ARIZONA GAME AND FISH DEPARTMENT
HERITAGE DATA MANAGEMENT SYSTEM

Animal Abstract **Element Code:** AMACC10010
Data Sensitivity: Yes

CLASSIFICATION, NOMENCLATURE, DESCRIPTION, RANGE

NAME: *Antrozous pallidus*
COMMON NAME: Pallid Bat
SYNONYMS:
FAMILY: Vespertilionidae

AUTHOR, PLACE OF PUBLICATION: Le Conte. 1856. Proc. Acad. Nat Sci. Phila., 7:437.

TYPE LOCALITY: El Paso, El Paso County, Texas, by J.H. Clark

TYPE SPECIMEN: USNM May 19, 1853

TAXONOMIC UNIQUENESS: This is a monotypic genus.

DESCRIPTION: Total length 92-135 mm (3.6-5.3 in), long forearm 48 to 60 mm (2-2.4 in), wingspread 360-390 mm (14-15 in), tail 40-53 mm (1.5-2.1 in), hind foot 11-13 mm (.4-.5 in), ear 31-36 mm (1.2-1.4 in), tragus with wavy edge. Weight 21.4-22.2 g (.75-.78 oz). Upper parts are light yellow, washed with brown or gray with underpants pale cream, almost white. Females larger than males.

AIDS TO IDENTIFICATION: Long grayish-tan ears, separated at base, and reaching far beyond muzzle when laid forward. Each nostril under a horseshoe shaped ridge at the end of a spiral groove. Only bat which has distal tips of dorsal hairs darker than base. All other bats have opposite coloration. *A. pallidus* has scent glands on each side of the muzzle, when excited it will secrete a few drops of an odoriferous material unique to this species.

ILLUSTRATIONS: B&W drawing (Burt 1976: plate 2)
B&W ink drawing (Hall and Kelson 1959:202)
B&W photo (Hoffmeister 1986:112; Figs. 5.49, 5.50)
Color photo (Tuttle *in* http:rbcm1.rbcm.gov.bc.ca/end_species/species/pbat.html)
Color photo (BCI *in* http://www.batcon.org/discover/species/apallid.html)
Color photo (BCI *in* http://imnh.isu.edu/Bat-page/PALLIDUS.HTM)
Color photo (Ingles *in* http://nasa.utep.edu/chih/theland/animals/mammals/anpa.htm)
Color photo (Dewey *in* http://animaldiversity.ummz.umich.edu/accounts/antrozous/a._pallidus$media.html)
Color photo (Wilson 1999)
Color photo (Harvey 1999)

TOTAL RANGE: Western North America from south-central British Columbia south through western U.S. (including Kansas, Oklahoma and Texas) to central Mexico. Also known from two recent localities in Cuba.

RANGE WITHIN ARIZONA: Throughout the state; in winter, southern part of the state.

SPECIES BIOLOGY AND POPULATION TRENDS

BIOLOGY: *A. pallidus* prefers to roost in rock crevices, buildings and occasionally in mines, caves, and hollow trees during the day. A suitable site must provide protection from precipitation, inaccessibility to predators, a microenvironment with moderate daily temperature changes, shelter from direct sunlight, a space large enough for more than two dozen bats, and an unobstructed entrance at least 1.5 meters above the ground to allow the bat to drop for flight. Emerges from day roost relatively late in the day. Night roosts include buildings, bridges, rock overhangs, and other sheltered places, which are open and offer easy accessibility by flight. *A. pallidus* often roosts with bats of different species. If the bat becomes too warm, it may salivate and pant to cool itself. It is a slow flyer without especially good maneuverability. *Antrozous pallidus* are able to walk on the ground with a variety of strides and gaits, and they can hover or glide momentarily. Pallid bats emit a skunk like odor that may be used as a defense mechanism. Cockrum has a record of a Pallid bat banded in Arizona that lived nine years.

REPRODUCTION: Breeding does not begin until after the summer colonies have dispersed in autumn. Breeding then occurs sporadically throughout the winter, October to December. Sperm is retained within the female through the winter with delayed fertilization taking place in the spring. Nursery colonies begin forming in April. Males, with the exception of some young of the previous year, are excluded from these colonies. Young are born over a two-week period beginning in late May or June. Adult females usually give birth to two young, while yearling females give birth to only one young. During parturition, the females hang upright by their thumbs with their uropatagium curled upright forming a basket. Young are born breech first. As soon as the feet are free, the baby aids itself in birth by pushing against the mother. The young then attach themselves to the mother's teat with the help of the mother who then covers the young with her wing. Females apparently nurse only their own young. The young's eyes open in 2-5 days, ears open in 5-14 days, hair develops in 14-21 days and it is flying in 33-36 days. Young bats reach adult size in 5-7 weeks, but do not attain adult weight until the following year. Pallid bats become sexually mature at about 2 years of age.

FOOD HABITS: *A. pallidus* feeds less on the wing than other bats, consuming a large variety of ground-dwelling insects. Aside from a size preference of insects larger than 17 mm, it selects no particular species as prey. In addition to moths, crickets, beetles, and antlions, this species will also feed on scorpions and centipedes. They have also been found to consumer lizards and rodents (Harvey 1999). As it also takes prey on the ground, it may be caught in mousetraps. The Pallid bat can consume up to half its weight in insects every night. After catching prey the bats return to their night roost, to eat their catch. Foraging peaks at the beginning and the end of the nocturnal activity cycle. They use passive sound in addition

to echolocation to home in on their slow moving targets. With their large ears, they detect prey items on the desert floor or in low brush. Pallid bats are known to visit flowers and are pollinators of several species of cactus. However, the bats do not appear to be feeding on the nectar, rather the insects found within. A legitimate pollinator of bat adapted CAM plants (Herrera et al).

HABITAT: Variety of habitat types including coniferous and non-coniferous forests, brushy terrain, rocky canyons, open farmland, and deserts where suitable roosts exist.

ELEVATION: Less than 8,000 ft. (2,440 m). Based on records in the Heritage Data Management System, elevation ranges from 210 – 6,900 ft. (64 - 2,103 m) (AGFD, unpublished data accessed 2002).

PLANT COMMUNITY: Xeric, scrub grassland, evergreen-woodland, evergreen-forest.

POPULATION TRENDS: Appears to be stable.

SPECIES PROTECTION AND CONSERVATION

ENDANGERED SPECIES ACT STATUS:
STATE STATUS:
OTHER STATUS:

MANAGEMENT FACTORS: "Disturbances at roost may cause pallid bats to abandon it for a time" Hoffmeister (1986). "Any disturbance, even hiking, can cause the bat to abandon a roosting area completely. Human disturbance of foraging areas has also decreased prey availability and diversity. Also, the use of pesticides has had a serious impact on pallid bat populations" Miller (2000).

PROTECTIVE MEASURES TAKEN:

SUGGESTED PROJECTS:

LAND MANAGEMENT/OWNERSHIP: BIA - Colorado River Reservation; BLM - Arizona Strip, Havasu, Kingman, Phoenix and Tucson Field Offices; DOD - Barry M. Goldwater Air Force Range and Fort Huachuca Military Reservation; FWS - Imperial and Kofa National Wildlife Refuges; NPS – Pipe Springs, Tonto and Tuzigoot National Monuments; USFS – Coconino, Coronado and Kaibab National Forests; State Land Department; AGFD-Cluff Ranch; Private.

SOURCES OF FURTHER INFORMATION

LITERATURE CITATIONS:

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MAJOR KNOWLEDGEABLE INDIVIDUALS:

ADDITIONAL INFORMATION:

Revised: 1992-02-13 (JSP)
1994-04-04 (DBI)
1994-04-07 (DCN)
2002-11-19 (AMS)