Oregon Status Factors

Elcode IMGAS59010

Gname HEMPHILLIA BURRINGTONI

Gcomname BURRINGTON JUMPING-SLUG

Number of Occurrences

A = 1 - 5

Comments Branson and Branson (1984) reported a probable immature specimen from Clatsop (Tillamook) County, Oregon. Hemphillia burringtoni is a local endemic of northwestern Oregon, but it currently appears to be rare within that range. It has been reported from 10 sites, all but 3 in Washington (Burke et al., 1999).

Number of Occurrences with Good Viability

B = Very few (1-3) occurrences with good viability

Comments Rank unknown, but based on a few sites.

Population Size

U = Unknown

Comments Branson and Branson (1984) reported a probable immature specimen from Clatsop (Tillamook) County, Oregon (Burke et al., 1999).

Range Extent

B = 100-250 km2 (about 40-100 square miles)

Comments Hemphillia burringtoni is known from the Coast Range of northwestern Oregon (Burke et al., 1999).

Area of Occupancy

B = 0.4-4 km2 (about 100-1,000 acres)

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

Comments Much of the currently known population of this species, 7 of 10 known sites, is in Washinton state. Based on the much broader range of the species, it is speculated that the populations within the park are a relatively small portion of the total, so more occurrences may show up in Oregon (Burke et al., 1999).

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

U = Unknown. Long-term trend in population, range, area occupied, or number or condition of occurrences unknown

Comments

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

C = Rapidly Declining. Decline of 30-50% in population, range, area occupied, 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 Frest and Johannes (1993a) said they had not found it at their Washington sites from 1986 through 1991.

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	High

Comments Threats to Burrington's jumping slug include loss of habitat through timber harvest, and development for housing, recreation, and other uses. Habitat fragmentation reduces sizes of populations; reduction in habitat quality reduces density of populations (Burke et al., 1999).

Number of Appropriately Protected and Managed Occurrences

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

Comments Some of the habitat for this species is in the Olympic National Park and may be protected there. Other habitat may be managed as Late-Successional Reserve (LSR) or Adaptive Management Area (AMA) on the Olympic National Forest. Olympic National Park supports much of the currently known population of this species, 7 of 10 known sites. These population segments may be secure, but what percentage of the historic range of the species occurs within the Park is not known. Based on the much broader range of the species, it is speculated that the populations within the park are a relatively small portion of the total (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 Hephillia, 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.
C = Moderate. Generalist or community with some key requirements scarce.

Comments 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 burringtoni inhabits rainforests and other wet forest areas in western Washington to northwestern Oregon from sea level to at least 1050 meters (3445 feet) elevation, the point at which Branson (1977) called the "transition zone." Habitat descriptions are not extensive, but they imply general rain forest, or other moist to wet forest conditions with heavy shading or vegetative cover, or (as with many gastropods) talus. Logs and/or other woody debris are important to the Hemphillia. Branson (1977; 1984) found this species in dense rain forest including hemlock, spruce, western red cedar, pines, ferns and mosses, sometimes associated with fallen logs, talus, and/or shrubs. Branson (1972; 1977)

reported it from elevations ranging from 166 to 1050 meters (545 to 3435 feet), in rain forests, with heavy Pacific dogwood growth in one site, in talus at one site, and with ferns and fallen logs (Burke et al., 1999).

Other Considerations

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Greasons

Limited number of occurrences.

BCD Sources

New Sources

Branson, B.A. 1972. Hemphillia dromedarius, a new arionid slug from Washington. The Nautilus, 85(3): 100-106.
Branson, B.A. 1977. Freshwater and terrestrial Mollusca of the Olympic Peninsula, Washington. The Veliger, 19(3): 310-330.
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.
Frest, T.J. and E.J. Johannes. 1995c. Interior Columbia Basin mollusk species of special concern. Report to Interior Columbia Basin Ecosystem Management Project. 274 pp.
Kelley, R., S. Dowlan, N. Duncan, and T. Burks. 1999. Field Guide to Survey and Manage Terrestrial Mollusk Species from the Northwest Forest Plan. Bureau of Land Management, Oregon State Office, Portland, Oregon. 114 pp.