

Heritage Rank Status Factors

Elcode IMGAS59050
Gname HEMPHILLIA GLANDULOSA
Gcomname WARTY JUMPING-SLUG

Number of Occurrences

A = 1 - 5

Comments This species is not abundant. Branson did not record it in any of his surveys of the Washington Cascades (1980), the Olympic Peninsula (1977), or the Oregon Cascades and Coast Range (Branson and Branson, 1984). Frest and Johannes (1993a) reported that they had not seen this species at their study sites. Burke has records of it from 2 locations. Pilsbry (1948) lists 8 locations from Washington and Oregon and 2 from British Columbia (Burke et al., 1999).

Number of Occurrences with Good Viability

A = No (A- or B- ranked) occurrences with good viability

Comments The species has apparently been extirpated from many of the old sites (Pilsbry, 1948; Frest and Johannes, 1993a). In 2002, CVS sites located in the Olympic National Forest (6) and Siuslaw National Forest (3) contained this species.

Population Size

U = Unknown

Comments

Range Extent

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

Comments The range of *Hemphillia glandulosa* is from Multnomah and Clatsop counties, Oregon, to British Columbia, in the western Cascade Range and west to the Pacific Coast. Washington locations included: King, Pierce, Thurston, Lewis, Skamania, Clallam, Grays Harbor, Pacific and possibly Whatcom counties. New sites extend the range as far south as the Waldport Ranger District, Siuslaw National Forest in the Oregon Coast Range, the St. Helens Ranger District, Gifford Pinchot National Forest in the southwestern Cascades of Washington, and several new sites have been noted in the Olympic National Forest (Burke et al., 1999).

Area of Occupancy

B = 0.4-4 km² (about 100-1,000 acres)

C = 4-20 km² (about 1,000-5,000 acres)

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

LC = 40-200 km (about 25-125 miles)

Comments The species has apparently been extirpated from many of the old sites (Pilsbry, 1948; Frest and Johannes, 1993a).

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

A = Very Large Decline (decline of >90%, with <10% of population size, range extent, area occupied, and/or number or condition of occurrences remaining)

Comments The species has apparently been extirpated from many of the old sites (Pilsbry, 1948; Frest and Johannes, 1993a).

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

A = Severely Declining. Decline of >70% in population, range, area occupied, and/or number or condition of occurrences

Comments The species has apparently been extirpated from many of the old sites (Pilsbry, 1948; Frest and Johannes, 1993a).

Threats

A = Substantial, imminent threat. Threat is moderate to severe and imminent for most (> 60%) of the population, occurrences, or area. Ecological community occurrences are directly impacted over a widespread area, either causing irreversible damage or requiring long term recovery

Scope	High	Severity	High	Immediacy	High
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Comments Threats to *Hemphillia glandulosa* include loss or fragmentation of habitat, and modification of habitat conditions, so that the species is no longer supported. A major concern is that there are so few recent observations that populations are not well known or documented (Burke et al., 1999).

Number of Appropriately Protected and Managed Occurrences

C = Several (4-12) occurrences appropriately protected and managed

Comments Some old sites were in Olympic National Park and Olympic National Forest (Frest and Johannes, 1993a), and it has recently been rediscovered on lands administered by those agencies. It has also recently been found on matrix lands on the Gifford Pinchot and Siuslaw National Forests in units being surveyed for planned land management. It probably also occurs on the Mount Baker Snoqualmie National Forest, possibly in the Snoqualmie Pass AMA, and other National Forests in Washington. However, where it may occur on those lands is not yet known (Burke et al., 1999).

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 Nearly all of the terrestrial gastropods in the Pacific Northwest, including the *Hemphillia*, are hermaphroditic, having both male and female organs. Self-fertilization has been demonstrated in some species, although cross-fertilization is probably the norm (Burke et al., 1999).

Environmental Specificity

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

Comments *Hemphillia glandulosa* inhabits relatively moist and undisturbed coniferous forest, generally at low to middle elevations (Frest and Johannes, 1993a). Some sites may be riparian (USDA, Forest Service, and USDI, Bureau of Land Management (1974: J2-347). It is generally found under forest floor litter or debris and on or under logs. General habitat is moist forest dominated by conifers, but with a moderate hardwood component. The forest floor is moist, but not wet or saturated. Large woody debris, both conifer and hardwood, is abundant. Logs of decomposition

class 2-4 are probably most often used. Litter and duff layers are deep and generally continuous. Low vegetation may be patchy and consist of sword ferns and other plants of cool shaded forests. *Hemphillia glandulosa* is found in relatively moist, generally low to middle elevation, undisturbed coniferous forests or riparian areas (Frest and Johannes, 1993a). Particular foods and cover types are not documented, but most *Hemphillia* are usually found within or under rotting logs, or forest floor litter, apparently feeding on decaying wood or vegetation or organisms associated with that decaying matter (Burke et al., 1999).

Other Considerations

NRANK - N3

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Grank G3 **Grank Date** 4/1/2004

Reasons

Some decline in abundance and distribution; extirpated over much of its former range; more research needed, though warranting the wide range rank.

BCD Sources

New Sources

Branson, B.A. 1977. Freshwater and terrestrial Mollusca of the Olympic Peninsula, Washington. *The Veliger*, 19(3): 310-330.

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Branson, B.A. and R.M. Branson. 1984. Distributional records for terrestrial and freshwater Mollusca of the Cascade and Coast ranges, Oregon. *The Veliger*, 26(4): 248-257.

Burke, T.E., J.S. Applegarth, and T.R. Weasma. 1999. Management recommendations of survey and manage terrestrial mollusks. Ver. 2.0. Report submitted to USDI Bureau of Land Management, Salem, Oregon, October 1999. Unpaginated.

Frest, T.J. and E.J. Johannes. 1993a. Mollusc species of special concern within the range of the northern spotted owl. Final report for the Forest Ecosystem Management Working Group. Deixis Consultants, Seattle, Washington. 39 pp.

Pilsbry, H.A. 1948. Land Mollusca of North America (north of Mexico). Academy of Natural Sciences of Philadelphia, Monograph number 3, volume 2, part 2: 521-1113.

USDA, Forest Service, and USDI, Bureau of Land Management (1974: J2-347)