Oregon Status Factors

Elcode NFSM000183

Gname STAGNICOLA PERPLEXA

Gcomname

Number of Occurrences

A = 1 - 5

Comments Only 2 occurrences & collections have been confirmed for Oregon. Redhead & Smith 1986, Norvell 1998, ISMS-ONH). It is possible that fungal surveys may uncover more sites, but the species is rare in the state and may be near the southern limit of its range.

Number of Occurrences with Good Viability

U = Unknown what number of occurrences with good viability

Comments The most recent collection for which there are sufficient data to facilitate searching known sites for extant occurrences was made from a vague locality in the Mt Hood National 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

F = 20,000-200,000 km2 (about 8,000-80,000 square miles)

Comments In Oregon STPE11 has been collected only from Mt Hood NF, Clackamas County in 1946 and near the “North Fork” of the Rogue River (listed as Douglas County by the collector) in 1958(Redhead & Smith 1986 , Norvell 1998). This is a continuation of occurrences along the Cascade crest in Washington.

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/bryophilous 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

U = Unknown. Long-term trend in population, range, area occupied, or number or condition of occurrences unknown

Comments STPE11 is saprophytic on very rotten conifer wood in boggy or wet areas or recently dried depressions in boreal coniferous forests. Individuals are thought to reproduce through spore dispersal and mycelial interactions with other individuals. Longevity of individuals and populations is unknown. Incidental catastrophic events and/or removal of the substrate and habitat may have

or may yet imperil known populations. Its rarity, spotty distribution and/or the lack of adequate information on its biological requirements & current habitats at historical preclude estimating long- or short-term trends for STPE11 (Norvell 2002 pers comm).

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

U = Unknown. Short-term trend in population, range, area occupied, and number and condition of occurrences unknown.

Comments See above. STPE11's rarity, spotty distribution and/or the lack of adequate information on its biological requirements & current habitats at historical preclude estimating long- or short-term trends for STPE11 (Norvell 2002 pers comm).

Threats

U = Unknown. The available information is not sufficient to assign degree of threat as above. (Severity, scope, and immediacy are all unknown, or mostly [two of three] unknown or not assessed [null].)

Scope	Moderate	Severity	Unknown	Immediacy	Unknown

Comments STPE11 is known from primarily LSOG forested areas on rotten conifer wood and chips in boggy areas or wet depressions. Whatever threatens the substrate, microclimate, and/or general habitat can imperil the associated organism. 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 removal of the substrate and underlying soil. The rarity of known occurrences increases the scope of the estimated threat at this time (Norvell pers comm 2002).

Number of Appropriately Protected and Managed Occurrences

A = None. No occurrences appropriately protected and managed

Comments ISMS-ONH (2002) places the 2 known sites in protected areas: 1 in a congressionally withdrawn forest reserve and the other in a late-successional forest reserves. However, as the actual collection sites could range anywhere within or over a 10-100 mile radius, these sites probably should not be considered protected. They are certainly not managed for Stagnicola perplexa.

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).
B = Moderately Vulnerable. Species exhibits moderate age of maturity, frequency of reproduction, and/or fecundity such that populations generally tend to recover from decreases in abundance over a period of several years (on the order of 5-20 years or 2-5 generations); or species has moderate dispersal capability such that extirpated populations generally become reestablished through natural recolonization (unaided by humans). Ecological community occurrences may be susceptible to changes in composition and structure but tend to recover through natural processes given reasonable time (10-100 years).

Comments STPE11 is particularly vulnerable to removal of substrate and underlying soil, and destruction of habitat through incidental catastrophic events (climate change brought on by global warming, hot fires, drought) or human interference. It is particularly vulnerable to alteration of microhabitats and microclimate regimes caused by logging activities, stream diversion, road construction, and development (Norvell 2002 pers comm.).

Environmental Specificity

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

Comments STPE11 is generally found in coniferous boreal forests where it produces gregarious fruitbodies on very rotten coniferous wood or chips in boggy areas or recently dried depressions. There is an inferred (but not statistically demonstrated) preference for late-successional to old-growth forests. Its precise biological and ecological requirements are unknown. It fruits in the late summer to early autumn in the northern spotted owl region, but its phenology is unpredictable and occurrence erratic.

Other Considerations

ORNHIC - List 2. Stagnicola perplexa (Orton Redhead & Smith Can J Bot. 64: 65. 1986. is the type species for a monotypic genus molecularly shown to belong to Eugarics Incertae Sedis: within the euagarics but well separated other the other 876 homobasidiomycete taxa tested in that paper (Moncalvo et al. 2002), including Psilocybe. Its previous synonym is Phaeocollybia perplexa Orton.

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Grank S1S2 **Grank Date** 11/26/2002

Greasons

STPE11, saprophytic on coniferous wood, is a rare species endemic to coniferous boreal forests. Collection data on Oregon occurrences are too fragmentary to identify either of two occurrence sites realistically. Only 2 sites have been documented and neither appears to lie within a protected forest reserve managed specifically for the fungus. Its unknown biology precludes estimation of population size, area of occupancy, and long- and short-term trends. All populations are at risk to incidental catastrophic events such as wildfire and anything that removes or destroys the substrate and underlying soil and/or its surrounding habitat.

BCD Sources

New Sources

REFERENCES: 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 Watling, Gregory, Orton. 1993. Stagnicola. IN British fungus flora Agarics & Boleti 7. Edingurgh: Royal Botanic Garden. ALSO Laber & Marklund. 1992. Stagnicola perplexa (Orton) Redhead & Smith <- Agaricus ciaris var minor Fries, eine sehr seltene Art in Europa? Zeitschrift fur Mykologie 58: 53-56 [German]. ALSO ISMS-ONH. 2002. ISMS data; ONH protection extrapolations; GIS map for STPE11. ALSO Moncalvo, Vilgalys, Redhead + 11 other authors. 2002. One hundred and seventeen clades of euagarics. Molecular Phylogenetics and Evolution 23: 357-400.