

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

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HEATHER VOLE

*Phenacomys intermedius*

Family: MURIDAE  
M130

Order: RODENTIA

Class: MAMMALIA

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#### DISTRIBUTION, ABUNDANCE, AND SEASONALITY

In California, the heather vole is found in the high Sierra Nevada from northeastern Fresno Co. north to eastern Nevada Co. Also found in Mt. Shasta area. Heather voles are locally common in shrubby understories of most sierran conifer forest and riparian habitats, and in montane chaparral and alpine dwarf-shrub habitats. In other parts of its range, the heather vole is most common in subalpine and alpine habitats. The elevational range in California is from 2000-3000 m (6600-9800 ft).

#### SPECIFIC HABITAT REQUIREMENTS

**Feeding:** In winter, feeds on bark, buds, and twigs of willows and other shrubs. In spring and summer, also feeds on herbaceous plants and shrubs, seeds, and berries. Collects food in twilight and night hours, caching food near the nest in burrow entrances, hollows in logs and stumps, to be eaten during the day. Some food plants include beargrass, lousewort, huckleberry leaves, and white heather (Ingles 1965, McAllister and Hoffmann 1988).

**Cover:** Usually associated with the cover of shrubs, such as heather and huckleberry (Ingles 1965), as well as ground litter or debris. Large nests of grass and lichen are built at the base of shrubs, or in rocks, in winter. Subnivean tunnels also may be formed. In summer, nests of dead grasses and mosses are built in underground burrows, usually beneath logs, rocks, or heather bushes (Ingles 1965).

**Reproduction:** Young are born in summer nests.

**Water:** Drinks water in captivity.

**Pattern:** Prefers sites in open, dry coniferous forest with shrub understory near surface water. Such sites often occur at the borders of forests and meadows. Heather voles are nearly always found near shrubs, usually where logs, stumps, or rocks are available.

#### SPECIES LIFE HISTORY

**Activity Patterns:** Active yearlong. Mostly nocturnal, but also active in the day. Awakens regularly to eat cached food. Most active on cloudy, dark nights.

**Seasonal Movements/Migration:** None.

**Home Range:** No data on home range. Density in clearcut area averaged 5.6/ha (2.25/ac). Populations may fluctuate irregularly in Canada (Banfield 1974).

**Territory:** Probably solitary throughout much of the year. In captivity, females aggressively exclude other females from the nest, and males fight during breeding season,

but sexes may share nests outside of the breeding season. Winter huddling may occur in Canada (Banfield 1974).

**Reproduction:** Pregnant females have been found from May through August. After a gestation of 19-24 days, litters are produced from June through September. Litter sizes average 4-5 (range 2-8). Young females tend to have smaller litters. There is a maximum of 3 litters per yr. The altricial young are weaned at about 19 days. Females are capable of breeding in the first spring, but sexual maturity usually achieved in the second yr for both sexes.

**Niche:** Relations with sympatric microtines, such as *Microtus montanus* and *M. longicaudus*, are unknown. Predators include hawks, owls, coyotes, bobcats, and weasels. Apparently more difficult to trap than other microtines, and was once considered to be rare (Banfield 1974).

## REFERENCES

- Banfield, A. W. F. 1974. The mammals of Canada. Univ. Toronto Press, Ontario. 438pp.
- Edwards, R. Y. 1955. The habitat preferences of the boreal *Phenacomys*. *Murrelet* 36:35-38.
- Foster, J. B. 1961. Life history of the *Phenacomys* vole. *J. Mammal.* 42:181-198.
- Ingles, L. G. 1965. Mammals of the Pacific states. Stanford Univ. Press, Stanford, CA. 506pp.
- Innes, D. G. L., and J. S. Millar. 1982. Life-history notes on the heather vole, *Phenacomys intermedius levis*, in the Canadian Rocky Mountains. *Can. Field-Nat.* 96:307-311.
- Krebs, C. J., and I. Wingate. 1976. Small mammal communities of the Kluane Region, Yukon Territory. *Can. Field-Nat.* 90:379-389.
- McAllister, J. A., and R. S. Hoffman. 1988. *Phenacomys intermedius*. *Mammal. Species No.* 305. 8pp.
- Shaw, W. T. 1924. Alpine life of the heather vole (*Phenacomys olympicus*). *J. Mammal.* 5:12-15.
- J. 1977. Wild mammals of New England. Johns Hopkins Univ. Press, Baltimore, MD. 304pp.

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