Information concerning small mammal ecology in Owens Valley, California, is scarce. Previous studies have focused primarily on taxonomy (Bailey 1898, 1915, Elliot 1903, Hollister 1913, 1914, Grinnell 1922, Hall and Dale 1939, Lidicker 1960) or on species occurring in xerophytic plant associations (Kenagy 1973a, 1973b, Brown 1973, Brown and Lieberman 1973, Matson 1976). Mesic associations, however, comprise approximately 26,880 ha (~20%) of Owens Valley. These mesic areas, including riparian corridors, meadows, and agricultural lands, are subject to more intensive and concentrated human use (e.g., livestock grazing, recreation) than drier areas.

Mesic environments are likely to support small mammal communities that differ from those of xeric environments. The distribution of 1 small mammal species, the Owens Valley vole (OVV; *Microtus californicus vallicola*), a subspecies of the California vole (*Microtus californicus*), is restricted to mesic vegetation types within the valley. The Sierra Nevada and the Mojave Desert isolate the Owens Valley vole from other subspecies (Hall 1981). The California Department of Fish and Game (CDFG) has listed the Owens Valley vole as a species of special concern (CDFG 2001).

Bailey (1898, 1900) first collected and described the Owens Valley vole in 1898, providing its current taxonomic designation. Bailey distinguished the Owens Valley vole from other subspecies of California vole by its comparatively darker pelage, smaller auditory bullae, more abruptly truncated occiput, and presence of a loop on the 4th triangle of the middle upper molar. Kellogg (1918) noted uniform convexity in dorsal profile, narrow interpterygoid fossa, and heavy maxillary roots as distinguishing characteristics.

The Museum of Vertebrate Zoology, University of California, Berkeley, holds 108 specimens collected between 1912 and 1957. Although considerable literature exists regarding California vole ecology and taxonomy (Krebs 1966, Lidicker 1980, Ford and Pitelka 1984, Tamarin 1985), its applicability to OVV populations is questionable. Climate, vegetative communities, topography, elevation, and plant association distribution patterns differ substantially between typical California vole study sites (i.e., coastal and inland Mediterranean annual grasslands) and collection locations of the Owens Valley vole. To better understand the ecology of Owens Valley voles, we studied the relative abundance of small mammal species in mesic plant associations of Owens Valley, California. We placed special emphasis on the distribution and habitat use of Owens Valley voles.

Owens Valley lies between the Sierra Nevada and the Inyo-White Mountains in eastern California (primarily Inyo County). The valley supports several cold- and warm-desert plant communities. These shrublands are interspersed with riparian communities associated with the Owens River and its tributaries, natural wetlands, and irrigated and nonirrigated agricultural land. Our study was restricted to the vicinity (within 24 km) of Bishop, California, located at the northern end of Owens Valley (Fig. 1). The climate there is characteristic of the southern Great Basin, with low annual precipitation (136 mm) occurring primarily in winter and spring. Annual precipitation has