

# California Status Factors

**Elcode** NFSM000034  
**Gname** COLLYBIA BAKERENSIS  
**Gcomname**

## Number of Occurrences

D = 81 - 300  
E = >300

**Comments** In the northern spotted owl region in CA, there are only 4 occurrences listed in the ISMS database (2002). However at least 23 documented occurrences represented by at least 36 collections of *Collybia bakerensis* have been recorded for the state by Desjardin & Halling (1987).

## Number of Occurrences with Good Viability

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

**Comments** Of the 23 historically documented occurrences, most have been sampled over a sufficiently long time that they could be considered extant if the habitat has remained secure. ISMS-ONH 2002 cite 4 extant occurrences from within the range of the northern spotted owl, but considerably more are presumed present elsewhere in the state. (Norvell 2002 pers comm.).

## 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 km<sup>2</sup> (about 8,000-80,000 square miles)

**Comments** Endemic to western North America, in California *Collybia bakerensis* occurs in the Cascade and Sierra Nevada region. Desjardin & Halling (1987) cite occurrences in Alpine, Amador, Calaveras, Fresno, Lassen, Shasta, Sierra, Siskiyou, Tehama, and Tuolumne counties. Occurrences in the northern spotted owl region are relatively rare, but those between the Sierra Nevada and Cascade range are far more common.

## 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** In California, *Collybia bakerensis* is saprophytic on standing or fallen *Abies* and fruitbodies are commonly found near melting snow in the spring. ( Desjardin & Halling 1987). Substrate removal or destruction imperils the species. 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* (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** *Collybia bakerensis*, a saprophyte on standing or fallen *Abies* in CA ( Desjardin & Halling 1987), is particularly common in the Sierra Nevada. 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, 4 occurrences lie in currently protected reserves. The species is inferred to be relatively stable over the short term (Norvell 2002 pers comm.).

### 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 Unknown

**Comments** *Collybia bakerensis* is found in on standing or fallen dead *Abies*, *Tsuga* & *Picea* trees 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 ( Desjardin & Halling 1987; Redhead 1989; Norvell pers comm 2002).

### Number of Appropriately Protected and Managed Occurrences

U = Unknown whether any occurrences are appropriately protected and managed

**Comments** Within the northern spotted owl region in California, ISMS-ONH (2002) cites 1-4 occurrences in protected areas: 1 in late-successional reserves, and 3 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 6. Some to many sites in temporary reserves may not be managed appropriately at the present time. The number of occurrences on protected sites outside the northern spotted owl region, where *Collybia bakerensis* is far more common, is not known.

### 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. (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.

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

**Grank** S4      **Grank Date** 11/24/2002

## Reasons

*Collybia bakerensis* is endemic to western North America and in California is more commonly found in regions outside the northern spotted owl region in the Sierra Nevada. The number of sites in California outside the northern spotted owl region is unknown but it is thought to be relatively frequent. Within the northern spotted owl region, only 4 occurrences are confirmed, of which 1-4 lie in currently protected forest reserves. *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.