

Heritage Rank Status Factors

Elcode NF00CHAL23
Gname CHOIROMYCES ALVEOLATUS
Gcomname

Number of Occurrences

B = 6 - 20

Comments A truffle whose fruiting bodies may be up to 5 cm in diam, this species was described from California. Additional collections are known from California, Oregon and Washington (Castellano et al. 1999). One site is reported from UT (Fogel and States n.d.). Nine records were listed by Castellano et al. (1999) from within the range of the northern spotted owl; presumably they are the same sites as listed in the data we received on the number of sites. Five sites are listed in same publication outside the range of the northern spotted owl on State or National Forest land in California. The report from the Sierra Nevada (Anonymous (2) n.d.) may be the one cited by Castellano et al. (1999). The type of *Pierospora bispora* was collected in Alameda Co., CA, outside the range of the northern spotted owl (Tavares et al. N.D.) and was not included in the range reported by Castellano et al. (1999). Trappe (1975) synonymized *P. bispora* with *C. alveolatus*. In the ISMS list of specimens, 11 collections are listed and they appear to come from at least 10 sites.

Number of Occurrences with Good Viability

U = Unknown what number of occurrences with good viability

Comments No data available as to whether sites have been visited in different years to see if the fungus is persisting.

Population Size

U = Unknown

Comments This can not be determined; records reflect only species presence.

Range Extent

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

Comments This species appears to be endemic to the Western United States where it has been reported from California, Oregon, Washington, and Utah. The known sites in California include one each in the Tahoe, and Klamath National Forests, one from near the Arcata Field Office (BLM?, not mapped to the Arcata BLM district) in the range of the northern spotted owl. Additional collections include the type collection from Alameda Co. and others from Placer Co. (Castellano et al. 1999). In Oregon it is a been found in the McKenzie Resource Area and the Rogue River, Willamette, Deschutes, and Mt. Hood National Forests (all single collections). Washington is represented by one site in Mt. Rainier NP. Of the two collections listed as Known Sites Data, one is likely N. W. of Salem, the other in California near the Oregon border. The type of *Pierospora bispora* was collected in Alameda Co., CA, outside the range of the northern spotted owl (Tavares et al. N.d.) and was not included in the range reported by Castellano et al. (1999). Trappe (1975) synonymized *P. bispora* with *C. alveolatus*. One site has been reported from UT (Fogel and States n.d.).

Area of Occupancy

U = Unknown

LU = Unknown

Comments Although the fruiting bodies of this species are relatively large for a truffle and it occurs in areas that have been intensively searched for true and false truffles, relatively few sites for it are known. Short of using molecular tools there is no way to evaluate occupancy.

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 insufficient data to evaluate this factor; species does not fruit regularly and its distribution is patchy

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 insufficient data to evaluate this factor; species does not fruit regularly and its distribution is patchy

Threats

B = Moderate and imminent threat. Threat is moderate to severe and imminent for a significant proportion (20-60%) of the population, occurrences, or area. Ecological community occurrences are directly impacted over a moderate area, either causing irreversible damage or requiring a long-term recovery.

Scope Moderate **Severity** Moderate **Immediacy** Moderate

Comments Because of the apparently limited number of sites for this species and their occurrence in areas of National Forests not protected from ground disturbing activities, e.g., logging, mining, construction, a significant portion of the known sites could be adversely affected by human activity in the foreseeable future.

Number of Appropriately Protected and Managed Occurrences

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

Comments One site (Mt. Rainier National Park) is protected at the G1/2 level in Washington and three sites are currently protected in LSRs in Oregon but the future of such sites is uncertain.

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 Because of the apparently limited number of sites for this species and the fact that only one area is securely protected from ground disturbing activities, this species is very vulnerable. It is probably mycorrhizal with conifers and dependent on them for energy-rich compounds; thus anything that affects the vigor or persistence of the photosynthetic partner may affect the fungus as well. Dispersal likely by small mammals over relatively short distances, population fluctuations in the mammalian population could impact dispersal and spore germination.

Environmental Specificity

B = Narrow. Specialist or community with key requirements common.
C = Moderate. Generalist or community with some key requirements scarce.

Comments It occurs in coniferous forests above 1300 m in elevation.

Other Considerations

NRANK - N3. This species is known to occur from the Sierra Nevadas N.W. of Lake Tahoe to Mt. Rainier in the Cascades and Klamath mountains with one outlier apparently in the northern Coast Range of Oregon.

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Grank G3 **Grank Date** 11/24/2002

Greasons

A sizeable truffle, up to 5 cm in diam, is easy, as truffles go, to find; however, only roughly a dozen collections of this species have been made since it was described in 1899 (Gilkey 1939). It occupies a narrow band along the spine of the Sierras and Cascades to Mt. Rainier with an outlier in Oregon's Coast Range. Only two of perhaps 11 known sites are in well-protected areas, hardly enough to ensure the future of the species. If the number of sites is reduced, this species might be worth rating at the G2 level.

BCD Sources

New Sources

Anonymous (2) n.d. Spring Fungi of the Sierra Nevada: Hypogeous Ascomycetes. Retrieved 2002.11 from http://www.mycena.sfsu.edu/courses/ascos2_list.htm

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Castellano, M.A., Smith, J.A., O'Dell, T., Cazares, E., and Nugent, S. 1999. Handbook to Strategy 1 Fungal Species in the Northwest Forest Plan. Portland, Oregon: USDA Forest Service, PNWRS PNW-GTR-476.

Fogel, R., and States, J. n.d. Provisional Checklist of hypogeous fungi occurring in the Great Basin and Arizona. Retrieved 2002.11 from <http://www.herb.lsa.umich.edu/gbsurvey/checklist.htm>

Gilkey, H.M. 1939. Tuberales of North America. Oregon State Monogr., Stud. Bot. 1: 1-63.

Tavares, I.I., Seidl, M.T., Tang, H-C. n.d. Type specimens of Lichens and Fungi. Retrieved 2002.11.10 from http://ucjeps.berkeley.edu/fungal_types.htm

Trappe, J.M. 1975. Generic synonyms in the Tuberales. Mycotaxon 2: 109-122.