

Washington Status Factors

Elcode NFSM000034
Gname COLLYBIA BAKERENSIS
Gcomname

Number of Occurrences

B = 6 - 20
C = 21 - 80

Comments The number of occurrences outside the northern spotted owl region in Washington is not known. 14 occurrences have been documented by Williams (1975) and Desjardin & Halling (1987). Fungal surveys should uncover more sites. ISMS-ONH (2002) cites 11 occurrences.

Number of Occurrences with Good Viability

C = Few (4-12) occurrences with good viability

Comments All information reported are based on historical occurrences known to occur in currently protected areas. Given the vigor of communities in Oregon and California, it is presumed that all 11 communities are extant. (ISMS-ONH 2002)

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 Endemic to western North America, in Washington *Collybia bakerensis* is documented from the Olympic Peninsula and from Mt Baker south to Mt Rainier Park (Williams 1975; ISMS-ONH 2002 and GIS map for *Collybia bakerensis*).

Area of Occupancy

U = Unknown

LU = Unknown

Comments Area of occupancy can only be roughly approximated from fungal fruitbodies as the vegetative organism is hidden from site within the substrate. Saprophytic and/or bryophilous fungi have spotty distributions that are tied to the presence of appropriate substrates. The area of occupancy in this instance cannot be predicted. (Norvell 2002 pers comm.)

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 *Collybia bakerensis* is saprophytic on standing or fallen *Abies*, *Tsuga*, or *Picea* (Williams 1975 Desjardin & Halling 1987). Substrate removal or destruction imperils the species. *Collybia*

bakerensis can be relatively common. Longevity of individuals and populations is unknown. Lack of adequate information on its biological requirements and/or the long-term availability of suitable substrates at known sites preclude estimating a long-term trend for *Collybia bakerensis*, which is either infrequent or undercollected in the state (Norvell 2002 pers comm).

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

D = Declining. Decline of 10-30% in population, range, area occupied, 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 *Collybia bakerensis*, a saprophyte on standing or fallen *Abies*, *Tsuga*, or *Picea* is either infrequent to rare in Washington or undercollected. Incidental catastrophic events and/or removal of the standing or fallen conifers can imperil the fungus. In the northern spotted owl region of the state, 7-11 known sites lie in currently protected reserves. The species is inferred to be declining to stable over the short term (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	Unknown	Severity	Moderate	Immediacy	Unknown
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Comments *Collybia bakerensis* is found in on standing or fallen *Abies*, *Tsuga* & *Picea* and would be at risk to whatever threatens the general habitat, microclimates, and/or substrate. 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 removal of coarse woody debris and/or standing host trees with current *Collybia bakerensis* populations (Norvell pers comm 2002).

Number of Appropriately Protected and Managed Occurrences

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

Comments The number of protected occurrences outside the northern spotted owl region in Washington is not known. Within that region ISMS-ONH (2002) cites 11 occurrences in protected areas: 4 in permanent protected reserves, 3 in late-successional reserves, and 4 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 & managed occurrences to 4. Some to many sites in temporary reserves may not be managed appropriately at the present time.

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 *Collybia bakerensis* is vulnerable to removal or destruction of its substrate, presumed *Abies* in California, and *Tsuga* (occasionally *Picea*) in more northern parts of its range. It is also vulnerable to alteration of microhabitats and microclimate regimes (stream diversion, road construction, development) as well as incidental catastrophic occurrences such as wildfire.

Environmental Specificity

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

C = Moderate. Generalist or community with some key requirements scarce.

Comments Collybia bakerensis is generally found scattered to gregarious on fallen conifer logs; in California, typically on the bark of Abies soon after snow melt in the spring above 2500m in the Sierra Nevada and Cascade mountain ranges. In Colorado, Idaho, and Washington, typically on Tsuga (rarely Picea) July-October (Desjardin & Halling 1987). Its precise biological and ecological requirements are unknown.

Other Considerations

No synonyms are known for Collybia bakerensis A. H. Smith 1944. The fruitbody is small and inconspicuous and presumed to be more abundant than historical collections would indicate; occurrences for Washington listed in the ISMS database are all historical and may not reflect reality. Prior to the recent Survey & Manage surveys in Oregon, only one collection was known from that state; during the past four years, 71 occurrences have been confirmed.

Edition 11/24/2002 **Edauthor** Lorelei L Norvell

Grank S3? **Grank Date** 11/24/2002

Reasons

Collybia bakerensis is endemic to western North America. The number of sites outside the northern spotted owl region in Washington is unknown, but within the region Collybia bakerensis is documented from 11 historical occurrences of which all lie in currently protected forest reserves. Given the species occurrence in considerably more northern latitudes in Canada, it is presumed that the lack of rigorous inventory reports may account for its seeming infrequency at this time. Collybia bakerensis is a saprophyte on standing or fallen conifer trees. Its unknown 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 removes or destroys the standing or fallen host conifers.

BCD Sources

New Sources

Desjardin & Halling. 1987. California Collybias I. Collybia bakerensis: a common snowbank agaric. Mycotaxon 29: 321-337. ALSO Redhead. 1989. A biogeographical overview of the Canadian mushroom flora. Can. J. Bot. 67: 3003-3062. ALSO Williams. 1975. The collybioid fungi of western Washington. U of Washington PhD dissertation. ALSO ISMS-ONH. 2002. ISMS data; ONH protection extrapolations; GIS map for COBA11.