

**ARIZONA GAME AND FISH DEPARTMENT
HERITAGE DATA MANAGEMENT SYSTEM**

Animal Abstract

Element Code: AMAFF11061

Data Sensitivity: No

CLASSIFICATION, NOMENCLATURE, DESCRIPTION, RANGE

NAME: *Microtus longicaudus leucophaeus*
COMMON NAME: White-bellied Long-tailed Vole
SYNONYMS: *Arvicola leucophaeus* Allen 1894
Microtus leucophaeus Allen 1895
Microtus alticolus leucophaeus Bailey 1900
OTHER COMMON NAMES: White-bellied Vole, Mount Graham Long-tailed Vole,
White-bellied Meadow Mouse, Graham Mountain Vole
FAMILY: Cricetidae

AUTHOR, PLACE OF PUBLICATION: *Arvicola leucophaeus*, J. A. Allen, Bull. Amer. Mus. Nat. Hist., 6:320, November 7 1894. *Microtus longicaudus leucophaeus* (J. A. Allen, 1894) E. A. Goldman, Journal Mammalogy 19:491-492, November 14, 1938.

TYPE LOCALITY: USA: Arizona: Graham County: Graham Mountains (=Pinaleno): Graham Mountain, at an elevation of 10,000 feet.

TYPE SPECIMEN: American Museum of Natural History No. 8409/6734. Collected by W.W. Price and B.C. Condit, July 18, 1894.

TAXONOMIC UNIQUENESS: *Microtus longicaudus* is one of sixty-two species in the genera worldwide, and one of seventeen in North America. According to Wilson and Reeder (2005), "although strongly differentiated relative to other North American *Microtus* (e.g., Hooper and Hart, 1962; Modi, 1987; Moore and Janecek, 1990), the phyletic affinity of *M. longicaudus* lies with this complex and not the Old World *Chionomys* (Chaline and Graf, 1988; Conroy and Cook, 2000a; Gromov and Polyakov, 1977; Zagorodnyuk, 1990)."

DESCRIPTION: Small, mouse-sized mammal with a thick-set, blunt-nosed and short-legged appearance. For the species, males are only slightly larger than females; total length 6.0-8.0 inches (15.5-20.2 cm), weight 1.3-2 oz (36-59 g). Whitaker (1996) reports a weight range for the species of 0.75-3 oz (22-87 g). Its' tail is 2.0-3.5 in (5-9 cm) long and bicolored. They have darkish brown fur on dorsal, silvery underparts (hairs lead-colored at base and tipped with white), and small nearly obscured ears. They have eight mammae, two pair of which are pectoral and two pair that are inguinal. The cheek teeth total 12 and are rootless, ever growing and flat-crowned with prismatic patterns of enamel. The skull is short, wide, relatively angular and sculptured.

AIDS TO IDENTIFICATION: No other vole is sympatric with *M. l. leucophaeus*. It is separated by about 60 miles of unsuitable habitat from its nearest conspecific relative, *M. l.*

longicaudus, from which it differs by being more yellowish and having slight skull differences.

ILLUSTRATIONS:

Color photo of unknown subspecies (Whitaker 1980: Pl. 71)

Color photos of species (Whitaker 1996: Pl. 125, 126)

Color photo of species:

<http://www.enature.com/fieldguides/detail.asp?shapeID=1037&curGroupID=5&lgfromWhere=&curPageNum=13>

TOTAL RANGE: Pinaleno (=Graham) Mountains, Graham County, Arizona.

RANGE WITHIN ARIZONA: See "Total Range."

SPECIES BIOLOGY AND POPULATION TRENDS

BIOLOGY: This animal builds runways through the thick grass, which are extended considerably under the snow in winter. The runways provide easy access from its burrows to its grassy food supplies. Nests of grass are built within the burrows. This vole is active during the day and throughout the winter. At times it is semiaquatic, freely swimming and diving. Vole signs include burrow openings (about 36 mm in diameter) located near logs, stumps, or clumps of vegetation; greenish brown fecal pellets in "toilet areas" near runways; and cuttings of grasses, sedges, rushes or other vegetation. Barn, great horned, long-eared and short-eared owls, prairie falcons, weasels and Martens are known to feed on this species.

REPRODUCTION: Sex ratios based upon museum specimens favor males to females (179:100). Pregnant females have been collected during June, August, or early September, with a mean embryo number of 5.1 (Spicer et al. 1985). Females produce a maximum of two litters in their life. Long-tailed voles seldom live long than 1 year with the females living longer than the males. Neonates produce ultrasonic sounds when disturbed or subjected to stressful conditions, and these calls attract the attention of the parents.

FOOD HABITS: Its food consists of a variety of plant parts and species. Grasses form a major component of the diet. Green, succulent vegetation appears very important. It also eats grass seeds, the bark of willows and alders, roots and fungi.

HABITAT: Grassy meadows and flats, along boggy stream bottoms, cienegas, openings in coniferous forests and along roadsides. May also be found on steep slopes with bunchgrasses.

ELEVATION: 1,829 - 3,260 meters (6,000 - 10,696 ft), primarily 2,650 - 2,930 meters (8,695 - 9,613 ft.).

PLANT COMMUNITY: Alpine meadows and cienegas with coniferous forest. With: perennial grasses (*Festuca*, *Bromus*) sedges (*Carex*), spikerush (*eleocharis*), bracken fern

(*Pteridium aquilinum*) and various forbs. Overstory/adjacent forest includes spruce-fir and mixed conifer forest, willows, and alders.

POPULATION TRENDS: Apparently stable; found to be common to abundant in appropriate habitat.

SPECIES PROTECTION AND CONSERVATION

ENDANGERED SPECIES ACT STATUS: None (USDI, FWS 1996)
[3C USDI, FWS 1989]
STATE STATUS: 2 (AZGFD, AWCS 2022)
[1B (AGFD SWAP 2012)]
OTHER STATUS: Forest Service Sensitive (USDA, FS Region
3 1988, 1999, 2007, 2013)

MANAGEMENT FACTORS: Restricted range. Appropriate habitat makes up less than 10% of its known range.

PROTECTIVE MEASURES TAKEN: Off-road vehicle closures. Removal of livestock grazing in high elevation cienegas and meadows.

SUGGESTED PROJECTS: Surveys, especially near picnic areas and campgrounds, for vegetation condition, trampling, soil erosion and compaction to determine degree of possible habitat degradation.

LAND MANAGEMENT/OWNERSHIP: USFS Coronado National Forest, Safford Ranger District.

SOURCES OF FURTHER INFORMATION

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MAJOR KNOWLEDGEABLE INDIVIDUALS:

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ADDITIONAL INFORMATION:

Known range for this subspecies is within an area of approximately 15 km long by 1 to 4 km wide.

Revised: 1991-01-07 (JSP)
1992-05-07 (BKP)
1997-03-04 (SMS)
2003-05-02 (AMS)
2014-01-29 (BDT)
2023-03-06 (MBL)

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Arizona Game and Fish Department. 20XX (= **year of last revision as indicated at end of abstract**). X...X (= **taxon of animal or plant**). Unpublished abstract compiled and edited by the Heritage Data Management System, Arizona Game and Fish Department, Phoenix, AZ. X pp.