

Heritage Rank Status Factors

Elcode NLTEST5500
Gname BRYORIA TORTUOSA

Gcomname

Number of Occurrences

E = >300

Comments Many occurrences documented in southern Oregon. This species is also found in British Columbia, California, Idaho, Norway, and the Carpathian Mountains in Europe.

Number of Occurrences with Good Viability

F = Very many (>125) occurrences with good viability

Comments

Population Size

G = 100,000-1,000,000 individuals

H = >1,000,000 individuals

Comments

Range Extent

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

Comments BC to CA, inland to central BC and northern ID, occasionally in and west of the Cascades, and increasingly rare inland. (McCune & Geiser 1997, Brodo et al. 2001). Reported outside of North America in the Carpathian Mountains in Europe (Brodo and Hawksw 1977), and in Norway (Holien 1986, Gjerlaugh 1987).

Area of Occupancy

H = >20,000 km² (greater than 5,000,000 acres)

LH = >200,000 km (greater than 125,000 miles)

Comments

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

E = Relatively Stable ($\pm 25\%$ change)

Comments

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

E = Stable. Population, range, area occupied, and/or number or condition of occurrences unchanged or remaining within $\pm 10\%$ fluctuation

Comments

Threats

G = Slightly threatened. Threats, while recognizable, are of low severity, or affecting only a small portion of the population, occurrences, or area. Ecological community occurrences may be altered in minor parts of range or degree of alteration falls within the natural variation of the type.

Scope Low Severity Low Immediacy Low

Comments Due to fire suppression, large patches of dead *Arctostaphylos* species provide lots of habitat for *B. tortuosa* in southern Oregon. These areas are now being cleared for fire protection. This will result in a large loss of habitat, but according to D. Stone (personal communication), *B. tortuosat* will likely remain in old pines in the area. Because *B. tortuosa* occupies transitional areas at the edge of the mountains, its habitat is subject to repeated human disturbance and encroachment by development. Its habitat at numerous historical locations has been destroyed (McCune & Geiser 1977).

Number of Appropriately Protected and Managed Occurrences

D = Many (13-40) occurrences appropriately protected and managed
E = Very many (>40) occurrences appropriately protected and managed

Comments 21 protected sites, 72 in the matrix.

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 Appears to reproduce mostly by fragmentation (heavy and slow to spread); the largest populations are often on shrubs beneath large pines.

Environmental Specificity

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

Comments Dry pine savannah.

Other Considerations

NRANK - N5.

Edition 2/20/2003 **Edauthor** Daphne Stone

Grank G5 **Grank Date** 12/20/2002

Reasons

Many large populations are known in southern Oregon. Occurs from BC to northern CA and inland to ID, but outside of southern Oregon the populations are less common. Also known from a few sites in Norway and the Carpathian Mountains.

BCD Sources

New Sources

- Brodo, Irwin M., Sharnoff, Sylvia D. and Stephen Sharnoff. 2001. Lichens of North America. Yale University Press. New Haven and London. 795 pp.
- Gjerlaugh, C. 1987. Contribution to the knowledge of the Macrolichen Flora of Hedmark Co., southeast Norway. *Blyttia* 45(2): 69-73.
- Holien, H. 1986. *Bryoria tortuosa*, new to northern Europe. *Lichenologist* 18(3): 265-268
- Bystrek J, Sulma T. 1984. Material for the study of the lichen flora of the Carpathian Mountains I. Species of the genus *Bryoria* Brodo & Hawksw. in the Czywczyński Mountains eastern Carpathian Mountains USSR. *Annales Universitatis Marie Curie-Sklodowska Sectio C Biologia* 39(1-19): 19-28.
- Brodo IM and DL Hawksworth. 1977. *Alectoria* and allied genera in North America. *Opera Botanica* 42: 1-164.
- McCune, B. and L. Geiser. 1997. Macrolichens of the Pacific Northwest. Oregon State University Press, Corvallis, Oregon. A co-publication with the U.S. Department of Agriculture Forest Service. 386 pp.