Oregon Status Factors

Elcode NFSM000035

Gname COLLYBIA RACEMOSA

Gcomname

Number of Occurrences

B = 6 - 20

Comments In the northern spotted owl region in Oregon, there are 9 known occurrences represented by 9 collections of CORA16 cited in the ISMS database (2002).

Number of Occurrences with Good Viability

U = Unknown what number of occurrences with good viability

Comments Too much is unknown about the dispersal of the species to predict the number of viable occurrences from known sites.

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 CORA16 is widely distributed in Oregon throughout the range of the northern spotted owl and ranges from Mt Hood south along the western slope of the Cascades to the California border and west to the Siuslaw near the Pacific ocean. Distribution is spotty throughout. (ISMS-ONH and GIS map for CORA16).

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. Mycoparasitic fungi have spotty distributions that are determined by the presence of the intended host (in this case mushroom fruitbodies of unknown identity) and other unknown factors. The area of occupancy in this instance can be assumed to be quite localized.

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 Collection data are too sparse and occurrences too spotty and rare to predict long term trends for CORA16.

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 Collection data are too sparse and occurrences too spotty and rare to predict short term trends for CORA16

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 Unknown Severity Unknown Immediacy Unknown

Comments Collection data are sparse and occurrences too spotty and rare to predict what threats will imperil CORA16. Occurrences are dictated by the presence of the intended host (mushrooms of unknown identity) within forested areas. Presumably whatever threatens the intended host, general habitat, microclimates, and/or host's substrate or symbiotic partner will likewise imperil CORA16. Other threats include incidental catastrophic events (wildfires), road construction, development, and heavy logging activities (Norvell pers comm 2002).

Number of Appropriately Protected and Managed Occurrences

A = None. No occurrences appropriately protected and managed

Comments Within the northern spotted owl region, ISMS (2002) cites 1-3 known sites lie in protected areas: 1 in a late-successional reserve and 2 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 occurrences to zero (Rank A). No sites are managed for CORA16.

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 CORA16 is mycoparasitic and fruits after rapidly digesting its mushroom hosts; it also forms protective sclerotia that are assumed to enable it to lie dormant for long periods. Presumably CORA16 is vulnerable to removal of the host mushroom and substrate prior to fruiting or sclerotia formation, to removal or destruction of the sclerotia within the litter and mushroom residue, and to destruction of the habitat that fosters growth of the intended host. It is also presumably vulnerable to alteration of microhabitats and microclimate regimes (stream diversion, road construction, development), incidental catastrophic events, and logging activities that would displace the protective sclerotia and/or host mushroom population.

Environmental Specificity

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

Comments CORA16 is a mycoparasite that fruits on host mushrooms after rapid digestion of the host. It produces both sexual and asexual spores and forms protective sclerotia that presumably enable it to lie dormant for long periods and from which it can grow vegetatively and/or produce new fruitbodies. The host mushroom species is not known nor is it known whether CORA16 is species specific. Most biological requirements still remain unknown.

Other Considerations

ORNHIC - List 3. The species name should be listed as Dendrocollybia racemosa (Pers. : Fr.) Petersen & Redhead in Hughes et al. Mycol. Res. 105: 169. CORA16 is the type of the monotypic new genus Dendrocollybia (Hughes et al 2001). It is widespread in the northern hemisphere but always locally rare (Desjardin 1998). CORA16 is parasitic on fleshy mushrooms, which it rapidly digests; it produces sexual and asexual spores as well as forms protective sclerotia.

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Greasons

Despite a wide distribution throughout the northern hemisphere, CORA16 is everywhere rare. It is a mycoparasite; its hosts are fleshy mushrooms in forest settings. Within the northern spotted owl region of Oregon, CORA16 is also rare, with only 9 occurrences documented in the ISMS-ONH 2002 database. Collection data is too sparse and occurrences are too spotty and rare to predict extant occurrences, frequency, occupancy, or short and long-term trends. 1-3 historical sites within the state lie in currently protected forest reserves. It is presumed that CORA16 is imperiled by extirpation of its intended host, possibly removal or displacement of the host habitat, and other common threats including incidental catastrophic events (wildfire) and anything that removes or destroys the substrate and the protective sclerotium..

BCD Sources

New Sources

Hughes, Petersen, Johnson + 5 other authors. 2001. Infragenic phylogeny of Collybia s str based on sequences of ribosomal ITS and LSU regions. Mycological Research 105: 164-172. ALSO Desjardin. 1998. ROD: Strategy 3 Collybia racemosa evaluation in unpubl. report on file at the Regional Mycology Lab, Corvallis, Oregon. ALSO ISMS-ONH. 2002. ISMS data; ONH protection extrapolations; GIS map for CORA16.