

California Status Factors

Elcode NFSM000084
Gname GYMNOPIIUS PUNCTIFOLIUS
Gcomname

Number of Occurrences

B = 6 - 20

Comments Reports in the literature and in herbaria are rare. No additional confirmations have been added to the ISMS (2002) database after the original herbarium and literature evaluations made by Norvell (1995; cf also Castellano 1999). Norvell (1995) confirmed 12 collections representing 9 occurrences, of which only one was collected after 1991. *Gymnopilus punctifolius* is a striking fungus that should be more frequently collected in California. The fact that Arora (1986) dismisses it with one short line in his massive field guide is indicative that it may well be rare in the state.

Number of Occurrences with Good Viability

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

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

Comments ISMS-ONH (2002) occurrence report lists only 5 occurrences for California, three of which occur in permanently protected reserves. As only one collection is known (Norvell pers comm 2002) to have been made in 1990, it is uncertain how many of the previously sampled occurrences are still viable.

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

E = 5,000-20,000 km² (about 2,000-8,000 square miles)

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

Comments Endemic and restricted to western North America, Known sites in California range from the Oregon border at the coast and south in a narrow band along the coast to Armstrong Redwoods State Park in Sonoma County. (Hesler 1969, Norvell 1995, Castellano 1999, ISMS Database 2002 and GIS map for *Gymnopilus punctifolius*).

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 can be assumed to be very small, generally the size of a collection.

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 Gymnopilus punctifolius is a saprophytic fungus dependent upon appropriate weather and microclimate regimes and the presence of suitable substrate (generally decomposing or well-decomposed coniferous wood, debris, and/or rich humus). Removal or destruction of the host substrate may imperil the species, which has a spotty reported distribution, with most occurrences found in late-successional/old-growth moist habitats. In Oregon and Washington, *Gymnopilus punctifolius* is far more frequently collected than in California, suggesting either that it has reached the southern limit of its range in California where the dry summers and autumns remain a threat. Longevity of individuals and populations is unknown. There appear to be a large number of suitable and protected habitats within the state. The lack of adequate information on its biological requirements and/or the still fragmentary data on occurrences within California precludes estimating a long-term trend for *Gymnopilus punctifolius* 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

U = Unknown. Short-term trend in population, range, area occupied, and number and condition of occurrences unknown.

Comments See above. The lack of sufficient historical and recent information on *Gymnopilus punctifolius*, despite its listing in the Northwest Forest Plan as a strategy 1 fungus, preclude estimating a trend even over the short-term at this time.

Threats

D = Moderate, non-imminent threat. Threat is moderate to severe but not imminent for a significant portion of the population, occurrences, or area.

Scope Moderate Severity Moderate Immediacy Low

Comments In California, *Gymnopilus punctifolius* has been found primarily in old-growth to late-successional forests with well-developed canopy. The fungus appears restricted to coniferous substrates and grows on brown cubical rotted wood. Threats to this general habitat, microclimates, and/or substrate can imperil *Gymnopilus punctifolius*. 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 brush clearing or removal or destruction of the coarse woody debris that is thought to form its substrate. (Norvell pers comm 2002).

Number of Appropriately Protected and Managed Occurrences

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

Comments ISMS-ONH (2002) lists only 3 occurrences in protected areas, all in permanently protected reserves. None of the sites are known to be managed specifically for *Gymnopilus punctifolius*. *Gymnopilus punctifolius* may no longer be extant at at two of those sites.

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 *Gymnopilus punctifolius* is inferred to be particularly vulnerable to removal of its substrate, clean cutting with burning or removal of all coarse woody debris, or logging activities that appreciably

open the canopy and expose the substrate to sun and wind. It is also vulnerable to alteration of microhabitats and microclimate regimes (stream diversion, road construction, development).

Environmental Specificity

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

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

Comments Saprophytic on cubical rotted coniferous wood, debris and rich humus (Hesler 1969; Castellano et al 1999) in mid-successional (Norvell pers comm 2002) to late-successional/old-growth forests where coarse woody debris is preserved under closed canopies. Its precise biological and ecological requirements are unknown.

Other Considerations

Gymnopilus punctifolius has 4 previous synonyms, all of which are no longer in use: *Cortinarius punctifolius* Peck, *Flammula punctifolia* (Pk.) AHSmith, *Gymnopilus subviridis* Murr, and *Flammula subviridis* (Murr.) Murr. The photographs provided in Castellano et al 1999 are misleading and do not properly display the distinctive blue-green coloration of the pileus nor the lavender mycelium at the base; nonetheless, the fruitbody of GYPU2 is so distinctive that surveyors should have collected the species during the recent fungal surveys. It is possible that they are yet to be recorded in the ISMS database.

Edition 11/25/2002 **Edauthor** Lorelei L Norvell

Grank S2? **Grank Date** 11/25/2002

Greasons

This is a striking mushroom with distinctive blue-green, yellow, and possibly violet colors that should be more frequently collected in California than it has been. It is known historically from only 9 sites. Comparison of Castellano et al. (1999) and ISMS (2002) distribution maps show that no new sites have been documented over the past four years. The most recent known collection was made in 1990 in an unprotected site. The fact that Arora (1986) dismisses *Gymnopilus punctifolius* with one short line in his massive field guide (originally written for California) is indicative that it may well be rare in the state. More data are needed, but at the moment the species appears rare to endangered in California.

BCD Sources

New Sources

Hesler. 1969. North American species of *Gymnopilus*. *Mycologia Memoir* No 3. New York: Hafner Pub Co. ALSO Norvell . 1995. ROD: Strategy 1 Fungal Species Evaluation (30 gilled and non-gilled Basidiomycete Strategy 1 species). Unpubl. report on file at the Regional Mycology Lab in Corvallis, Oregon. ALSO Castellano et al. 1999. Handbook to Strategy 1 fungal species in the Northwest Forest Plan. USDA-FS PNWRS PNW-GTR-476. ALSO ISMS-ONH. 2002. ISMS data; ONH protection extrapolations; GIS map for GYPU2. ALSO Norvell & Exeter. (2003 in edit). Ectomycorrhizal epigeous basidiomycete diversity in Oregon's coast montane *Pseudotsuga menziesii* forests. [New York Botanical Memoirs]. ALSO Arora. 1986. *Mushrooms Demystified*. Ten Speed Press: Berkeley. ALSO Arora. 1986. *Mushrooms Demystified*. Ten Speed Press: Berkeley.