Heritage Rank Status Factors

Elcode NF000BANI6

Gname BALSAMIA NIGRENS

Gcomname

Number of Occurrences

B = 6 - 20

Comments Truffles have been studied in western North America for over a hundred years. however fewer than a dozen collections have been documented of it; even among truffles in general this species is not commom although it may be more abundant than data indicates. This species was described from California (Harkness 1899). Castellano et al. (1999) report five sites from Oregon within range of northern spotted owl and one historic site from outside its range in California. Fogel and States(n.d. (2)) report it from two counties in Arizona and one in Utah. FSL (n.d.) has records of four additional localities in California outside the range of northern spotted owl. ISMS lists four collections from Oregon within the range of the northern spotted owl and all from known sites.

Number of Occurrences with Good Viability

B = Very few (1-3) occurrences with good viability

Comments Only specimens in protected areas are potentially viable. Only one site is protected at the G1/2 level.

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 Castellano et al. (1999) report one site in each of three Oregon counties (Benton, Jackson, and Yamhill) and two sites in Josephine Co. plus the (historic) type locality in Placer Co., Californnia. Fogel and States(n.d. (2)) report it from Cohchise and Coconio Counties in Arizona and Washington Co., Utah. The FSL web site (FSL n.d.) mentions two collections from Fresno County an one each from Los Angeles, Stanislaus, and Mariposa counties.

Area of Occupancy

U = Unknown

LU = Unknown

Comments 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 No information. No record found to indicate that the species was collected again at the type locality (Auburn, CA) in spite of repeated visits by the original collector to that area.

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 No information. No record found to indicate that the species was collected again at the type locality (Auburn, CA) in spite of repeated visits by the original collector to that area.

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 While these are guesses, the fungus is mycorrhizal and thus likely dependent on the survival of the surrounding trees for its survival. Fire, logging, and development that result in disturbance of the forests are definite threats over much of its range.

Number of Appropriately Protected and Managed Occurrences

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

Comments While several of the sites are on National Forest or BLM lands, only one site in Oregon is listed as protected at the G1/2 level. I can't figure out which site it is. No detailed information was available on the sites in the Great Basin.

Intrinsic Vulnerability

A = Highly Vulnerable. Species is slow to mature, reproduces infrequently, and/or has low fecundity such that populations are very slow (> 20 years or 5 generations) to recover from decreases in abundance; or species has low dispersal capability such that extirpated populations are unlikely to become reestablished through natural recolonization (unaided by humans). Ecological community occurrences are highly susceptible to changes in composition and structure that rarely if ever are reversed through natural processes even over substantial time periods (> 100 years).
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 The fungus is mycorrhizal and thus likely dependent on the survival of the surrounding trees for its survival. Thus any factors affecting the health and persistence of the forest (e.g., fire, logging, and development) will impact this species. The fungus is likely associated with mature stands and is likely dispersed primarily by animals that consume fruiting bodies and deposit spores in their scat.

Environmental Specificity

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

Comments

Other Considerations

NRANK - N3. Has also been called Balsamia nigra. Not very well known in spite of over 100 years of studies of western truffles. Can be mistaken for other black truffles in the field unless care is taken in observing the fruiting bodies; distinctive microscopically.

Edition 11/14/2002 **Edauthor** Nancy S. Weber, Jimmy Kagan, Efren Cazares

Grank G3 **Grank Date** 11/14/2002

Greasons

Truffles have been a group of interest to mycologists in Western North America for over 100 years, However, this species is known from only four states and about 10 sites, one of which is historical. I found no evidence that the species had been collected more than once at any site. Specimens are not easy to find even for a truffle due to its black color and relatively (to other truffles) small size. Threatened by logging and forest activities. If the Great Basin and California sites are threatened, this could be a G2.

BCD Sources

New Sources

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.(2). Provisional Checklist of hypogeous fungi occurring in the Great Basin and Arizona. Retrieved 2002.11.07 from http://www.herb.lsa.umich.edu/gbsurvey/checklist.htm.

FSL n.d. FSL Mycology Research Herbarium. Retrieved 2002.11 from http://www.mgd.nacse.org/fsl.