

Oregon Status Factors

Elcode NFSM000119
Gname PHAEOLLYBIA DISSILIENS
Gcomname

Number of Occurrences

C = 21- 80

Comments Including historical occurrences (Norvell 1995, Norvell 1998a, Norvell pers comm.) not cited in the ISMS 2002 database, there are 22 known occurrences, all within Oregon.

Number of Occurrences with Good Viability

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

Comments Approximately 20 occurrences are believed extant, all in Oregon.

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 Endemic to the northern spotted region in Oregon, *Phaeocollybia dissiliens* has been found from Oswald West State Park south along the coast and coast range to Myrtle Point and east past Salem to the west slope of the Cascades and south to the Eugene area..

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. For fungi can only estimate area occupancy from fruitbodies as vegetative organism is underground had has unknown biological and ecological requirements that determine how and when ectomycorrhizal associations are formed with coniferous host trees. The fungus fruits sporadically (not annually) and produces solitary to scattered fruitbodies.

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

E = Relatively Stable ($\pm 25\%$ change)

Comments Due to the spotty nature of the occurrences, it is difficult to project a long-term trend in population size, extent of occurrence, or the area of occupancy. Ectomycorrhizal fungal stability in general is tied to the stability of the coniferous partner trees. It would be fair to estimate a long-term trend in population size based on the forest trend. The species occurs within low-lying or highly humid generally late-successional coniferous forests. It is probably less dependent upon spore dispersal than on associations with mycorrhizal partners. (Norvell 1998ab). Recent surveys in

Oregon have considerably extended the known range. It is only known from Oregon.

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 Ectomycorrhizal fungal stability in general is tied to the stability of the coniferous partner trees. It would be fair to estimate a short-term trend in population size based on the forest trend. Nonetheless, it appears stable in its range (Oregon).

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.

Scope Low Severity Low Immediacy Low

Comments Ectomycorrhizal fungal stability depends on the stability of the coniferous partners, so that what threatens the extant forests threaten the organism. Would be threatened by hot fires, development, and heavy logging activities.

Number of Appropriately Protected and Managed Occurrences

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

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

Comments Including historical (Norvell 1995, 1998a, pers comm 2002) and recent (ISMS 2002) occurrences, 2 occurrences lie in permanent protected preserves, 5 in late-successional reserves, and ~2 in riparian reserves. If governmental management policies dictate opening late-successional and/or riparian reserves to logging or development, the 9 protected and managed occurrences would be reduced to 2. It is also not known whether the sites in the temporary reserves are managed sufficiently to ensure their survival.

Intrinsic Vulnerability

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 Ectomycorrhizal fungal vulnerability generally is linked to that of the coniferous partner trees. This fungus, however, has been found in relatively well-established late-successional stands, including the 100-year old McDonald Douglas Fir plantation (Norvell 1998ab). It is vulnerable to anything that threatens the forest habitat, including hot fires, heavy logging (not moderate to light thinning, Norvell pers. Comm. 2002), and development.

Environmental Specificity

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

Comments The precise biological/ecological requirements of *P. dissiliens* is not known. It is generally found scattered to (rarely) gregarious in saturated soils from mid to late autumn. It is mycorrhizal and thought to form symbiotic associations with *Picea sitchensis*, *Pseudotsuga menziesii*, and *Tsuga heterophylla*, often near flood plains or swampy areas (Norvell 1998a, 2002 pers comm).

Other Considerations

ORNHIC - List 3. Distribution is patchy and predictable and the organism can be difficult to identify when the fruitbody has aged (Norvell 2002). Additional occurrences are to be expected in late-successional or unexplored old-growth forests. There are several protected sites. Believed endemic and restricted to the Oregon coast and the Willamette valley fringe. It is uncommon to rare.

Edition 11/18/2002 **Edauthor** Lorelei L Norvell

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Greasons

The species has a wide enough distribution in Oregon and is currently protected in enough reserves to preserve the species from extirpation. Should the late-successional or riparian reserves be opened to logging and development, however, the species might well be at risk. All populations are vulnerable to hot fires. Total predicted occurrences are probably ~40 within its overall range. Large areas within the overall range, including several cities, lack appropriate habitat. It appears to require complex forests in very moist areas, although some collections have been noted near 2000' in the coast range. The spotty distribution and unpredictable phenology complicate ranking this organism.

BCD Sources

New Sources

Norvell. 1998a. The biology and taxonomy of Pacific Northwest species of *Phaeocollybia* Heim. 391 pp. ALSO Norvell. 1998b. . Observations on the development, morphology, and biology of *Phaeocollybia*. *Mycological Research* 102:615-630. ALSO Norvell. 1995. ROD: Strategy 1 Fungal Species Evaluation (30 gilled and non-gilled Basidiomycete Strategy 1 species). Unpubl. report on file in the Regional Mycology Lab, Corvallis, Oregon. ALSO Castellano et al. 1999. Handbook to Strategy 1 Fungal Species in the Northwest Forest Plan. USDA-FS PNWRS PNW-GTR-476. ALSO ISMS GIS map for PHDI16