# California Status Factors

**Elcode** IMGAS36130

**Gname** ANCOTREMA VOYANUM

**Gcomname** HOODED LANCETOOTH

## Number of Occurrences

B = 6 - 20

Comments Ancotrema voyanum is primarily known from northern Trinity County, California. In addition, there are credible records for 2 disjunct locations, one in Humboldt County and one in Siskiyou County. Most records are from the Shasta-Trinity National Forests, where this species is known from the Big Bar and Weaverville Ranger Districts and is suspected to occur in the Hayfork Ranger District. In the Six Rivers National Forest there are 3 records from the Lower Trinity Ranger District and one from the Orleans Ranger District. In the Klamath National Forest there is one record from the Ukonom Ranger District, and this species is suspected to occur in the Happy Camp Ranger District (Burke et al., 1999). Thus, there are about 18 sites in total, some no longer extant (Frest and Johannes, 2000).

## Number of Occurrences with Good Viability

C = Few (4-12) occurrences with good viability

Comments There are 11 sites in the Trinity River drainage (Trinity County, California) and parts of Humboldt and Siskiyou Counties, California (Frest and Johannes, 2000). Records from Jackson County, Oregon, and Shasta County, California (Pilsbry, 1946; Roth, 1993) require confirmation.

## Population Size

B = 50-250 individuals

Comments Ancotrema voyanum is an apparently rare species that is known from a total of about 75 specimens (Burke et al., 1999).

## Range Extent

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

Comments The Hooded Lancetooth, Ancotrema voyanum, seems to have a relatively small range. Within the Coast Range of northern California, this land snail has been reported from 17 mappable locations, of which 15 are in the northern half of Trinity County, and two are disjunct locations in adjacent parts of Humboldt and Siskiyou counties. Most records are from the Shasta-Trinity National Forests, where this species is known from the Big Bar and Weaverville Ranger Districts, and is suspected to occur in the Hayfork Ranger District. In the Six Rivers National Forest there are 3 records from the Lower Trinity Ranger District and one from the Orleans Ranger District. In the Klamath National Forest there is a record from the Ukonom Ranger District, and this species is suspected to occur in the Happy Camp Ranger District. Four locations are on private inholdings, and 2 locations could be on either private or Federal land. All 17 locations are along tributaries to the middle parts of the Trinity and Klamath rivers where those rivers are adjacent to the south and west sides of the Salmon Mountains (including the Trinity Alps). In addition, there are doubtful records for Jackson County, Oregon, and Shasta County, California. Both are without further details and both are suspected of being errors. The Jackson County shell was examined by Barry Roth, so the identification is presumed to be correct. There are some tributaries of the Klamath River that reach up into the southeast corner of Jackson County, so the occurrence of this species in Oregon is a possibility. Because there are no other records from that part of the Klamath River watershed, an error of the locality data seems to be more likely. The record for

Shasta County is also suspect, as the identity of the shell has not been verified by an expert on northwestern land snails, and there are no other records from Shasta County (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

## 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

Comments If this snail is now limited to isolated populations, then presumably those populations were more continuously distributed along regional rivers at some time in the past. This apparent fragmentation may have been initiated by climatic change and then recently (in historic times) compounded by human activities (Burke et al., 1999).

## 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 |
|---|---|---|---|---|---|

Comments The most serious threat to the survival of Ancotrema voyanum seems to be the loss of adequately damp conditions at the inhabited locations. Livestock grazing can threaten the local survival of this species in a number of ways, including (1) the trampling of snails that are under the leaf litter or in spaces within the upper part of the soil, (2) the reducing of the supply of the herbaceous plants on which other invertebrate animals feed, including those species that are consumed by this predatory species, (3) the consuming of tree seedlings that are needed to provide future canopy trees, (4) the loss of perennial subsurface dampness wherever the removal of vegetation by grazing results in faster runoff and in more sunlight and wind drying out the ground, (5) the degradation of water quality and flow patterns from a grazed area, and (6) the loss of the relatively cool and damp microclimate created by the natural vegetation. In view of the stress already imposed by the long seasonal droughts of the present climate, these threats could result in extirpation of the apparently small and isolated populations of this rare land snail, especially in areas of concentrated use by livestock in riparian areas. Other threats could come from the removal of trees within Riparian Reserves that will allow more sunlight and wind to reach and dry out the ground. Prescribed fire within inhabited areas may reduce the shade-providing canopy vegetation, reduce the quantity of leaf mold and herbaceous plants, degrade existing woody debris, and may result in direct mortality. Prescribed fire outside of inhabited areas may reduce the risk of extirpation as a result of wildfire. Any chemicals applied in inhabited areas, including firefighting chemicals, fertilizers, herbicides, and pesticides, may be directly toxic or adversely impact the habitat of the prey of this species. Invasions by exotic species could ecologically threaten the local survival of this species. Concentrated recreational activities, especially amateur gold mining, could be harmful to this species as a result of people and vehicles compacting the

ground, use of woody debris for firewood, wildfires starting from campfires, and alteration of the streambed (Burke et al., 1999).

## Number of Appropriately Protected and Managed Occurrences

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

Comments Most of the known localities for this species are on Federal lands. Of the known locations for Ancotrema voyanum, 2 locations are within the Trinity Alps Wilderness, 5 are within the Hayfork Adaptive Management Area, and 7 are within a quarter mile of the Klamath, Salmon, or Trinity rivers, so they should be within Wild and Scenic River Areas (Burke et al., 1999).

## Intrinsic Vulnerability

A = Highly Vulnerable. Species is slow to mature, reproduces infrequently, and/or has low fecundity such that populations are very slow (> 20 years or 5 generations) to recover from decreases in abundance; or species has low dispersal capability such that extirpated populations are unlikely to become reestablished through natural recolonization (unaided by humans). Ecological community occurrences are highly susceptible to changes in composition and structure that rarely if ever are reversed through natural processes even over substantial time periods (> 100 years).

Comments Terrence Frest (personal communication) suspects that all Ancotrema grow fairly rapidly and live for about 2 years, possibly a bit longer. The loss of any of the isolated populations that make up the total distribution, combined with the present inability of this species to rapidly recolonize those sites, make this mollusk increasingly vulnerable to extinction (Burke et al., 1999).

## Environmental Specificity

A = Very Narrow. Specialist or community with key requirements scarce.

Comments All known examples of Ancotrema voyanum have been found either near a stream or in a draw (intermittent stream channel). This fact, together with the available habitat notes, indicates that this species of snail needs situations where there is permanent dampness in the substrate and, within the range of this species, suitably damp ground seems to be limited to the vicinity of stream courses. Ancotrema voyanum seems to favor intermediate elevations. The average elevation for this species is 534 meters (1753 feet) and the known elevational range is 168-960 meters (550-3150 feet) (Burke et al., 1999).

## Other Considerations

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## Greasons

A very rare species with a range that is severely restricted.

## BCD Sources

## New Sources

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, J.T. and E.J. Johannes. 2000. A baseline survey of southwestern Oregon, with emphasis on the Rogue and Umpqua River drainages. Year 2000 Report prepared for Oregon Natural Heritage Program, Portland, Oregon. 403 pp.

Pilsbry, H.A. 1946. Land Mollusca of North America (north of Mexico). Academy of Natural Sciences of Philadelphia, Monograph 3, volume 2, part 1: 1-520.

Roth, B. 1993. Polygyrid land snails, Vespericola (Gastropoda: Pulmonata). 1. Species and populations formerly referred to Vespericola columbianus (Lea) in California. The Veliger, 36: 134-144.