

Heritage Rank Status Factors

Elcode NFSM000127
Gname PHAEOCOLLYBIA PSEUDOFESTIVA
Gcomname

Number of Occurrences

C = 21- 80

Comments There are 50 known collections representing 31 occurrences of *Phaeocollybia pseudofestiva* in BC, WA, OR, and CA. Continued fungal surveys may uncover more sites. (Norvell 1998abc; ISMS 2002 data)

Number of Occurrences with Good Viability

D = Some (13-40) occurrences with good viability

Comments 25 occurrences are extant. 11 lie within permanently protected areas, and 10 lie within late-successional and riparian forest reserves and so are protected at the present time.

Population Size

U = Unknown

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

Range Extent

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

Comments An endemic restricted to the northern spotted owl region in Pacific Northwest North America, PHPS3 ranges from the Carmanah Valley on Vancouver Island south along the Pacific Coast to the Santa Cruz mountains and east in Oregon to Mt Hood and south along the west slope of the Cascade range to the southern part of the Willamette National Forest. (Norvell 1998ac; ISMS Database 2002 and GIS map for PHPS3).

Area of Occupancy

U = Unknown

LU = Unknown

Comments Occupancy is highly spotty and cannot be extrapolated for this organism, which appears restricted to fairly complex environments. There are large areas of unsuitable habitat within the overall range. Area occupancy can only be roughly approximated from fungal fruitbodies as the vegetative organism is hidden from site within the substrate. PHPS3 is an ectomycorrhizal fungus with unknown biological and ecological requirements that determine how and when symbiotic associations are formed with partners. (Norvell 1990ab).

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 Due to PHPS3's spotty distribution, it is difficult to project a long-term trend in population size, extent of occurrence, or area of occupancy. PHPS3 is ectomycorrhizal, so its trends are closely linked to the trees that are its symbiotic partners in LSOG forests where it forms mycorrhizal associations with conifers and/or fagaceous partners. Individuals are less dependent upon spore dispersal than upon mycelial interactions with other individuals and their mycorrhizal partners. Trends will also be determined by occurrence of hot fires and human alteration of the habitats. Although its symbiotic association with *Quercus* or *Lithocarpus* is only suspected at this time (its more frequent occurrence in strictly coniferous forests suggests a preference for members of the Pinaceae, PHPS3 may be at additional risk to the sudden oak disease *Phytophthora*. (Norvell 2002 pers comm)

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

E = Stable. Population, range, area occupied, and/or number or condition of occurrences unchanged or remaining within $\pm 10\%$ fluctuation

Comments PHPS3 is an ectomycorrhizal fungus dependent upon the health of its symbiotic partner. Natural catastrophes or human activities that imperil the health of the tree partner will compromise both tree and fungus. Current occurrences are uncommon to rare, but 15-22 occur in permanent or temporary reserves. The species is believed to be relatively stable over the short term (but see note above) (Norvell 1998a, 2002 pers comm; ISMS 2002 data).

Threats

G = Slightly threatened. Threats, while recognizable, are of low severity, or affecting only a small portion of the population, occurrences, or area. Ecological community occurrences may be altered in minor parts of range or degree of alteration falls within the natural variation of the type.

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| Scope | Low | Severity | Unknown | Immediacy | Low |
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Comments Whatever threatens the extant forest will threaten the fungus. This species has almost exclusively been collected from late successional forests. Populations may be long-lived: it is possible that two collections made in California in 1935 and 1956 represent one population (Norvell 2002 pers comm). (Norvell 1998ac). Like the forest, PHPS3 is threatened by hot fires, road construction or other development, and clearcutting (Norvell pers comm 2002). At least 11 occurrence sites lie within permanently protected areas throughout the overall range. (Norvell 1998a; ISMS 2002 data)

Number of Appropriately Protected and Managed Occurrences

C = Several (4-12) occurrences appropriately protected and managed

D = Many (13-40) occurrences appropriately protected and managed

Comments ISMS (2002) and Norvell (1998ac) cite ~17-21 occurrences in protected areas: ~13 (2 may not be extant) in permanent protected preserves, 5 in late-successional reserves, and ~ 1-5 in riparian reserves. If governmental management policies dictate opening late-successional and/or riparian reserves to clearcutting, road construction, or other development, the number of protected and managed occurrences could decrease to 9-11 (Rank C). Additionally, many sites in temporary reserves may not be managed appropriately at the present time.

Intrinsic Vulnerability

U = Unknown

Comments Ectomycorrhizal fungal vulnerability is linked to that of the symbiotic partner (here trees). This fungus may be long-lived and is historically found in older stands. (Norvell pers comm 2002). It is vulnerable to anything that threatens the forest habitat, including hot fires, road construction and development, and clearcutting. PHPS3 has a highly sporadic and spotty distribution.

Environmental Specificity

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

Comments PHPS3 is generally found in complex late-successional or old growth coniferous (mixed fagaceous-coniferous in southern Oregon and California) rainforests where it forms symbiotic partnerships with Pinaceae spp and possibly Quercus or Lithocarpus. Its precise biological and ecological requirements are unknown. It has been found only in the western northern spotted region in North America. It fruits generally late in the fall season. Like all Phaeocollybias, it is extremely patchy in distribution. (Norvell 1998ab).

Other Considerations

NRANK - N3. Phaeocollybia pseudofestiva has no known synonyms. It is restricted to the northern spotted region of North America west of the Cascade crest. Where it is uncommon to rare.

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Grank G3 **Grank Date** 11/21/2002

Reasons

PHPS3 is uncommon to rare in BC, WA, and CA and uncommon in OR where more fungal surveys have been made. There are 31 confirmed extant occurrences, of which ~17-21 lie in currently protected forest reserves. It is endemic and restricted to the western northern spotted owl region in BC, WA, OR, CA. Its extreme patchy distribution and unpredictable phenology preclude estimation of population size and area of occupancy. One population MAY (based on historical data) have been sampled over a 21 year period. The stability of extant populations is unknown over the long term. The 14 unprotected occurrences may be threatened by road construction & development and clearcutting or heavy thinning. All occurrences are imperiled by hot fires.

BCD Sources

New Sources

Norvell. 1998a. The biology and taxonomy of Pacific Northwest species of Phaeocollybia Heim. 391 pp.
Norvell. 1998b. . Observations on the development, morphology, and biology of Phaeocollybia. Mycological Research 102:615-630.
Norvell. 1998c. ROD: Strategy 3 Fungal Species Evaluation (11 gilled Basidiomycete Strategy 3 species). Unpubl. report on file at the Regional Mycology Lab, Corvallis, Oregon.
ISMS 2002 database and GIS map on PHPS3