

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

**Animal Abstract**

**Element Code:** ARACF04010

**Data Sensitivity:** No

**CLASSIFICATION, NOMENCLATURE, DESCRIPTION, RANGE**

**NAME:** *Crotaphytus bicinctores*

**COMMON NAME:** Great Basin Collared Lizard; Mohave Black-collared Lizard

**SYNONYMS:**

**FAMILY:** *Crotaphytidae*

**AUTHOR, PLACE OF PUBLICATION:** *Crotaphytus bicinctores* Smith and Tanner, The Great Basin Naturalist, vol. 32, no. 1, 25-34. 1972.

**TYPE LOCALITY:**

**TYPE SPECIMEN:**

**TAXONOMIC UNIQUENESS:** *Crotaphytus bicinctores* is 1 of 5(6) species in the genus *Crotaphytus* that occurs in North America and 1 of 3 species that occurs in Arizona. The other two species include *C. collaris* (Eastern Collared Lizard) and *C. nebrius* (Sonoran Collared Lizard). According to NatureServe (2006), "the species was formerly included in *Crotaphytus collaris*, and has been referred to as *Crotaphytus insularis bicinctores*. Also McGuire (1996) recognized *C. bicinctores* as a monotypic species." The species in Arizona has also been known to hybridize with the *C. collaris* (Eastern collard lizard) where their ranges meet (Brennan and Holycross, 2006).

**DESCRIPTION:** *Crotaphytus bicinctores* is a medium-sized lizard to 4.25 in (10.8 cm) from snout to vent. The tail is often twice the length of the body. The species has a robust body with a large head, narrow neck with two black collar bands separated by a white band, large rear legs, and a long thick tail; collar markings are separated at dorsal midline by no more than 12 pale scales. The scales are small and granular. The anterior collar completely encircles the neck on males. Coloration is gray-brown with soft-edged, yellow-orange crossbands; the ventral coloration is a light cream. The limbs and feet are tinted with yellow-orange and the back is usually marked with white to cream colored dots. According to Brennan (2006), this pattern reverses on the tail and hind limbs, becoming gray-brown dots on a light background. The tail is taller than it is wide, except in males where they are somewhat flattened side-to-side. In addition, males have a pale stripe running down the top of the tail, usually have well developed alternating wide crossbands, dark blue-gray to black patches on the throat and groin, and enlarged postanal scales. Females lack the tail stripe, are duller in color, and have orange bars on their sides when gravid. (Stebbins 2003; Brennan 2006; Brennan and Holycross 2006). Juveniles are similar to adults, but with more distinct banding.

**AIDS TO IDENTIFICATION:** With the tail being taller than it is wide, as previously mentioned, this distinguishes the *Crotaphytus bicinctores* from similar collared lizards such as the *C. collaris* (Eastern Collared Lizard) and the *C. nebrius* (Sonoran Collared Lizard). In *C. bicinctores*, the black collars are separated by no more than 12 scales, where as in *C. vestigium* (Baja California Collared Lizard), the black collars are separated by more than 12 scales. Although similar in appearance to *C. bicinctores*, both *Gambelia copei* (Cope's Leopard Lizard) and *G. wislizenii* (Long-nosed Leopard Lizard) lack black collars.

**ILLUSTRATIONS:**

Color photo and line drawing (Stebbins, 2003: p. 272, plate 27)

Color photo (Brennan and Holycross, April 2005: P. 36)

Color photo (Brennan and Holycross, April 2006: P. 61)

Color photos (M.J. Feldner, in Brennan 2006

<http://www.reptilesfaz.com/Lizards-Subpages/h-c-bicinctores.html>).

Color photo (William Wells, in Brennan 2006

<http://www.reptilesfaz.com/Lizards-Subpages/h-c-bicinctores.html>).

Color photos of species and habitat (Various photographers available at

<http://www.californiaherps.com/lizards/pages/c.bicinctores.html>).

Color photo (Suzanne L. Collins, 2003 in CNAH available at

<http://www.cnah.org/detail.asp?id=489>.)

Color photos (in <http://www.wildherps.com/species/C.bicinctores.html>)

Color photo (Casey Lofthouse, in Utah Division of Wildlife Resources accessed 2/21/2007

<http://dwrcdc.nr.utah.gov/rsgis2/search/Display.asp?F1Nm=crotbici>)

**TOTAL RANGE:** From eastern and southeastern California, through most of Nevada, in extreme southeast Oregon and southern Idaho, western Utah, and northwestern and western Arizona; isolated populations can be found in eastern Idaho and Utah.

**RANGE WITHIN ARIZONA:** In deserts across the northwestern to western parts of the State, north of the Gila River including Coconino, Mohave, La Paz, Yavapai, Maricopa, and Yuma counties.

**SPECIES BIOLOGY AND POPULATION TRENDS**

**BIOLOGY:** The species is diurnal and is often found atop large rocks basking in the mid-morning sun usually on a hillside. These lookouts also serve as a lookout for potential prey. Southern populations are active earlier than northern populations, and remain active later in the year (CDFG, 2005). They hibernate during late fall throughout winter and are very tolerant of the heat during the summer. If threatened they usually retreat into a burrow or a hole to avoid danger, and when captured, they do not hesitate to bite. Unlike many lizards, collared lizards

can not cast off and regenerate the tail. During the breeding season, males are usually more aggressive and very territorial towards other males; this is when they usually stand their ground so they become more approachable “often raising up on their hind legs, bobbing up and down, and extending a blue and black throat dewlap in a threat display (which may also be attractive to females)” (Californaherps.com, accessed 2007). When running the lizard lifts its forelimbs off the ground and runs on its hind limbs (Brennan, 2006). Predators probably include *Masticophis*, various birds and mammals; the young are taken by loggerhead shrikes in appropriate habitat.

**REPRODUCTION:** Overall, the species breeds in the spring and lays a clutch of 3-7 eggs in the summer. In Arizona, eggs are laid in June or July, hatching in October. Stebbins (2003) mentions that in Tule Valley, Utah *C. bicinctores* is found to lay eggs in June. Per NatureServe (Accessed 2/5/2007), “other members of the same genus lay 1 or 2 clutches of eggs/year. Clutch size 3-8.” Neonates have been observed in August in eastern Oregon (see McGuire 1996). In southern populations some females mature in 1 year (Nussbaum et al. 1983). This species hybridizes with *Crotaphytus collaris* along contact zones.

**FOOD HABITS:** Eats insects, small lizards, including horned lizards, spiders, and small snakes, using its powerful jaws; occasionally eats plant material such as leaves and flowers.

**HABITAT:** Frequents hillsides, canyons, slopes, gullies, and washes with rocky substrates, and sometimes rock piles. Infrequently encountered on relatively flat terrain lacking large rocks (Brennan 2006). Usually uses fallen logs or debris to burrow into.

**ELEVATION:** For the species they are usually found at sea level up to elevations of 7,500 ft (2290 m). According to Brennan (2006), in Arizona this species occurs at elevations ranging from 700 to over 6,500 ft. (213-1981 m). Based on collections housed at MVZ (accessed 2007) for La Paz, Maricopa, Mohave, and Yuma counties in Arizona, elevations range from 534 – 3380 ft (163-1031 m).

**PLANT COMMUNITY:** Primarily an inhabitant of Sonoran, Mohave, and Great Basin Desertscrub, and the Great Basin Grassland. Also enters Interior Chaparral and Great Basin Conifer Woodland in some areas. (Brennan 2006).

**POPULATION TRENDS:** Unknown. NatureServe (2007), reports that the global trend for the species as stable.

## **SPECIES PROTECTION AND CONSERVATION**

**ENDANGERED SPECIES ACT STATUS:** None  
**STATE STATUS:** None

**OTHER STATUS:** None

**MANAGEMENT FACTORS:**

**PROTECTIVE MEASURES TAKEN:**

**SUGGESTED PROJECTS:**

**LAND MANAGEMENT/OWNERSHIP:** BLM; FWS - Kofa NWR; NPS – Grand Canyon NP; State Land Department; and Private among others.

## **SOURCES OF FURTHER INFORMATION**

### **REFERENCES:**

- Beltz, E. 2006. Original Description Citations for the Reptiles and Amphibians of North America. <http://ebeltz.net/herps/od-dex.html>.
- Brennan, T.C. and A.T. Holycross. April 2005. A field guide to amphibians and reptiles of Maricopa County. Arizona Game and Fish Department. Phoenix, Arizona. Pp. 36-37.
- Brennan, T.C. and A.T. Holycross. April 2006. A field guide to amphibians and reptiles in Arizona. Arizona Game and Fish Department. Phoenix, Arizona. Pp. 60-61.
- California Department of Fish and Game. California Interagency Wildlife Task Group. 2005. California Wildlife Habitat Relationships version 8.1 personal computer program. Sacramento, California.
- Californiaherps.com. 2000-2007. *Crotaphytus bicinctores* - Great Basin Collared Lizard. Accessed 1/31/2007. <http://www.californiaherps.com/lizards/pages/c.bicinctores.html>.
- Crother, B.I. et al. 2000. Scientific and Standard English Names of Amphibians and Reptiles of North America North of Mexico, with Comments Regarding Confidence in our Understanding. Society for the Study of Amphibians and Reptiles. Accessed 1/31/2007. Available [http://www.bio.sdsu.edu/pub/tod/standard\\_names.pdf](http://www.bio.sdsu.edu/pub/tod/standard_names.pdf).
- [Http://imnh.isu.edu/digitalatlas/bio/reptile/lacer/crbi/crbi.htm](http://imnh.isu.edu/digitalatlas/bio/reptile/lacer/crbi/crbi.htm). *Crotaphytus bicinctores* (Mohave Black-collared Lizard). Accessed: 2/21/2007.
- Integrated Taxonomic Information System (ITIS). Retrieved 2/1/2007 from ITIS, <http://www.itis.usda.gov>.
- Museum of Vertebrate Zoology (MVZ), UC Berkeley, Collections Database. <http://mvzarctos.berkeley.edu/SpecimenDetail.cfm>? Accessed: 2/21/2007.
- Powell, R., J.T. Collins, and E.D. Hooper Jr. 1998. A Key to Amphibians and Reptiles of the Continental United States and Canada. University Press of Kansas. Lawrence, Kansas. Pp. 96.
- Stebbins, R.C. 2003. Peterson Field Guides: Western Reptiles and Amphibians. Third Edition. Houghton Mifflin Company. New York. Pp. 272-273.

USGS, Western Ecological Research Center. 2003. *Crotaphytus bicinctores*, the Great Basin Collard Lizard. Accessed: 2/21/2007. <http://www.werc.usgs.gov/fieldguide/crbi.htm>.  
Utah Division of Wildlife Resources. Great Basin Collared Lizard, *Crotaphytus bicinctores*.  
<http://dwrcdc.nr.utah.gov/rsgis2/search/Display.asp?FINm=crotbici>). Accessed:  
2/21/2007.

**MAJOR KNOWLEDGEABLE INDIVIDUALS:****ADDITIONAL INFORMATION:**

Scientific name description: *Crotaphytus* is Greek meaning *krotaphos* - side or temple of the head which refers to the presence of small polygonal plates on the whole surface of the head of the lizard, and *bicinctores* is Latin for *bi* or two and *cinctus* for banded or girdled both referring to the presence of the two black bands present on the lizards neck and shoulder.

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