

## Heritage Rank Status Factors

**Elcode** NBHEP2U010  
**Gname** PTILIDIUM CALIFORNICUM  
**Gcomname** LIVERWORT

### Number of Occurrences

E = >300

**Comments** Estimated 1500 occurrences worldwide. The University of Alberta database has the most complete listing, with 296 records worldwide. The ISMS database contains 1143 records, representing about 554 sites. Inoue (1974) lists 12 sites for Japan.

### Number of Occurrences with Good Viability

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

**Comments** Estimated 100 occurrences worldwide with good viability.

### Population Size

F = 10,000-100,000 individuals

**Comments** Estimated 30,000 individuals worldwide.

### Range Extent

G = 200,000-2,500,000 km<sup>2</sup> (about 80,000-1,000,000 square miles)

**Comments** Estimated range is 100,000 square miles worldwide. Amphiberingian distribution: Japan, Alaska, British Columbia, Alberta, Washington, Idaho, Oregon, California.

### Area of Occupancy

B = 0.4-4 km<sup>2</sup> (about 100-1,000 acres)

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

**Comments** Estimated area of occupancy is 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** Moderate long-term decline of 25-50% worldwide. Local impacts from logging. At the southern end of its range in northern California, its survival may depend on protection of the few known sites as dispersal sources.

### 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

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** Slightly threatened worldwide. Logging is primary threat.

### Number of Appropriately Protected and Managed Occurrences

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

**Comments** Estimated 70 protected occurrences worldwide.

### Intrinsic Vulnerability

C = Not Intrinsically 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. Located on bark at the base of standing trees, recently fallen logs, rocks, and rarely on other organic substrates.

### Other Considerations

NRANK - N3N4.

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

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### Reasons

Estimated 1500 occurrences worldwide. Estimated 100 occurrences worldwide with good viability. Estimated 30,000 individuals worldwide. Estimated range is 100,000 square miles worldwide. Estimated area of occupancy is 1000 acres worldwide. Moderate long-term decline of 25-50% worldwide. Short-term decline of 10-30% worldwide. Slightly threatened worldwide. Estimated 70 protected areas 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.cfm>>.

Inoue, H. 1974. Illustrations of Japanese Hepaticae, Vol. I. Tsukijii Shokan Publ. Co., Ltd., Tokyo.