

ARIZONA GAME AND FISH DEPARTMENT
HERITAGE DATA MANAGEMENT SYSTEM

Animal Abstract

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CLASSIFICATION, NOMENCLATURE, DESCRIPTION, RANGE

NAME: *Crotaphytus nebrius*
COMMON NAME: Sonoran Collared Lizard
SYNONYMS: *Crotaphytus collaris nebrius* Axtell and Montanucci
FAMILY: Crotaphytidae

AUTHOR, PLACE OF PUBLICATION: *Crotaphytus nebrius* Axtell and Montanucci, Nat. Hist. Misc. [Chicago Acad. Sci.], No. 201:1, 1977.

TYPE LOCALITY: Sonora, Mexico.

TYPE SPECIMEN: Holotype unknown. Paratypes include AMNH 75682, 75683, 80852 and 86814, and CAS-SU (Rep) 12774-12777.

TAXONOMIC UNIQUENESS: *Crotaphytus nebrius* is 1 of 6 species in the genus *Crotaphytus* that occurs in the United States and 1 of 3 subspecies that occurs in Arizona. According to NatureServe (2007), the lizard was “formerly regarded as a subspecies of *C. collaris*. McGuire (1996) revised the taxonomy of the genus (based on morphology and allozyme data) and recognized *C. nebrius* as a distinct species.”

DESCRIPTION: A medium size lizard with a large head, plump body and snout to vent lengths up to 4.25-4.4 in (10.8-11.2 cm). There are two distinct black collar markings on the neck, and is often broken mid-dorsally; the anterior collar is complete ventrally. Brennan and Holycross (2006) report that the “Anterior collar encircles the throat on males,” where Brennan (2006), reports the front collar on males completely crosses the neck. The coloration ranges from gray-brown, brown, yellow-brown to dull tan above with large white spots on the back that become smaller towards the sides; some individuals lack spots. The upper surfaces of the hind limbs and the tail are often marked with light dots, and the tail is rounded with no defined dorsal stripe. Crossbars on the body are absent or vague. The underside is usually pale and plain. The scales are small and granular. **Male:** The throat is gray or dark brown, often with a yellow cast; no black central spot. During breeding season, males develop burnt orange or orange-brown coloration on the lower sides of the body. Small inguinal patches are present. **Female:** Duller in color than males, often browner, and have orange or reddish lateral bars or markings on their neck and sides when gravid. They do not have dark inguinal patches nor a complete anterior collar marking. (Stebbins, 2003; Brennan, 2006; Brennan and Holycross, 2005, 2006).

AIDS TO IDENTIFICATION: According to McGuire (1996, in NatureServe 2006), *C. nebrius* differs from “*C. dickersonae*, *C. grismeri*, *C. bicinctores*, *C. vestigium* and *C. insularis* by the absence in adult males of a laterally compressed tail, enlarged dark brown or black inguinal patches that extend between one-third and one-half the distance between the hindlimb and forelimb

insertions, and a pale white dorsal caudal stripe; differs further from *C. grimeri*, *C. bicinctories*, *C. vestigium*, and *C. insularis* by the presence of black oral melanin. Differs from *C. reticulatus* and *C. antiquus* by its dorsal color pattern of white spots on a pale tan field, rather than white reticulations on a pale tan or brown field, and the absence of jet black femoral pores in males. Differs from *C. collaris* by the presence in adult males of dark brown or black pigmentation in the gular fold (= ventrally complete anterior collar) and by the presence of burnt orange ventrolateral abdominal coloration in breeding males.”

ILLUSTRATIONS:

Color drawing (Stebbins, 2003: plate 27)

Color photos (William Wells, in Brennan 2006,

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

Color drawing (Brennan & Holycross, 2005 and 2006: p. 36 and p. 61)

Color photos (<http://www.reptilesfaz.com/Lizards-Subpages/h-c-nebrius.html>)

Color photos (<http://www.arts.arizona.edu/herp/CRNE.html>)

Color photos (<http://www.californiaherps.com/noncal/southwest/swlizards/pages/c.nebrius.html>)

Color photos (Erik F. Enderson, available at Tucson Herpetological Society

<http://www.arts.arizona.edu/herp/CRNE.html>)

Color photo (R.D. Bartlett, in eNature at <http://www.enature.com/fieldguides/detail.asp?>

Accessed 3/21/2007)

Color photos (Troy Hibbitts 2005, in

<http://fieldherpforum.com/photos/displayimage.php?album=43&pos=1>)

Color photos (in <http://www.desertreptiles.net/nebriushome.htm>)

TOTAL RANGE: Southwestern Arizona from south side of lower Gila River to vicinity of Yuma, east to just west of Tucson. Also in Sonora, Mexico from Guaymas east to west foothills of Sierra Madre Occidental near Bacadéhuachi.

RANGE WITHIN ARIZONA: Found in southwestern part of state including Maricopa, Pima, Pinal, and Yuma counties. NatureServe (2006), reports the “species occurs in Gila, Mohawk, Little Ajo, Ajo, Pozo Redondo, Puerto Blanco, Sikort Chuapo, and Estrella mountains, as well as the Buckeye Hills, plus a few mountain ranges farther east, including the Quijotoa, Silverbell, and Tucson mountains, and probably also in the remaining mountain ranges south of the Gila River, though the Baboquivari Mountains may be inhabited by *C. collaris* (McGuire 1996).”

SPECIES BIOLOGY AND POPULATION TRENDS

BIOLOGY: *Crotaphytus nebrius* is primarily diurnal, although occasionally evening-crepuscular. It and is often found atop large rocks or boulders basking in the mid-morning sun. These basking areas also serve as lookouts spots for potential prey. They hibernate during late fall throughout the 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. However when captured, it does not hesitate to bite, and can easily draw blood with its powerful jaws. 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). “The home range tends to be small for all *Crotaphytids*....Dispersal characteristics are unknown, but these lizards appear to be capable of making extensive movements....In Kansas, male *Crotaphytus collaris* maintained home ranges averaging about 0.4 ha and spent most of their time in just a small portion of this. In Oklahoma, average home average home range size of adult male *C. collaris* was 1,865 sq m (Stone and Baird 2002),” (NatureServe 2006).

REPRODUCTION: Information on reproduction is vague such as “Adults lay eggs in spring or summer” per Brennan (2006). NatureServe (2006) referencing McGuire (1996) reports “Mating takes place probably primarily in May-June; neonates apparently hatch out between July and/or August and September, at least in the north.” Herpscope (accessed 2007), reports mating occurring in spring, with 1-12 eggs laid in mid-summer.

FOOD HABITS: A species that uses its powerful jaws to capture a variety of insects, spiders, and small lizards.

HABITAT: It frequents rocky bajadas, hillsides, canyons, and mountain slopes, in areas with numerous large rocks and boulders which are used for basking spots and lookouts.

ELEVATION: In Arizona, the lizard ranges from near sea level to 4,500 ft (1372 m). Based on collection records from MVZ, SDNHM, and UAZ, elevation in Arizona ranges from 528-4,680 ft (161-1426 m).

PLANT COMMUNITY: Sonoran desertscrub community in the lowlands and mountains of the Sonoran Desert: Arizona Upland Desertscrub subdivision. Dominant cactus, trees, and shrubs include: Saguaro (*Carnegia gigantea*), Fishhook (or Pincushion) cactus (*Mammillaria* sp.), Fishhook Barrel cactus (= Emory’s Barrel Cactus, *Ferocactus emoryi*), various cholla, various prickly-pear, Little-leaf Paloverde (*Parkinsonia microphylla*), Blue Paloverde (*P. florida*), Ironwood Tree (*Olneya tesota*), Mesquite (*Prosopis* sp.), Catclaw Acacia (*Acacia greggii*), Brittlebush (*Encelia* sp.), Triangle-leaf Bursage (*Ambrosia deltoidea*), and Jojoba (*Simmondsia chinensis*). (Brennan and Holycross, 2006).

POPULATION TRENDS: Unknown in Arizona. NatureServe (2006) reports the Global Short Term and Long Term trends as stable. They go on to report the Global abundance as 2500-100,000 individuals, with the total adult population unknown, but likely at least several thousand.

SPECIES PROTECTION AND CONSERVATION

ENDANGERED SPECIES ACT STATUS: None

STATE STATUS: 2 (AZGFD, AWCS 2022)
[1B (AGFD SWAP 2012)]

OTHER STATUS: None

MANAGEMENT FACTORS: No major threats are known, except for those mountain ranges near the Phoenix Metro Area that are surrounded by (and potentially threatened by) development.

PROTECTIVE MEASURES TAKEN:

SUGGESTED PROJECTS: Conduct surveys of the Saucedo and Maricopa mountains for possible contact between *C. nebrius* and *C. bicinctores*. Life history studies, including reproduction, needs to be conducted.

LAND MANAGEMENT/OWNERSHIP: BIA – Tohono O’Odham Nation; BLM – Phoenix Field Office; DOD – Barry M Goldwater Range; NPS – Organ Pipe Cactus National Monument and Saguaro National Park; AGFD – Power Buttes and Robbins Buttes Wildlife Areas; Maricopa County – Estrella Mountain Regional Park; Pima County - Tucson Mountain Park; Private. Possibly BIA –Gila River Reservation and State Land Department among others.

SOURCES OF FURTHER INFORMATION

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MAJOR KNOWLEDGEABLE INDIVIDUALS:**ADDITIONAL INFORMATION:**

Species name *nebrius* is Greek – *nebrios* for dappled like a fawn: “distinctive large dorsal spotting.”

“although it is believed that the Gila River prevents contact between *C. nebrius* and *C. bicinctores*, the White Tank Mountains may harbor integrades of *C. nebrius* and *C. bicinctores*.” (Gaulden, in Arizona Herpetological Association 2000-2007).

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