumed vulnerable to removal of substrate or existing habitat. It is also vulnerable to alteration of microhabitats and microclimate regimes (logging, stream diversion, road construction, development, drying out of immediate fruiting vicinity).

Environmental Specificity

A = Very Narrow. Specialist or community with key requirements scarce.

B = Narrow. Specialist or community with key requirements common.

Comments Mythicomycetes corneipes is solitary to gregarious along margins of northern bogs among mosses or in sites flooded in the spring near conifers and alders (Huhtinen & Vauras 1992). The substrate is plant debris, mainly pieces of wood (Redhead & Smith 1986). A Norwegian site is a small brook ravine in a spruce forest that is regularly inundated and has relatively open vegetation without a continuous moss cover. Recent Swedish and Finnish sites are from moist, moss-rich spruce forests, and in one instance Mythicomycetes corneipes was found fruiting on a stump. A Finnish site has a fragmented complex moss layer composed of 5 mosses and 1 liverwort. There, Mythicomycetes corneipes was found fruiting once on Athyrium rachides but generally the fruitbodies occur on mineral soil mixed with litter or on small hardwood and softwood branches partly buried in soil. The pH reaction of the alluvial soil varies between 5.8-5.9 (Huhtinen & Vauras 1992).

Other Considerations

NRANK - N2N4. Mythicomycetes corneipes (Fr.) Redhead & Smith Can. J. Bot. 64:643. 1986 is rare where found. Excellent descriptions can be found in Redhead & Smith (1986) and Huhtinen & Vauras (1992). The King's Valley Polk County report is made here for the first time (Norvell 2002 pers comm).

Edition 11/26/2002 **Edauthor** Lorelei L Norvell

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Reasons

Mythicomycetes corneipes is a saprophytic fungus dependent upon very moist organic matter in complex habitats. The species has a boreal distribution and is known from Canada, the Pacific Northwest United States, England, and Scandinavia. The number of occurrences worldwide is not known but it is regarded everywhere as rare; probably fewer than 30 occurrences have been documented, although it may be more common than has been demonstrated. 5 sites are known in Scandinavia, Within the northern spotted owl region in the U.S. there are 9 confirmed occurrences, of which 8 lie in currently protected forest reserves. Its complex biology precludes estimation of population size, area of occupancy, and long-term trends. All populations are at risk to incidental catastrophic events such as wildfire and anything that destroys the substrate or dries out the sites.

BCD Sources

New Sources

Norvell. 1998. ROD: Strategy 3 Fungal Species Evaluation (11 gilled Basidiomycete Strategy 3 species). Unpubl. report on file at the Regional Mycology Lab, Corvallis, Oregon. ALSO Redhead & Smith. 1986. Two new genera of agarics based on Psilocybe corneipes and Phaeocollybia perplexa. Can J Bot 64: 643-647. ALSO Huhtinen & Vauras. 1992. Mythicomycetes corneipes, a rare agaric, in Fennoscandia. Karstenia 32: 7-12. ALSO ISMS-ONH. 2002. ISMS data; ONH protection extrapolations; GIS map for MYCO11. ALSO Norvell 10-23-02 microscopic confirmation of MYCO11 from Oregon Mycological Society Show [voucher retained].