

ARIZONA GAME AND FISH DEPARTMENT
HERITAGE DATA MANAGEMENT SYSTEM

Animal Abstract

Element Code: AMAFB07051
Data Sensitivity: No

CLASSIFICATION, NOMENCLATURE, DESCRIPTION, RANGE

NAME: *Sciurus nayaritensis chiricahuae* Goldman, 1933
COMMON NAME: Chiricahua Fox Squirrel
SYNONYMS: *Sciurus chiricahuae* Goldman, 1933
OTHER COMMON NAMES: Chiricahua Squirrel
FAMILY: Sciuridae

AUTHOR, PLACE OF PUBLICATION: *S. chiricahuae* Goldman, 1933. Proc. Biol. Soc. Wash., 46:71.

TYPE LOCALITY: "Cave Creek, Chiricahua Mountains, Cochise County, Arizona (altitude 5,200 feet)."

TYPE SPECIMEN:

TAXONOMIC UNIQUENESS: There are three subspecies of *S. nayaritensis*, only *S. n. chiricahuae* is found in Arizona and was once considered a distinct species. Closely related to *S. niger*, and may even be conspecific with it. Brown (1984:41) discusses the possibility of regarding *S. nayaritensis* and *S. arizonensis* as a subspecies of *S. niger* (eastern fox squirrel), and Hoffmeister (1986:214) notes that the skulls of *S. arizonensis* and *S. nayaritensis* are nearly indistinguishable. Best (1995) points out the marked difference in color between the two species, and the certain cranial features that are useful in distinguishing them.

DESCRIPTION: This is a large tree squirrel. Adults are about 22 inches (56 cm) long, including the 10-11 inch (25-28 cm) tail; weight about 1.75 pounds (7.9 g) with males slightly smaller than females. The tail is bushy, rounded ears thinly haired, pelage is thick and soft, and the underfur is long. This vividly colored squirrel has tawny thighs and forearms contrasting sharply with the grizzled back. The upper parts are brownish with reddish or yellow-orange, and the underparts are reddish or yellow-orange. This color extends onto the sides, legs and feet. The orbital rings, postauricular patches, tip of the nose, and lips are pale tawny like the underparts. (Best 1995; Wilson and Ruff 1999).

AIDS TO IDENTIFICATION: In Arizona, *Sciurus nayaritensis* is not sympatric with the other two tree squirrels in the state, *S. arizonensis* and *S. aberti*. In contrast to *S. aberti*, *S. nayaritensis* never has ear tufts. Compared with *S. arizonensis*, the underparts of *S. nayaritensis* are orangish rather than whitish, the upperparts are reddish rather than mostly gray with some brown, and the tail is bordered with tan or yellow rather than white. (Wilson and Ruff 1999).

ILLUSTRATIONS:

Color photo (Brown 1984:38)

Black and white photo (Hoffmeister 1986:213)

Color photo (Hoffman 1994)

B&W photo by G. Baily (*in* Best, Mammalian Species 492:1)

Color photo of species (Wilson and Ruff 1999)

TOTAL RANGE: *S. n. arizonensis* is found in the Chiricahua Mountains, Cochise County, southeast Arizona. The species occurs from Jalisco, Mexico north through the Sierra Madre Occidental to extreme southeast Arizona.

RANGE WITHIN ARIZONA: See "Total Range."

SPECIES BIOLOGY AND POPULATION TRENDS

BIOLOGY: Often rather secretive. Population densities are difficult to measure, but are suspected to fluctuate depending upon food availability. Squirrels leave their nests soon after sunrise and return just before sunset throughout the year; however, during the long, hot summer days, activity peaks in the early to mid-morning and late afternoon, with a midday lull in activity during which the squirrels typically loaf on a shaded branch. During winter, squirrels are active throughout the short days with a midday peak in activity. Females spend most of their days resting either inside or outside of their nests. Conversely, males are more attentive to feeding during winter just prior to the breeding season and spend more time in locomotion during the spring/early summer breeding season (Koprowski 1998). Young of the year often lose their hold on the trunks of trees and fall to the ground. This clumsiness in climbing also is a noticeable characteristic of adults. When danger is perceived, the squirrel's usual defense is to remain motionless. Except for chucking and barking alarm calls (usually in a tree), they are usually silent.

REPRODUCTION: The onset of breeding activity is correlated with flower emergence and flower parts in the diet. Mating chases have been observed in April and early May. Lactating females were collected between June and October. Very little else is known. A simple twig and leaf nest is constructed in the branches or a hollow or hole of a tree. The leaf nests seem about the same as those of the Arizona gray squirrel; approximately 1 foot across and 2 feet tall. Young appear from the nest in May through August. Chiricahua fox squirrels appear to have fewer young, with the litters restricted to 1 or 2 young (Koprowski 1998).

FOOD HABITS: Types of food consumed included Pine and Douglas fir seeds, acorns, walnuts, flowers, and fungi. They do not cache food. It seems likely that they occasionally rob bird nests of eggs and nestlings, and harvest invertebrates encountered while rummaging through the leaf litter. They are highly arboreal but also forage on the ground.

HABITAT: Partially open Apache pine-oak forest with mixed broadleaf deciduous trees, mainly in the thick growth of canyon bottoms. It avoids the oak-covered slopes, except when acorns are numerous.

ELEVATION: In Arizona, elevation ranges from 5,280 – 8,400 ft (609-2560 m), which includes historical observations (unpublished data, HDMS, AZ Game & Fish Department 2011). Wilson and Ruff (1999) report the elevation in the Chiricahua Mountains from 5,118 - 8,858 ft (1560-2700 m), but usually found at 5,413 – 6,398 ft (1650-1950 m).

PLANT COMMUNITY: Interior Riparian Forest. Includes sycamore, ash, walnut, pine and oak.

POPULATION TRENDS: Unknown. Never reported to be “common.”

SPECIES PROTECTION AND CONSERVATION

ENDANGERED SPECIES ACT STATUS: SC (USDI, FWS 1996)
[C2 USDI, FWS 1991]

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: Limited distribution; extreme northern edge of range.
Adequate den sites and food supplies appear to be limiting factors.

CONSERVATION MEASURES TAKEN: Prohibition of the shooting of any squirrels in the Chiricahuas at any time by the Arizona Game and Fish Department.

SUGGESTED PROJECTS: Survey information. Studies to determine ecological requirements, limiting factors, and life history.

LAND MANAGEMENT/OWNERSHIP: NPS - Chiricahua National Monument; USFS - Coronado National Forest.

SOURCES OF FURTHER INFORMATION

REFERENCES:

- Anderson, S. 1962. Tree squirrels (*Sciurus colliaei* Group) of western Mexico. American Museum Novitates 2093:1-13.
- Anderson, S. 1972. Mammals of Chihuahua: taxonomy and distribution. Bull. Amer. Mus. Nat. Hist. 148:283-284.

- Arizona Game and Fish Department. 1994. Wildlife Views. August 1994. Pp:19.
- Arizona Game and Fish Department. 2012. Arizona's State Wildlife Action Plan 2012-2022. Phoenix, AZ.
- Arizona Game and Fish Department. 2022. Arizona Wildlife Conservation Strategy: 2022-2032. Arizona Game and Fish Department, Phoenix, Arizona. 378 pages.
- Best, T.L. *Sciurus nayaritensis*. Mammalian Species o. 492, pp. 1-5, 3 figs. By The American Society of Mammalogists.
- Brown, D.E. 1984. Arizona's tree squirrels. Arizona Game and Fish Department. Pp. 39-61.
- Cockrum, E.L. 1960. The recent mammals of Arizona: their taxonomy and distribution. The University of Arizona Press, p. 103
- Hall, E.R. 1981. The mammals of North America. Second Ed. John Wiley & Sons, Inc., New York, pp. 431-432.
- Hoffman, J.H. 1994. Wildlife Views. August 1994. Pp:19.
- Hoffmeister, D.F. 1986. Mammals of Arizona. The University of Arizona Press, pp.212-213.
- Koprowski, J.L. 1998. The Ecology of Chiricahua Fox Squirrels: Trapped on a Sky Island. First Conference on Research and Resource Management in Southern Arizona National Park: Extended Abstracts.
- Monson, G. 1973. Unique Birds and Mammals of the Coronado National Forest.
- NatureServe Explorer: An online encyclopedia of life [web application]. 2001. Version 1.6. Arlington, Virginia, USA: NatureServe. Available: <https://explorer.natureserve.org/> (Accessed: April 30, 2003).
- USDA, Forest Service Region 3. 1988. Regional Forester's Sensitive Species List.
- USDA, Forest Service Region 3. 1999. Regional Forester's Sensitive Species List.
- USDA, Forest Service Region 3. 2007. Regional Forester's List of Sensitive Animals.
- USDA, Forest Service Region 3. 2013. Regional Forester's List of Sensitive Animals.
- USDI, Fish and Wildlife Service. 1991. Endangered and Threatened Wildlife and Plants; Animal Candidate Review for Listing as Endangered or Threatened Species, Proposed Rule. Federal Register 56(225):58809.
- USDI, Fish and Wildlife Service. 1996. Endangered and Threatened Wildlife and Plants: Review of Plant and Animal Taxa that are Candidates for Listing as Endangered or Threatened Species. Federal Register 61(40):7596-7613.
- Whitaker, J.O. 1996. The Audubon Society field guide to North American mammals. A.A. Knopf. New York. p. 421.
- Wilson, D. E. and D. M. Reeder, eds. 2005. Mammal species of the World: A taxonomic and Geographic Reference, Third edition, Volume 1. The Johns Hopkins University Press, Baltimore, Maryland. 762.
- Wilson D.E., and S. Ruff, eds. 1999. The Smithsonian Book of North American Mammals. Smithsonian Institution Press, Washington, in association with the American Society of Mammalogists, pp 455-456.

MAJOR KNOWLEDGEABLE INDIVIDUALS:

D.E. Brown - Phoenix, Arizona.

ADDITIONAL INFORMATION:

Hoffmeister (1986:212) suggests the common name Mexican fox squirrel would be most appropriate.

Revised: 1991-12-26 (JSP)
1991-05-09 (BKP)
1997-03-04 (SMS)
2003-05-02 (AMS)
2003-05-09 (SMS)
2011-01-28 (SMS)
2023-03-12 (MBL)

To the user of this abstract: you may use the entire abstract or any part of it. We do request, however, that if you make use of this abstract in plans, reports, publications, etc. that you credit the Arizona Game and Fish Department. Please use the following citation:

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.