California Wildlife Habitat Relationships System
California Department of Fish and Wildlife
California Interagency Wildlife Task Group

MOUNT LYELL SALAMANDER *Hydromantes platycephalus*
Family: PLETHODONTIDAE Order: CAUDATA Class: AMPHIBIA
A023

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DISTRIBUTION, ABUNDANCE, AND SEASONALITY

The Mount Lyell salamander occurs only in the Sierra Nevada from Placer Co. south to Tulare Co and an isolated population in Sierra Co. Populations are discontinuously distributed in isolated patches of suitable habitat. Usually common where they occur, individuals are active on the surface only when free water in the form of seeps, drips, or spray is available. This species occurs in massive rock areas in mixed conifer, red fir, lodgepole pine, and subalpine habitats. Elevation range extends from 1260 m (4130 ft.) to about 3640 m (11,940 ft.) (Jennings and Hayes 1994).

SPECIFIC HABITAT REQUIREMENTS

Feeding: Stebbins (1972) listed centipedes, spiders, termites, beetles, and adult and larval flies as food items of this salamander. Food is obtained under surface objects, or while foraging on the surface at night.

Cover: Cover is provided during the period of surface activity primarily by flat granite rocks. Winter hibernation probably occurs within deep rock fissures or under slabs of exfoliating granite.

Reproduction: Little is known about specific microhabitat requirements for breeding and egg laying. Eggs are probably deposited beneath granite rocks or slabs covering moist granite soil.

Water: No information on water requirements, but Adams (1942) pointed out the apparent importance of high humidity and substrate moisture as habitat requirements of this species. Water requirements during the period of surface activity are met by snowmelt, seepages, and spray from waterfalls. During the remainder of the year moisture is provided by seepages within rock fissures or other subsurface refugia.

Pattern: Almost always associated with massive rock areas in mixed-conifer, red fir, lodgepole, and subalpine habitat types. Such areas must include a water source. North and east slopes, often at the base of cliffs or rock piles, appear to be favored. Preferred rocky areas are often over decomposed granite soils, which are moistened by seeps or melting snow.

SPECIES LIFE HISTORY

Activity Patterns: Individuals are nocturnal during the period of surface activity and are most likely to be encountered on the surface during or after rains. Individuals occupy surface microhabitats during periods of surface moisture in the spring, summer, and fall but retreat to moist subsurface refugia during dry periods and winter.

Seasonal Movements/Migration: Individuals retreat to moist areas within deep rock fissures (Adams 1942) as snow banks retreat and the substratum dries.

Home Range: Individuals are not known to have home ranges exceeding 100 m in the longest dimension. Most individuals probably move much shorter distances.

Territory: Unknown, but females of the related species *H. shastae* appear to stay with eggs (Gorman 1956) and may defend egg clusters from certain predators.

Reproduction: Museum specimens (Stebbins 1951, 1954) collected during summer possessed from 6 to 14 eggs (2.0 to 3.8 mm). It is possible that oviposition occurs during the fall with hatching occurring in the spring or early summer.

Niche: Because of their secretive habits and the relative absence of potential predators in the habitats where they normally occur, this species is probably not taken in large numbers as prey by any vertebrate species. No other salamander normally occurs in the preferred habitat of this species.

REFERENCES

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Life history accounts for species in the California Wildlife Habitat Relationships (CWHR) System were originally published in: Zeiner, D.C., W. F. Laudenslayer, Jr., K.E. Mayer, and M. White, eds. 1988-1990. California's Wildlife. Vol. I-III. California Depart. of Fish and Game, Sacramento, California. Updates are noted in accounts that have been added or edited since original publication.