

# Oregon Status Factors

**Elcode** NFSM000108  
**Gname** MYTHICOMYCES CORNEIPES  
**Gcomname**

## Number of Occurrences

A = 1 - 5

**Comments** In the northern spotted owl region of Oregon, there are 3 occurrences of MYCO11 in OR (Redhead & Smith 1986; Huhtinen & Vauras 1992; 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

B = Very few (1-3) occurrences with good viability

**Comments** Too much is unknown about the dispersal of MYCO11 to predict the number of viable occurrences from known sites, although Huhtinen & Vauras (1992) were successful in monitoring one site over a one year period. Two collections were made in 1937 and 1947 and the habitat may no longer be extant. The collection reported by Norvell (10-23-02) was made in 2002 from the Valley of the Giants, in Polk County, a late successional reserve forest.

## 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

E = 5,000-20,000 km<sup>2</sup> (about 2,000-8,000 square miles)

F = 20,000-200,000 km<sup>2</sup> (about 8,000-80,000 square miles)

**Comments** Within Oregon, MYCO11 is known from three sites: Belknap Springs (Lane County in 1937), the Upper Salmon River in the Mt Hood National Forest (1947), and Valley of the Giants in Polk County (2002). (Norvell 1998, 10-23-02).

## Area of Occupancy

U = Unknown

LU = Unknown

**Comments** Area 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** MYCO11 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 MYCO11. 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**

A = None. No occurrences appropriately protected and managed

B = Few (1-3) occurrences appropriately protected and managed

**Comments** ISMS-ONH (2002) lists 1 1937 known site in either in a riparian reserve or in the unprotected matrix. Norvell (10-23-02 pers comm) adds another in a late-successional reserve. The opening of late-successional and/or riparian reserves to logging, road construction, or development, could decrease the protected sites to 0 (rank 0). No sites are managed specifically for MYCO11.

### **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** MYCO11 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** MYCO11 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 MYCO11 was found fruiting on a stump. A Finnish site has a

fragmented complex moss layer composed of 5 mosses and 1 liverwort. There MYCO11 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

ORNHIC - List 2. *Mythicomyces 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).

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## Greasons

MYCO11 is a saprophytic fungus dependent upon very moist organic matter in complex habitats. The species has a boreal distribution and is known from Canada, PNW United States, England, and Scandinavia, where it is universally regarded as rare. 3 sites are known in Oregon within the northern spotted owl region, one of which is extant and lies within a late-successional reserve. MYCO11's 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. *Mythicomyces 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].