

Heritage Rank Status Factors

Elcode NBMUS7B010
Gname TETRAPHIS GENICULATA
Gcomname MOSS

Number of Occurrences

D = 81 - 300

Comments Estimated 180-200 occurrences worldwide. The New York Botanical Garden database has the most complete listing with 81 records, representing about 47 sites. The University of Alberta database contains 75 records representing about 70 sites. The ISMS database contains 117 records, representing about 43 sites for the Northwest Forest Plan area. Russia and Japan each have about 8 known sites, and China has 1 known site.

Number of Occurrences with Good Viability

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

Comments Estimated 40 occurrences worldwide with good viability.

Population Size

E = 2,500-10,000 individuals

Comments Estimated 2500-10,000 individuals worldwide.

Range Extent

G = 200,000-2,500,000 km² (about 80,000-1,000,000 square miles)

Comments Estimated range 80,000-1,000,000 square miles worldwide. Russian Far East, China, Japan, the Pacific Northwest (Alaska, British Columbia, Idaho, Montana, Oregon, Washington), New England (New Hampshire, Maine), and eastern Canada (New Brunswick, Newfoundland, Nova Scotia, Prince Edward Island, Quebec). A reported collection from northern California has not been verified.

Area of Occupancy

B = 0.4-4 km² (about 100-1,000 acres)

LB = 4-40 km (about 2.5-25 miles)

Comments Estimated area of occupancy 100-1000 acres worldwide.

Long-term Trend in Population Size, Extent of Occurrence, Area of Occupancy, and/or Number or Condition of Occurrences

D = Moderate Decline (decline of 25-50%)

Comments Long-term trend moderate decline of 25-50%. Logging and subsequent drying of the understory, coupled with long-term loss of large woody debris in various decay classes and diameters has reduced the abundance of this species and other more common taxa associated with rotting wood.

Short-term Trend in Population Size, Extent of Occurrence, Area of Occupancy, and/or Number or Condition of Occurrences

D = Declining. Decline of 10-30% in population, range, area occupied, and/or number or condition of occurrences

Comments Short-term decline of 10-30% of population may be ongoing because of reasons cited above.

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 Moderate, non-imminent threat. Logging and subsequent drying of the understory, coupled with long-term loss of large woody debris in various decay classes and diameters, has reduced the abundance of this species and other more common taxa associated with rotting wood.

Number of Appropriately Protected and Managed Occurrences

D = Many (13-40) occurrences appropriately protected and managed

Comments Estimated 15-20 occurrences protected worldwide and managed accordingly.

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 Moderately vulnerable. Plants are small, but reproduce readily by spores, gemmae, and fragmentation of gametophytes. They are limited by their dependence on wood substrate of various decay classes and diameters that have become scarce in managed forests.

Environmental Specificity

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

Comments Narrow environmental specificity. Habitat is well-rotted stumps and logs (rarely on rocks) in shaded, humid locations at low to middle elevations. It is almost always associated with the common *Tetraphis pellucida*. Associated bryophyte species are typical of rotting wood in cool, shaded and moist habitats, especially on stream terraces and floodplains. It is likely that they have mycorrhizal associations with decomposer fungi in the rotting wood, and play a key role in nutrient cycling in forest ecosystems.

Other Considerations

NRANK - N3. Ranked S1 on Prince Edward Island and in Oregon. Rare in Russia. Plants are usually intermixed with much more common *Tetraphis pellucida*, and presumably this species is somewhat more widespread than numbers indicate.

Edition 2/20/2003 **Edauthor** John A. Christy and Judith Harpel

Grank G3 **Grank Date** 1/13/2003

Reasons

Estimated 180-200 occurrences worldwide. Estimated 40 occurrences worldwide with good viability. Estimated

2500-10,000 individuals worldwide. Estimated range 80,000-1,000,000 square miles worldwide. Estimated area of occupancy 100-1000 acres worldwide. Long-term trend is a moderate decline of 25-50% and a short-term decline of 10-30%. Moderate, non-imminent threat. Estimated 15-20 occurrences protected worldwide and managed accordingly. Moderately vulnerable. Narrow environmental specificity.

BCD Sources

New Sources

Christy, J.A. & D.H. Wagner. 1996. Guide for the identification of rare, threatened or sensitive bryophytes in the range of the northern spotted owl, western Washington, western Oregon, and northwestern California. USDI Bureau of Land Management. 200 pp.

Crum, H. & L.E. Anderson. 1981. Mosses of Eastern North America. 2 vols. Columbia University Press, New York. 1328 pp.

USDA Forest Service, USDI Bureau of Land Management, USDI Fish and Wildlife Service. 2002. Interagency Species Management System [ISMS] database. Portland, Oregon.

University of Alberta. 2002. Devonian Botanic Garden bryophyte database. Edmonton, Alberta.

<<http://www.devonian.ualberta.ca/devonian/bryosearch.cfm>>.

New York Botanical Garden. 2002. Catalog of American bryophytes database. New York, NY.

<<http://www.nybg.org/bsci/hcol/bryo>>