

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

Animal Abstract

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CLASSIFICATION, NOMENCLATURE, DESCRIPTION, RANGE

NAME: *Trogon elegans*

COMMON NAME: Elegant Trogon; Coppery-tailed Trogon

SYNONYMS:

FAMILY: *Trogonidae*

AUTHOR, PLACE OF PUBLICATION: Gould, Proc. Zool. Soc. London, pt.2 no. 15, 1834, p. 26.

TYPE LOCALITY: “apud Guatemala, in Mexico=[probably] Escuintla, Guatemala.”

In the United States, this species was first collected in the Huachuca Mountains of southeastern Arizona on August 24, 1885, by Lieutenant H. C. Benson, off duty Fort Huachuca army officer. On September 20th, 1884 a laborer in the Santa Catalina Mountains saw what he took for “a kind of bird of paradise.” His description of the spectacular plumage was precise enough to enable pioneer ornithologist W.E.D. Scott to publish his sightings as the first recorded occurrence of the Coppery-tailed Trogon. Less than a year later, the 1885 collection occurred. (Taylor 1980).

TYPE SPECIMEN: **Type unknown.** In Arizona, immature male collected by H.C. Benson on 24 August 1885. Place where specimen was deposited is unknown.

TAXONOMIC UNIQUENESS: Five subspecies of *Trogon elegans* are recognized by Peters (1945); some races considered synonyms by later authorities. The subspecies are divided into two distinct groups differentiated by pattern on the ventral sides of the lateral retrices. The Central American *elegans* group has distinct, narrow, black-and-white barring, while the northern *ambiguus* group has fine grayish-and-white marbling. *T. elegans canescens* is the subspecies that occurs in southern Arizona and southwestern New Mexico; wing and tail are slightly longer than in nominate *ambiguus*. (Kunzmann et al 1998). Apart from the distinctions between the two groups of subspecies, geographic variation has been little studied.

DESCRIPTION: A quiet medium sized bird (28 -30 cm, 68 g); brightly colored, sexually dimorphic in plumage with round head, large eyes and wingspan of around 41 cm. Both sexes have a white breast band, a broad but short saw-toothed yellow bill, orange eye ring, and feet that are heterodactyl (first and second digits pointed backwards). The adult male has black face and throat; iridescent green upperparts and breast; red belly and undertail-coverts separated from green breast by white band; long square tail with iridescent copper green

central retrices tipped black; undertail white, with fine black speckling or fine black barring. Adult female has a similar pattern, however the head and upperparts are grayish brown, lacking black or green, with bold white bar behind eye and white mark in front of eye; underparts paler red than on male, and central retrices lack green. Juveniles are similar to adult female, but less boldly marked, with brownish white underparts (lacking red); also wing coverts appear browner than in adults (appear gray in adult male and grayish brown in adult female) and have large buffy white spots.

AIDS TO IDENTIFICATION: The only other trogon in the United States is the rare Eared Trogon (*Euptilotis neoxenus*), which is easily distinguished (both sexes) from the Elegant Trogon by a large amount of white on underside of the tail (no vermiculations), lack of white band separating metallic green breast from red belly of male, and lack of white teardrop behind eye of female.

ILLUSTRATIONS: Color drawing (Peterson 1990: P. 207)
Color drawing (Robbins et al. 1987: P. 193)
Color drawing (National Geographic, Third Edition, 1999: P. 271)
Color photo (Farrand 1988: P. 265)

TOTAL RANGE: Generally a migrant in southern Arizona and New Mexico; casual breeder in Texas. Resident in Mexico from eastern Sonora and western Chihuahua south along Pacific slope to southern Oaxaca, and from central Tamaulipas and southeastern Nuevo Leon south through San Luis Potosi to Puebla and western Oaxaca. Also resident from southeast Guatemala, El Salvador, and interior of western Honduras, south through southern Nicaragua to northwestern Costa Rica. (Kunzmann et al. 1998). There is no Paleontological or archaeological evidence that any form of trogon ever occurred in Arizona prior to recent times. (Taylor 1980).

RANGE WITHIN ARIZONA: Confined to the southeast "Sky Island" mountain ranges. Fairly common summer resident to southern Arizona, breeding regularly in 4 mountain ranges: Atascosas, Chiricahuas, Huachuclas, and Santa Ritas (Taylor 1994). Only scattered winter records from Arizona near Tucson.

SPECIES BIOLOGY AND POPULATION TRENDS

BIOLOGY: This species largely is resident, but most of the population in the U.S., and probably in north western Mexico, is partly migratory. They arrive in the Chiricahua and Santa Rita mountains of southeastern Arizona "almost any still, moonlit night in April" (Taylor 1994: 52 in Kunzmann et al. 1998). They depart by the first week in November (Taylor 1994 in Kunzmann et al. 1998); departs Chiricahua, Huachucla, and Santa Rita mountains sometime between September and November. Their migration routes, duration, and distance is unknown. Males are highly territorial. "The average length of a territory in... Arizona is about one-half mile." (Taylor 1994 in Kunzmann et al. 1998).

Trogon life history remains poorly known, including such basic information as nutrition and energetics, metabolism, and temperature regulation, timing and duration of molts, migration patterns and seasonal movements (Kunzmann et al 1998). Trogons are typically lethargic birds, given to long periods of quiet sitting, punctuated with occasional aerial forays to capture insects or other small prey and to pluck fruits (Hubbard 1985 in BISON 2000). When sitting, typically in the shade and/or in dense growth, these birds are often difficult to see, in spite of their striking coloration (BISON 2000). The woodpecker-like flight of this species is generally slow and heavily undulating, but individuals can escape from hawks or other danger with amazing maneuverability and speed. Adults defend their young from snakes, squirrels, and hawks, but human disturbance has caused abandonment of nests, eggs, and young. (Kunzmann et al. 1998). Their diagnostic song, *Ko-ah, Ko-ah*, is usually compared to that of the wild turkey (*Meleagris gallapavo*) or a frog. See Kunzmann et al. (1998) for their vocalizations and vocal array.

The ability of this species to distinguish objects in low intensity light and to discriminate red from other colors relates directly to their eye dynamics. The importance of vision is exemplified by the flexibility of their necks. A trogon is capable of sweeping its head through an overlapping arc. Like an owl, a trogon can look straight down its spine. (Taylor 1980). Hearing plays an absolutely vital role in the life history of the Elegant Trogon, and is governed by both its ability to hear and to be heard. (Taylor 1980).

REPRODUCTION: A secondary cavity nester in either live or dead wood. They utilize holes made by woodpeckers (mostly Northern Flicker), but also are reported to nest in banks. They compete with other secondary cavity nesters for nest sites. In Arizona, some adults may be paired upon arrival on breeding grounds in April (Taylor 1994, Hall and Karubian 1996, LSH in Kunzmann et al. 1998). In other instances, males court females and form bonds after arrival (Kunzmann et al. 1998). The pair spends time each season to identify a suitable site for the nest. The male initially chooses the site and then attempts to persuade the female to accept it. In Arizona, typical nesting cavities were located at a mean of 7.8 m high in 12 m tall trees, usually in sycamore trees. In Arizona, nest-building occurs April-June, while clutches are laid May-June. The female lays 2-4 white eggs in the nest and then shares incubation duties with the male on a roughly equal basis. The estimated duration of incubation is approximately 17-19 days with both parents brooding after hatching. Hatchlings are altricial, naked, skin pink, eyes closed. At 14 days, nestlings scale cavity walls to receive food from parents at the entrance. At about 30 days, fledglings obtain full tail length and feed themselves; shortly thereafter, they begin to molt into their first sexually dimorphic plumage (Taylor 1994).

FOOD HABITS: True to its name this species is a fruit eater, but it also feeds on insects and other arthropods. Trogon bills (saw-toothed) are specifically designed to grasp and hold large insects, larvae, small lizards and slippery berries (Taylor 1980). Examples of insects consumed include katydids, cicadas, walkingsticks, and large caterpillars, while examples of fruits and berries consumed in late summer and fall include chokeberry and wild grape (Peterson Multimedia Guides). This species sallies from a branch to hover briefly at the outermost twigs of a tree or shrub, and plucks its prey on the wing. In Arizona, it forages heavily in oak trees and fruit bearing plants when available (Taylor 1994). They are capable

of handling and consuming a variety of food items; depending upon where these occur, they can exploit a variety of plant species.

HABITAT: In Arizona (breeding season), Elegant Trogons are most abundant in canyons that have increasing percentage of cover by sycamore riparian and edge vegetation, pinon pine (*Pinus edulis*) riparian and edge vegetation, juniper (*Juniperus spp.*) riparian, pine riparian, and juniper upland vegetation. Also most abundant with decreasing cover by Fremont cottonwood-oak (*Populus fremontii-Quercus*) riparian, Douglas fir (*Pseudotsuga menziesii*) upland, mesquite (*Prosopis glandulosa*), Arizona black walnut (*Juglans major*), and mountain mahogany (*Cercocarpus betuloides*) edge vegetation (Hall 1996 in Kunzmann et al. 1998). Canyons in southeast Arizona that are used by trogons, have sufficient water flow for sycamore trees in riparian areas, and are vegetated by pines and oaks at medium elevations (1365-2275 m) (Kunzmann et al 1998).

Findings by Hall (1996 in Kunzmann et al. 1998) indicate that a “Consistent pattern of habitat selection by Elegant Trogon in Arizona was found across 3 scales: (1) broadest level - mountains and canyons with sycamore trees in the riparian areas, and pine and oak trees throughout the watersheds; (b) home-range level - trogons acted as a pine-oak woodland upland species, and used riparian areas with sycamores; and (c) microsite scale - species nested primarily in large sycamores and secondarily in oak trees. Thus, across all scales, it was evident that sycamores, pines, and oaks were critical to habitats used by Elegant Trogon in Arizona.” These findings concur with those of Marshall (1957), who classified Elegant Trogon as a pine-oak woodland species.

ELEVATION: Recorded observations in Arizona range from 3,400 to 6,800 ft. (1037-2074 m). From near sea level to 6,300 ft. (1922 m) in Guatemala (Land 1970).

PLANT COMMUNITY: In riparian areas of 11 canyons in the Huachuca and Santa Rita mountains, individuals selectively used oak-pine and pine-oak vegetation. In upland areas, they selectively used oak-juniper, oak-pine, and pine-oak vegetation. (Kunzmann et al 1998).

POPULATION TRENDS: Not well known. In Kunzmann et al. (1998), “Numbers in Arizona may fluctuate yearly, although from 1993 to 1995 they did not. Some investigators suggest apparent increases in breeding distribution during the 1900s. Other surveys suggest numbers increased after the Arizona Game and Fish Department listed the Elegant Trogon as a sensitive species in 1940, but other data indicate continuing annual fluctuations, with low numbers of individuals. Lack of systematic spring trogon censuses in southeast Arizona over all years has resulted in nonrigorous population information.” Johnson (2000) reported “the elegant trogon is neither rare nor endangered, but also neither widespread nor anywhere abundant in Arizona. No evidence indicates population declines in any of the core canyons occupied over the past few decades. The elegant trogon is thus not a candidate for federal listing as threatened or endangered, although it is an Arizona species of concern. The latter status reflects the species’ preference for habitats also used by humans.”

SPECIES PROTECTION AND CONSERVATION

ENDANGERED SPECIES ACT STATUS: None
STATE STATUS: 1B (AGFD SWAP 2012)
[WSC, WSCA, AGFD in prep]
[SC (TNW, AGFD 1988)]
OTHER STATUS: Forest Service Sensitive (USDA, FS Region
3 2007, 2013)

MANAGEMENT FACTORS: Elegant Trogon needs are habitat protection and management of people. Its foraging and nesting habitats must be protected and in some cases restored. Use of tape recorders and other call-back mechanisms to entice a trogon into better view, can effect nesting success. (Johnson 2000). **Threats include:** degradation and loss of native riparian habitat through stream diversion, groundwater withdrawal, erosion, and overgrazing. **Management needs:** reduce riparian and adjacent-slope grazing to maintain and enhance sycamore and oak regeneration in breeding habitat; reduce diversions and groundwater withdrawal to maintain perennial stream flow; retain large sycamores in nesting habitat; retain mature trees in foraging habitat; establish seasonal closures near nest sites as necessary to reduce disturbance by birdwatchers and photographers; establish long-term nest monitoring program.

PROTECTIVE MEASURES TAKEN: Although thirty nest boxes were installed in the Huachuca mountains, none were used by Elegant Trogons during a four year period (Hakes 1983). The U.S. Forest Service has implemented steps 2 and 3 (below), and 5 to some extent in South Fork of Cave Creek and Madera Canyon, but effectiveness of the measures remains unknown.

SUGGESTED PROJECTS: Steps suggested to conserve the species in Arizona include: (1) to protect the species in at least one canyon where it occurs in greatest numbers in each mountain range, (2) to designate South Fork, Cave Creek Canyon, in the Chiricahua Mountains, as a National Zoological Area, (3) to restrict vehicular use in a canyon in the Huachuca Mountains, (4) to make dispersed camping restrictions in Madera Canyon, Santa Rita Mountains, and (5) to ban use of tape-recorded trogon calls, photography equipment next to nests, and people approaching nest sites (Taylor 1979). Monitoring of population trends of trogons should census not only adults but also monitor nesting activity and demography to better determine long term persistence of trogons (Hall 1996).

Additional research topics to be explored should include: (1) the effects of management activities on trogon numbers, as well as on the numbers of other avian species and the relationship of the Elegant Trogon to other avian species in the southeastern Arizona mountains; (2) the destination of trogons migrating south for winter from the Chiricahua, Huachuca, and Santa Rita Mountains of Arizona; and (3) winter habitat use patterns. (Kunzmann et al. 1998).

LAND MANAGEMENT/OWNERSHIP: DOD - Fort Huachuca Military Reservation; USFS - Coronado National Forest; TNC - Ramsey Canyon preserve; Private.

SOURCES OF FURTHER INFORMATION

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ADDITIONAL INFORMATION:

Trogon elegans, from the Greek *trogon*, meaning gnawing or fruit eating, and the Latin *elegans*, meaning fine or choice.

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