ARIZONA GAME AND FISH DEPARTMENT
HERITAGE DATA MANAGEMENT SYSTEM

Animal Abstract **Element Code:** AMACB02010
Data Sensitivity: Yes

CLASSIFICATION, NOMENCLATURE, DESCRIPTION, RANGE

NAME: *Choeronycteris mexicana*
COMMON NAME: Mexican Long-tongued Bat, Hog-nosed Bat
SYNONYMS:
FAMILY: Phyllostomidae

AUTHOR, PLACE OF PUBLICATION: Tschudi. 1844. Untersuchungen uber die fauna Peruana.... Pg 72.

TYPE LOCALITY: Mexico

TYPE SPECIMEN:

TAXONOMIC UNIQUENESS: In Arizona *Choeronycteris* is 1 of 3 genera in Phyllostomidae. *C. mexicana* is the only species in the genus that gets as far north as Arizona. According to NatureServe 2002, *Choeronycteris mexicana* is regarded as a monotypic species by Jones and Carter (1976) and Koopman (in Wilson and Reeder 1993); nominal subspecies *ponsi* from northwestern Venezuela was not accepted as valid (probably not a *Choeronycteris*). See Van Den Bussche (1992) for an analysis of phylogenetic relationships of phyllostomid bats based on restriction-site variation in the ribosomal-DNA gene complex.

DESCRIPTION: This bats' nose is long and slender. It has a nose leaf that is broad at the base and pointed at the tip, and about 5.0 mm (0.2 in.) high. The forearm is 42.0-48.0 mm (1.68-1.92 in.) and their hind foot 11.0-14.0 mm (0.44-0.56 in.). Weight is 10-25 grams and wingspan is 33-38 cm (13-15 in). Tail approximately 10 mm in length, about one-third the length of the naked interfemoral membrane. Dorsal pelage varies from buffy brown to dark grayish-brown, palest on shoulders; venter is paler; ears pale brownish gray. Their tongue is long and extendable. It can extend up to a third of their body length. Upper incisors are small; do not fill space between canines. No permanent lower incisors, but one to four deciduous teeth may persist in adults. In flight, the wings make a swishing sound similar to that produced by long-nosed bats.

AIDS TO IDENTIFICATION: Species of the Phyllostomidae family found in Arizona including *Choeronycteris mexicana*, are identified by the presence of a flap or leaf of skin extending from the tip of the nose. Bats of the other three families in Arizona lack such a nasal leaf. *Leptonycteris curasoae yerbabuenae* lacks a visible tail and is larger (forearm 51.0-55.0 mm [2.04-2.2 in.]; hind foot 14.0-14.7 mm [0.56-0.59 in.]). The tail of *Macrotus* extends to slightly beyond the interfemoral membrane.

ILLUSTRATIONS: B&W photo (Hoffmeister 1986:63)
Color photo (Whitaker 1980: plate 180)
Color photo (*In* Http://www.angelfire.com/az/chiricahua/choer.html)
Color photo (Tuttle *in* http://www.enature.com/fieldguide/showSpecies_LI.asp?imageID=18928)
Color photo (BCI *in* http://www.batcon.org/discover/species/cmexica.html)
Color photo (Wilson 1999)
Color photo (Harvey 1999)
Color photo (Whitaker 1996)

TOTAL RANGE: Southern California, southern Arizona, southwestern New Mexico, southern tip of Texas and much of northern and central Mexico. According to the Nevada Bat Working Group there was a single individual found in Las Vegas.

RANGE WITHIN ARIZONA: Southeast Arizona, from the Chiricahua Mountains extending as far north as the Santa Catalina Mountains and as far west as the Baboquivari Mountains. AGFD HDMS unpublished records show them in Pinal, Pima, Graham, Santa Cruz and Cochise counties.

SPECIES BIOLOGY AND POPULATION TRENDS

BIOLOGY: Peak activity for *Choeronycteris mexicana* occurs 1.5 hours after sunset and then at low levels until about 3 hours after sunset. They are less gregarious than other colonial bats and less inclined to roost with other bat species. In roosts, they do not cluster closely together but hang 2.0-5.0 cm (0.8-2.0 in.) apart, usually by only one foot so they can swivel 360 degrees to watch any intruder. Populations usually consist of 15 or fewer individuals but some may reach up to 40-50. It is migratory, spending the winter in Mexico where it does not hibernate. Southern Arizona, where it is found in sexually segregated and nursery colonies during the summer, it is at the extreme northern edge of its range.

REPRODUCTION: Females segregate from the males, and according to Cockrum and Petryszyn, only adult females move north from Mexico into the United States with the males remaining "in the southern part of the range during the time that young are being nourished by the mothers in the north." The young are born mid to late June and early July. Parturition usually lasts about 15 minutes, resulting in the birth of a neonate in a remarkably advanced state of development. The newborn bat is surprisingly well furred on the dorsum with a dense, dark pelage; the venter is scantily furred with silvery hair. Young grow rapidly and can probably fly within 2-3 weeks. After the young fledge, these bats move about opportunistically in search of food. Females are known to carry their young in flight.

FOOD HABITS: Feeds on nectar, pollen, and probably insects; especially paniculate agaves and occasionally fruit of columnar cacti (these bats are not typically found in low desert

situations). Bristle-like tongue and lack of lower incisors aid in lapping up flower nectar and pollen.

During winter some are reported to feed at hummingbird feeders. It is not known if they are feeding on other things at that time.

HABITAT: Canyons of mixed oak-conifer forests in mountains rising from the desert; in Mexico includes arid thorn scrub, and tropical deciduous forests. Caves and abandoned mines are favored daytime retreats where they prefer to roost in the dimly lit areas often near the entrance. They are also often found in shallow caves or rock shelters. A few are found in palo verde-saguaro areas. Some range overlap with *Leptonycteris* but not great (see Hevly 1979). *Choeronycteris* usually occupies higher elevations than *Leptonycteris* when it arrives in spring. They may use the same roost year after year.

ELEVATION: Records from 2,540 - 7,320 ft. (774- 2,233 m), but most are from 4,000 - 6,000 ft. (1,220 - 1,830 m).

PLANT COMMUNITY: Oak belt with evergreen oaks (*Quercus*), alligator juniper (*Juniperus deppeana*), manzanita (*Arctostaphylos*), yucca and agave.

POPULATION TRENDS: Populations in Arizona appear to be highly variable.

SPECIES PROTECTION AND CONSERVATION

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

STATE STATUS:
WSC (AGFD, WSCA in prep)
[State Endangered AGFD, TNW 1988]

OTHER STATUS:
None (USDA, FS Region 3, 1999)
[Forest Service Sensitive USDA, FS Region 3, 1988]
None (USDI, BLM AZ 2005)
[Bureau of Land Management Sensitive (USDI, BLM AZ 2000)]
Determined Threatened (Secretaria de Medio Ambiente 2000)
[Determined Threatened, Secretaria de Desarrollo Social 1994]

MANAGEMENT FACTORS: Very wary of humans and easily disturbed. Difficult to survey for because it roosts in small (5-15) colonies. Threats include Recreational caving, mine reclamation, and renewed mining. In addition, the loss of food resources (Agaves in

Mexico [over harvesting]) due to development, fire or grazing may also have an affect on this species.

PROTECTIVE MEASURES TAKEN:

SUGGESTED PROJECTS: Restrict human disturbances in roosts. Studies to determine food habits, range, population densities, and migration and roosting patterns. Develop survey methods.

LAND MANAGEMENT/OWNERSHIP: BIA - Tohono O'odham and San Carlos Reservations; BLM - Safford and Tucson Field Office; DOD - Fort Huachuca Military Reservation; NPS - Organ Pipe Cactus National Monument and Saguaro National Park; USFS - Coronado National Forest; State Land Department; Kartchner Caverns State Park; Pima County; Agua Caliente County Park; Cienega Creek Nature Preserve; AMNH Southwestern Research Station; TNC - Ramsey Canyon and Muleshoe Ranch Preserves; Private.

SOURCES OF FURTHER INFORMATION

REFERENCES:

Arizona Game and Fish Department. 1988. Threatened Native Wildlife in Arizona. p.31.

Arizona Game and Fish Department. 1996. Mammal Diversity Review notes.

Arizona Game and Fish Department. In prep. Wildlife of special concern in Arizona. Arizona Game and Fish Department Publication. Phoenix, Arizona. 32 pp.

Arroyo-Cabrales, J., R.R. Hollander and J.K. Jones, Jr. 1987. *Choeronycteris mexicana*. Mammalian Species. No. 291:1-5. American Society of Mammalogists.

BCI. 2002. Available: http://www.batcon.org/discover/species/cmexica.html.

Best, T.L. et al. Available: http://talpa.unm.edu/batcall/accounts/accountsbase/chomex.html.

Castner, S.V. 1995. Wildlife Views. Arizona Game and Fish Department. June 1995, pp:5.

Charron, S. 2002. Available: http://animaldiversity.ummz.umich.edu/accounts/choeronycteris/c._mexicana$narrative.html.

Cockrum, E.L. and Y. Petryszyn. 1992. Seasonal and geographic distribution of the Mexican long-tongued bat *Choeronycteris mexicana* Techudi. Draft.

Constantine, D.G. 1987. Long-tongued bat and spotted bat at Las Vegas, Nevada. The Southwestern Naturalist 32(3):392.

ENature. Available: http://www.enature.com/fieldguide/show/SpeciesADVSTD.asp?curGroupID=5&range=1016&curPageNum=13&recnum=MA0.

Harvey, M.J. et al. 1999. Bats of the United States. Arkansas Game and Fish Commission, p 20.

Hevly, R.H. 1979. Dietary habits of two nectar and pollen feeding bats in southern Arizona and northern Mexico. Jour. Arizona-Nevada Acad. Sci. 14(1):13-18.

Hoffmeister, D.F. 1986. Mammals of Arizona. University of Arizona Press, Tucson. pp.62-64.

Http://www.angelfire.com/az/chiricahua/choer.html.
Http://www.funet.fi/pub/sci/bio/life/mammalia/chiroptera/phyllostomidae/choeonycteris/
Huey, L.M. 1954. *Choeronycteris mexicana* from southern California and Baja California, Mexico. Journal of Mammalogy 35(3):436-437.
NatureServe Explorer: An online encyclopedia of life [web application]. 2001. Version 1.6. Arlington, Virginia, USA: NatureServe. Available: http://www.natureserve.org/explorer. (Accessed: March 10, 2003).
Nevada Bat Working Group. Available: http://www.batworkinggroups.org/states/nevada.htm.
Secretaría de Desarollo Social. 1994. Diario Oficial de la Federacion. p. 25.
Secretaría de Medio Ambiente. 2000. Diario Oficial de la Federacion. p. 43.
Texas Parks and Wildlife. Available: http://www.tpwd.state.tx.us/nature/wild/mammals/bats/species/mex_long.htm.
Turkowski, F.J. and A.W. Lewis, 1974. Distribution record of some Arizona mammals. J. Az Acad Sci 9(3):89-90.
Tuttle, M.D. Available: http://www.enature.com/fieldguide/showSpecies_LI.asp?imageID=18928.
USDA, Forest Service, Region 3. 1988. Regional Forester's Sensitive Species List.
USDA, Forest Service, Region 3. 1999. Regional Forester's Sensitive Species List.
USDI, Bureau of Land Management. 2000. Arizona BLM Sensitive Species List. Instruction Memorandum No. AZ-2000-018.
USDI, Bureau of Land Management. 2005. Arizona BLM Sensitive Species List.
USDI, Fish and Wildlife Service. 1989. Endangered and Threatened Wildlife and Plants; Animal Notice of Review. Federal Register 54(4):561.
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):58807.
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):58985.
USDI, Fish and Wildlife Service. 1996. Endangered and Threatened Wildlife and Plants; Animal Candidate Review for Listing as Endangered or Threatened Species; Proposed Rule. Federal Register 61(40):7596.
Whitaker, J.O. 1980. The Audubon Society field guide to North American mammals. A.A. Knopf. New York. p. 307; plate 180.
Whitaker, J.O. 1996. The Audubon Society field guide to North American mammals. A.A. Knopf. New York. p. 318 plate 25.
Wilson D.E. et al. 1999. The Smithsonian Book of North American Mammals. Smithsonian Institution Press, Washington, in association with the American Society of Mammalogists, pp 75-76.

MAJOR KNOWLEDGEABLE INDIVIDUALS:

Ronnie Sidner – Tucson, AZ.

ADDITIONAL INFORMATION:

In the 1980s (at least) in late August approximately 100 of these bats congregated in an old log homestead in Ramsey Canyon, Huachuca Mountains. Dr. E.L. Cockrum (pers comm 1992) speculated that the congregation may be due to the females and fledged young gathering near a food source, the numerous hummingbird feeders in the canyon.

Ronnie Sidner reports that they have been observing them more frequently at hummingbird feeders, and higher in the Santa Catalina Mountains.

Choeronycteris mexicana. From the Greek *choiros* meaning pig (refers to the pig-shaped snout) and *nykteris* meaning bat. The specific epithet, *mexicana*, refers to its major distribution, and where the species was first described.

Revised: 1991-12-26 (JSP)
1992-05-03 (BKP)
1992-09-28 (RBS)
1994-03-29 (DCN)
1997-03-03 (SMS)
2003-03-10 (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.