

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

Animal Abstract

Element Code: ARACF15030

Data Sensitivity: No

CLASSIFICATION, NOMENCLATURE, DESCRIPTION, RANGE

NAME: *Uma scoparia*
COMMON NAME: Mojave Fringe-toed Lizard
SYNONYMS: *Uma notata*, in part
FAMILY: Sauria: Iguanidae

AUTHOR, PLACE OF PUBLICATION: Cope, Proc. Acad. Nat. Sci. Phila. 18: 300-314.
1894.

TYPE LOCALITY:

TYPE SPECIMEN:

TAXONOMIC UNIQUENESS: The monotypic species *scoparia*, is 1 of 3 species in the genus *Uma*. According to NatureServe (2002), "Electrophoretic analysis indicate that *Uma scoparia*, *U. notata*, and *U. inornata* comprise a single species (*Uma notata*) (Adest 1977); this change was adopted by Collins (1990). Stebbins (1985) maintained the three taxa as distinct species." The Heritage Data Management System (HDMS) also maintains the three taxa as distinct, based on Crother (2001).

Per NatureServe (2002), "Trepanier and Murphy (2001) used mtDNA data to examine phylogenetic relationships among the three northernmost *Uma* species and concluded that either a two-species (*Uma scoparia*, *U. notata*) or five-species (*U. scoparia*, *U. notata*, *U. inornata*, and *U. rufopunctata*, plus an undescribed species from Mohawk Dunes, Arizona) classification is appropriate. They preferred the latter arrangement and stated that a description of the Mohawk Dunes species is in progress. Here we maintain *U. inornata* as a species and *rufopunctata* as a subspecies of *U. notata* until a taxonomic consensus emerges for this group."

DESCRIPTION: A medium lizard with a flattened pear shaped body, a shovel-shaped nose, and small fringelike pointed scales projecting from the toe edges (lamellar fringes on third and fourth hind-toe). The flattened body is covered with velvety granular scales; males have enlarged postanal scales. Lengths from 2.5 – 4.5 inches (6.4-11.4 cm), snout to vent; tail is equal to body length. The base coloration, which closely matches the sand on which it lives, is light cream, yellow-tan, to reddish, with small brown to orange spots on the back surrounded by a network of black reticulations. There are black bands on the underside of the tail, and a

black spot on each side of the belly. Dark crescents occur across the center of the throat. Adult breeding colors include yellow-green wash on venter and pink on sides.

AIDS TO IDENTIFICATION: *Uma scoparia* differs from similar non-*Uma* lizards in having both external ear openings and an interparietal scale that is smaller than the ear opening (Smith and Brodie 1982, *in* NatureServe 2002). Differs from *Uma notata* and *U. inornata* in having crescent-shaped dark throat markings rather than diagonal lines; ocelli do not tend to form broken lengthwise lines that extend over the shoulders; also, during breeding season, has greenish-yellow tinge on belly (lacking in *notata*) (Stebbins 1985, *in* NatureServe 2002). Differs from *Uma inornata* in having conspicuous black spot on each side of belly (vs. absent or reduced to one or more small dots) (Stebbins 1985, *in* NatureServe 2002).

ILLUSTRATIONS: Color drawing (Stebbins 1985: Pl. 23)
Color drawing (Stebbins 2003: Pl. 29)
Color photo (Behler and King 1979: Pl. 344)
Color photo (Laura Cunningham 2001, *in* <http://cluster4.biosci.utexas.edu/deathvalley/uma/umastart.htm>)
Color photo (Tom Brennan, 1999 and 2003, *in* <http://www.reptilesfaz.com/h-u-scoparia.html>)
Color photo (<http://www.californiaherps.com/lizards/pages/u.scoparia.html>)
Color photos (B.C. Jayne, Univ. Cincinnati, <http://www.biology.uc.edu/faculty/jayne/bcjhi10.htm>)
Color photo (http://www.dees.dri.edu/Projects/cablk_uma.htm)
Color photo (Karl Switak, <http://www.enature.com/fieldguide/>)
Color photo (W.E. Townsend, Jr., 1999 Cal. Acad. Sci., <http://elib.cs.berkeley.edu/cgi/>)

TOTAL RANGE: Mojave Desert in California, southeast to just over the Arizona border.

RANGE WITHIN ARIZONA: Extreme western edge of state near Parker, including Cactus Plain, Bouse Dunes, Bouse Wash, Butler Valley, La Posa Plain, Parker Valley, and Buckskin and Mesquite mountains, La Paz County.

SPECIES BIOLOGY AND POPULATION TRENDS

BIOLOGY: *Uma scoparia* is a diurnal desert lowland species that is inactive in cold temperatures and extreme heat, and is strictly confined to fine sand deposits. The fringes on the toes act like “snowshoes” to stop the feet from sinking in the sand. When fleeing from predators, the species may run (up to 15 miles per hour) bipedally on their hind legs. They “swim” into the sand (head first) to avoid capture, and to escape extreme heat or cold. The setback jaw, scaly flaps over the ear, overlapping eyelids, and valves in the nostrils all serve to keep out sand while the lizard is burrowing. The lizard’s sand-like pattern (dorsal network

of dark ocelli on a yellowish ground color) makes them cryptic, which allows them to avoid predators. Predators include badgers (*Taxidea taxus*), coyotes (*Canus latrans*), hawks, shrikes, roadrunners (*Geococcyx californianus*), burrowing owls, leopard lizards (*Gambelia wislizenii*) and various snakes.

As indicated above, seasonal activity occurs between March and October, with hibernation occurring between November and February. Daily activity patterns are temperature dependent.

REPRODUCTION: Adults exhibit a breeding coloration of a yellowish-green ventral wash that becomes pink along the sides between April and July. Courtship gestures include head bobbing and rapid, alternate, up and down waving of the front legs and feet. Females lay 1-5 eggs in hummocks or sandy hills from May – July. Hatchlings appear around September. Multiple clutches may be laid after wet winters. Reproduction may not occur after dry winters when food is scarce. Sexual maturity is reached 2 summers after hatching.

FOOD HABITS: Chiefly consumes arthropods (ants, beetles, lepidopterous larvae, spiders, etc.), but will also eat some buds, leaves, and seeds. Types of food consumed, depends upon availability.

HABITAT: Restricted to fine, windblown sands and dunes, flats, riverbanks and washes of very arid desert, with low-growing vegetation. These areas are generally within the creosote scrub desert habitat.

ELEVATION: Ranges from 425 - 2,905 ft (130 - 886 m). Stebbins (1985,2003) reports range of elevation from 300 to about 3,000 ft (90-910 m). Based on unpublished records from the HDMS (AGFD, accessed 2003), elevation ranges from 510 – 1,090 ft (156-332.45 m) in Arizona.

PLANT COMMUNITY: Associated species include big galleta grass (*Hilaria ridgida*), white bursage (*Ambrosia dumosa*), and paloverde (*Cercidium*).

POPULATION TRENDS: Unknown, but apparently not very threatened.

SPECIES PROTECTION AND CONSERVATION

ENDANGERED SPECIES ACT STATUS:	None
STATE STATUS:	WSC (AGFD, WSCA in prep) [State Candidate AGFD, TNW 1988]
OTHER STATUS:	None

MANAGEMENT FACTORS: Extreme eastern edge of range, restricted habitat and limited distribution. Potential direct disturbances of the fragile loose wind-blown sand habitat, includes habitat loss or damage from urban development, off-highway vehicles, and agriculture. Potential indirect disturbances are associated with the disruption of the dune ecosystem source sand, wind transport, and sand corridors.

PROTECTIVE MEASURES TAKEN:

SUGGESTED PROJECTS: Distribution, habitat, population and life history studies needed. Mark and recapture studies should be implemented in as many populations as possible to gather much needed biological data. Genetic studies focusing on interpopulational relationships could greatly increase the understanding about population associations and their relative distinctiveness from each other.

LAND MANAGEMENT/OWNERSHIP: BIA - Colorado River Reservation; BLM - Havasu and Yuma Field Office's; State Land Department.

SOURCES OF FURTHER INFORMATION

REFERENCES:

- Arizona Game and Fish Department. 1988. Threatened native wildlife in Arizona. Arizona Game and Fish Department Publication. Phoenix, Arizona. P. 12.
- Arizona Game and fish Department. In prep. Wildlife of special concern in Arizona. Arizona Game and Fish Department Publication. Phoenix, Arizona. 32 pp.
- Behler, J.L. and F.W. King. 1979. The Audubon Society field guide to North American reptiles and amphibians. Reprinted 1992. Alfred A. Knopf, New York. Pp. 533-534.
- eNature.com. Field Guide, Mojave Fringe-toed Lizard, *Uma scoparia*.
<http://www.enature.com/fieldguide/>. Accessed 4/2/2003.
- Funk, R.S. 1974. Herp Review 5(1): 20-21.
- Hollingsworth, B.D. and K.R. Beaman. Mojave Fringe-toed Lizard, *Uma scoparia*.
<http://cluster4.biosci.utexas.edu/deathvalley/uma/umastart.htm>. Accessed 4/2/2003.
- Integrated Taxonomic Information System (ITIS). Retrieved 4/2/2003 from ITIS.
<http://www.itis.usda.gov>.
- Lowe, C.H. 1964. Amphibians and reptiles. The vertebrates of Arizona. University of Arizona Press, Tucson. P. 161.
- NatureServe Explorer: An online encyclopedia of life [web application]. 2002. Version 1.6. Arlington, Virginia, USA: NatureServe. Available: <http://www.natureserve.org/explorer>. (Accessed: April 2, 2003).
- Pough, H. 1974. SSAR Catalogue #155.1.
- Smith, H.M. 1946. Handbook of lizards. Lizards of the United States and Canada. Comstock Publishing Company, Ithaca, New York. P. 156.
- Stebbins, R.C. 1954. Amphibians and reptiles of western North America. McGraw-Hill Book Company, Inc., New York. Pp. 226-227.

- Stebbins, R.C. 1966. A field guide to western reptiles and amphibians. Houghton Mifflin Company. Boston, MA. P. 99.
- Stebbins, R.C. 1985. A field guide to western reptiles and amphibians. Second edition, revised. Houghton Mifflin Company. Boston, MA. Pp. 120.
- Stebbins, R.C. 2003. A field guide to western reptiles and amphibians. Third edition. Houghton Mifflin Company. Boston, MA. Pp. 282-283.
- Vitt, L.J. and R.D. Ohmart. 1978 West. Found. Vert. Zool. LA, CA Vol 2(2).
- Zalusky, S.B., A.J. Gaudin and J.R. Swanson, 1980. Copeia 1980(2): 296-310.

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ADDITIONAL INFORMATION:

Uma is named after Fort Yuma located in Yuma, Arizona, a location that served as a shipping point for natural history specimens back in the 1800s.

Revised: 1991-04-09 ()
1997-02-13 (SMS)
2003-04-17 (SMS)

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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.