

Washington Status Factors

Elcode NFSM000025
Gname CHRYSOMPHALINA GROSSULA
Gcomname

Number of Occurrences

B = 6 - 20

Comments In the northern spotted owl region of Washington, there are 8 documented occurrences represented by 13 collections. Continued fungal surveys may uncover more sites. (Norvell et al 1994, Norvell 1998, ISMS-ONH 2002)

Number of Occurrences with Good Viability

U = Unknown what number of occurrences with good viability

Comments Number of viable occurrences cannot be predicted for this saprophyte, which is dependent upon a substrate that can rapidly decompose. Observation of a population on site in Oregon over a 5 year period showed that as the substrate bark chips decomposed and dispersed, the population spread. Once the barkchips were no longer replaced, the population disappeared, with the last fruitbody seen in 1998. (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

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

Comments Within the northern spotted owl region in Washington, *Chrysomphalina grossula* ranges from the Olympic Peninsula southeast through Seattle and Federal Way (both occurrences on imported wood mulch) then north to Mt Baker and south to Mt Rainier National Park. All sites occur within the *Tsuga heterophylla*/*Pseudotsuga menziesii* zone (Norvell et al 1994; Norvell 1998; ISMS 2002 GIS map for *Chrysomphalina grossula*).

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. On-site observation of one Oregon community over a five year period noted a spotty occupancy at climax covering a ~1200m² area. The spotty distribution is linked to the presence of appropriate substrates. (Norvell et al 1994; Norvell pers comm 2002)

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 *Chrysomphalina grossula* is a saprophytic fungus dependent upon appropriate weather and microclimate regimes and the presence of suitable substrate (water-soaked coniferous wood). Removal or destruction of its substrate may imperil the fungus. It has a spotty distribution, with most occurrences found in mixed or coniferous forests or parks. In the northern spotted region of the US, *Chrysomphalina grossula* occurrences are rare in wild habitats but occasionally found in gardens or verges covered with imported wood mulch. Individuals reproduce through spore dispersal and mycelial interactions for reproduction. Longevity of individuals and populations is assumed to depend upon the presence of appropriate substrate. The complexity of biological requirements and wide distribution preclude estimating a long-term trend for *Chrysomphalina grossula* (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 *Chrysomphalina grossula* is a saprophyte dependent upon the presence of water soaked coniferous wood. It appears sporadically in mixed/coniferous forests and park-like settings. Incidental catastrophic events and/or removal of the substrate and/or replacement substrate coniferous sources can extirpate the fungus. Estimation of short-term trends for the populations documented from the northern spotted owl area in Washington cannot be made. (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	Unknown	Immediacy	Unknown
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Comments In Washington *Chrysomphalina grossula* is found sporadically in *Tsuga/Pseudotsuga* forests on watersoaked coniferous woods or in wooded cultivated areas with imported wood mulch. Whatever threatens the general habitat, microclimates, and/or substrate can imperil *Chrysomphalina grossula*. 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 of coniferous coarse woody debris and current populations (Norvell et al 1994; Norvell 1998, pers comm 2002). As all known occurrences of CHGR3 in Washington are suspected to be no longer extant, the long-term trend cannot be predicted.

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 WA, ISMS (2002) cites 6 occurrences in protected areas: 5 in permanent protected preserves and 1 from a late-successional reserve. None of those occurrences can safely be regarded as extant (see comments under population viability). None of the known sites are managed specifically for the fungus at the current 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 Chrysomphalina grossula is particularly vulnerable to the decomposition, destruction, or removal of coniferous wood and chips or the conifers that supply the substrate for new generations. It is also vulnerable to alteration of microhabitats and microclimate regimes (stream diversion, road construction, development). Once established, a population may remain viable as long as the substrate is present and other unknown conditions met.

Environmental Specificity

A = Very Narrow. Specialist or community with key requirements scarce.

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

Comments Chrysomphalina grossula is preferentially restricted to coniferous wood substrates (Norvell et al 1994; Norvell 1998). Its precise biological and ecological requirements are unknown and its distribution unpredictable and spotty. It is rare in "wild" settings but can be locally abundant on imported wood mulch. Phenology is variable, and in Oregon one community was recorded during every month of the year, fruiting whenever sufficient moisture was present. (Norvell et al 1994; Norvell 1998). Requirements of the mycelium are unknown.

Other Considerations

Synonyms for Chrysomphalina grossula include Omphalina wynniae and O. abiegna. The brightly colored greenish-yellow fruitbodies are unusually long-lived for small mushrooms and have been observed to endure well over 1 month in one perennially observed community. (Norvell et al. 1994; Norvell 2002 pers comm. The species should be regarded as rare everywhere, although under the right conditions and with refurbishment of substrate it can persist in one location in abundance for a number of years.

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

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Reasons

Chrysomphalina grossula is widely distributed across the northern temperate zone but is regarded everywhere as rare to infrequent. Within the spotted owl region of Oregon, only 8 occurrences have been documented, none of which are demonstrably extant. Its dependence on a supply of well soaked coniferous substrates and other unknown biological requirements preclude estimation of short- and long-term trends. All populations are at risk to incidental catastrophic events such as wildfire and anything that removes or destroys the substrate or replacement conifer hosts.

BCD Sources

New Sources

Norvell, Redhead, Ammirati. 1994. Omphalina sensu lato in North America 1 & 2. Mycotaxon 50: 379-407.
ALSO Norvell. 1998. ROD: Strategy 3 Fungal Species Evaluation (11 gilled Basidiomycete Strategy 3 species). Unpubl. report on file at the Regional Mycology Lab, Corvallis, Oregon. ALSO ISMS-ONH. 2002. ISMS data; ONH protection extrapolations; GIS map for CHGR23.