

Heritage Rank Status Factors

Elcode NBHEP3C020
Gname TRITOMARIA EXSECTIFORMIS
Gcomname LIVERWORT

Number of Occurrences

E = >300

Comments Estimated 500-800 occurrences worldwide. The University of Alberta database has the most complete listing, with 90 records worldwide. The New York Botanical Garden database has 91 records. The ISMS database contains 18 records, representing about 16 sites.

Number of Occurrences with Good Viability

E = Many (41-125) occurrences with good viability

Comments Estimated 150 occurrences worldwide with good viability.

Population Size

F = 10,000-100,000 individuals

Comments Estimated 100,000 individuals worldwide.

Range Extent

H = > 2,500,000 km² (greater than 1,000,000 square miles)

Comments Estimated range greater than 1,000,000 square miles worldwide. Circumboreal distribution. Canada (Alberta, British Columbia, Yukon, Northwest Territories, New Brunswick, Ontario, Quebec, Nova Scotia), US (Alaska, Washington, Oregon, Montana, Colorado, Wyoming, Minnesota, Wisconsin, Michigan, New York, Connecticut, New Hampshire, Vermont, Maine, Tennessee, Virginia, North Carolina), UK, Scandinavia, Europe, Russia, China.

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 is 500 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 Moderate long-term decline of 25-50% worldwide. Local impacts from logging. Associated with permanent, cold-water streams representing refugia that are less abundant now than in previous times. Dispersal is thus inhibited and less likely over time. Long term viability is dependent on longevity of populations at established sites.

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% worldwide, for reasons cited above.

Threats

F = Widespread, low-severity threat. Threat is of low severity but affects (or would affect) most or a significant portion of the population, occurrences, or area. Ecological community occurrences are not threatened severely, with changes reversible and recovery moderately rapid.

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

Comments Widespread low-severity threat at southern edge of range, but secure farther north. Logging and stream degradation are ongoing threats. Acid rain and climate change are potential threats.

Number of Appropriately Protected and Managed Occurrences

E = Very many (>40) occurrences appropriately protected and managed

Comments Estimated 100 protected occurrences worldwide.

Intrinsic Vulnerability

C = Not Intrinsicly Vulnerable. Species matures quickly, reproduces frequently, and/or has high fecundity such that populations recover quickly (< 5 years or 2 generations) from decreases in abundance; or species has high dispersal capability such that extirpated populations soon become reestablished through natural recolonization (unaided by humans). Ecological community occurrences are resilient or resistant to irreversible changes in composition and structure and quickly recover (within 10 years).

Comments Not intrinsically vulnerable. Plants are small and fragile, but reproduce readily by spores and fragmentation of gametophytes. Plants will recolonize sites when suitable habitat and substrate are present, but this depends on the availability of inoculum from nearby populations.

Environmental Specificity

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

Comments Narrow environmental specificity. Closely associated with permanent, cold-water streams. Located on peaty or humic soil and rotting wood, often on creek banks where perpetually shady, cool and moist.

Other Considerations

NRANK - N4.

Edition 2/20/2003 **Edauthor** John A. Christy

Grank G5 **Grank Date** 11/21/2002

Reasons

Estimated 500-800 occurrences worldwide. Estimated 150 occurrences worldwide with good viability. Estimated 100,000 individuals worldwide. Estimated range greater than 1,000,000 square miles worldwide. Estimated area of occupancy is 500 acres worldwide. Moderate long-term decline of 25-50% worldwide. Short-term decline of 10-30% worldwide. Widespread low-severity threat at southern edge of range, but secure farther north. Estimated 100 protected occurrences worldwide. Not intrinsically vulnerable. Narrow environmental specificity.

BCD Sources

New Sources

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

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.

University of Alberta. 2002. Devonian Botanic Garden bryophyte database. Edmonton, Alberta.
<<http://www.devonian.ualberta.ca/devonian/bryosearch>.

New York Botanical Garden. 2002. Catalog of American bryophytes database. New York, NY.
<<http://www.nybg.org/bsci/hcol/bryo>>