

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

**Animal Abstract**

**Element Code:** AMAFF07013

**Data Sensitivity:** No

**CLASSIFICATION, NOMENCLATURE, DESCRIPTION, RANGE**

**NAME:** *Sigmodon hispidus eremicus*

**COMMON NAME:** Yuma Hispid Cotton Rat, Yuma Cotton Rat

**SYNONYMS:**

**FAMILY:** Muridae

**AUTHOR, PLACE OF PUBLICATION:** Mearns. Proc. U.S. Nat. Mus. 20:304. 1897.

**TYPE LOCALITY:** Cienega Well, 30 mi. S. Monument No. 204, Mexican boundary line on east bank Colorado River, Sonora.

**TYPE SPECIMEN:** March 24, 1804. E.A. Mearns and F.X. Holzmer.

**TAXONOMIC UNIQUENESS:** 1 of 7 North American species in genus; 1 of 4 Arizona species in genus. 1 of 25 North American subspecies. 1 of 2 Arizona subspecies.

"Populations in southern Yuma County (*eremicus*) are slightly larger than populations to the east, and this difference seems most pronounced in length of the hind foot. Morphological characters, however, do not provide a basis to consider these two, widely separated non-interbreeding groups of populations as other than one species consisting of two, not markedly differentiated subspecies" (Hoffmeister 1986). According to NatureServe, in examining mitochondrial DNA sequence data, Peppers and Bailey (2000) found that *Sigmodon hispidus* is probably paraphyletic, and recommended the recognition of three different species: one from the United States and central Mexico, a second from Southern Mexico, and a third from Central and South America.

**DESCRIPTION:** "A subspecies of *Sigmodon hispidus* of large size, long tail and hind feet, large skull, dorsum, including head, pale; sides pale ochraceous" (Hoffmeister 1986). Head and body 5"-8" (127-203mm). Tail 3.5"-6" (81-152mm). Weight 4-7oz. Skull has 16 teeth. 8-10 mammae.

**AIDS TO IDENTIFICATION:** "Our specimens from the vicinity of Yuma are especially pale and are in marked contrast to all specimens of *S. h. confinis*....the difference in color between these two subspecies is as great or greater than in nearly any other two subspecies" (Hoffmeister 1986). Yellow nose cotton rat is yellowish around nose. Rice rat has scaly tail as long as head and body. *S. h. confinis* has longer hind feet, longer skull, broader skull, less depth of skull, paler coloration of dorsum, sides, and head (Hoffmeister 1986).

**ILLUSTRATIONS:** B&W diagrams of skull (Hoffmiester 1986: Fig. 5.210)

**TOTAL RANGE:** Arizona, California; Sonora, Mexico.

**RANGE WITHIN ARIZONA:** Known only from Colorado River in southwestern Yuma County, from Yuma south to the Arizona-Mexico Border. (AGFD 1987).

## **SPECIES BIOLOGY AND POPULATION TRENDS**

**BIOLOGY:** They are known to make surface runways along which may be found small piles of cut grass stems. For the full species the home range is 100-200 feet across. This species is one of the most prolific of mammals, breeding as early as six weeks of age. Its enormous reproductive potential is kept in check by its many predators, including other mammals, birds, and reptiles. Rarely lives more than 1 year in the wild.

**REPRODUCTION:** Breeds throughout year. Nests are built underground and under logs and rocks. Gestation lasts 27 days. 5-7 offspring. Can have several litters a year. Rats are sexually mature at 2-3 months (AGFD1987).

**FOOD HABITS:** Eats insects, stems, leaves, nuts, and seeds.

**HABITAT:** Dense grassy areas such as fields and along roadside edges, brushy or weedy areas among weeds and cattails along the Colorado River and streams or ponds, in irrigated fields, and desert scrub (AGFD 1988).

**ELEVATION:** Elevation ranges from 120-160 feet (37-49 m) (unpublished data, HDMS, AZ Game and Fish Department 2004).

**PLANT COMMUNITY:** Found with *Pluchea*, *Typha*, and *Phragmites*.

**POPULATION TRENDS:** According to NatureServe, no recent records from the California side of the Colorado River; relative to the early 1900's, apparently has increased in distribution, if not in abundance, with the development of more emergent vegetation along the mainstream Colorado River and in backwaters and canals.

## **SPECIES PROTECTION AND CONSERVATION**

**ENDANGERED SPECIES ACT STATUS:** None (USDI, FWS 1996)  
[C2 USDI, FWS 1985, 1989, 1991, 1994]

**STATE STATUS:** None

**OTHER STATUS:** None

**MANAGEMENT FACTORS:** Natural habitat has been altered.

**PROTECTIVE MEASURES TAKEN:**

**SUGGESTED PROJECTS:** Not much work has been done on this species lately. It may be prudent to census population numbers, and evaluate their habitat (AGFD 1996).

**LAND MANAGEMENT/OWNERSHIP:** BLM-Yuma field office; AGFD Mittry Lake; Private.

## **SOURCES OF FURTHER INFORMATION**

### **REFERENCES:**

- Arizona Game and Fish Department. 1996. Mammal Diversity Review notes.
- Arizona Game and Fish Department. 1987. *Sigmodon hispidus eremicus*. Unpublished abstract compiled and edited by the Heritage Data Management System, Arizona Game and Fish Department, Phoenix, AZ.
- Arizona Game and Fish Department. 1988. *Sigmodon hispidus eremicus*. Unpublished abstract compiled and edited by the Heritage Data Management System, Arizona Game and Fish Department, Phoenix, AZ.
- BISON-M, Biota Information System of New Mexico, web site.  
[http://fwie.fw.vt.edu/states/nmex\\_main/species/050611.htm](http://fwie.fw.vt.edu/states/nmex_main/species/050611.htm).
- Burt, W. H. 1976. A Field Guide to the Mammals. Houghton Mifflin Company, Boston MA. Pp: 173-174.
- Burt, W.H. 1938. Faunal relationships and geographic distribution of mammals in Sonora, Mexico. Miscellaneous publications of Museum of Zoology, University of Michigan.
- Cockrum, E.L. 1960. The recent mammals of Arizona: their taxonomy and distribution. The University of Arizona Press, Tucson. p. 187.
- Hall, E.R. and K.R. Kelson. 1959. The mammals of North America, Volume II. The Ronald Press Company, New York. p.673.
- Hall, E.R. 1981. The mammals of North America. Volume II, second edition. John Wiley & Sons. New York. p. 737.
- Hoffmeister, D.H. 1986. Mammals of Arizona. The University of Arizona Press and the Arizona Game and Fish Department. pp.388-390.
- Mearns, E.A. 1898. Preliminary diagnosis of new mammals of the genera *Sciurus*, *Castor*, *Neotoma*, and *Sigmodon*, from the Mexican border of the United States. Proceedings U.S. Nat. Museum 20:501-505.
- NatureServe. 2003. NatureServe Explorer: An online encyclopedia of life [web application]. Version 1.8. Arlington, Virginia, USA: NatureServe. Available:  
<http://www.natureserve.org/explorer>. (Accessed: September 29, 2004).
- USDI, Fish and Wildlife Service. 1985. Endangered and Threatened Wildlife and Plants; Review of Vertebrate Wildlife; Notice of Review. Federal Register 50(181):37966.
- USDI, Fish and Wildlife Service. 1989. Endangered and Threatened Wildlife and Plants; Animal Notice of Review. Federal Register 54(4):563.

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. 1994. Endangered and Threatened Wildlife and Plants; Animal Candidate Review for Listing as Endangered or Threatened Species; Proposed Rule. Federal Register 59(219):58988.

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. National Audubon Society Field Guide to North American Mammals. Alfred A. Knopf, New York, New York. Pp: 607-608.

Wilson, D.E. and S. Ruff, eds. 1999. The Smithsonian Book of North American Mammals. Smithsonian Institution Press, Washington and London in association with the American Society of Mammalogists. Pp 593-594.

**MAJOR KNOWLEDGEABLE INDIVIDUALS:**

**ADDITIONAL INFORMATION:**

<b>Revised:</b>	1995-06-13 (DBI)
	1996-06-19 (SMS)
	1997-03-04 (SMS)
	1999-06-21 (DAS)
	2004-10-01 (AMS)

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.