

**A NEW RATTLESNAKE
(REPTILIA, SERPENTES, VIPERIDAE)
FROM JALISCO, MEXICO**

Jonathan A. Campbell

Department of Biology, The University of Texas at Arlington,
Arlington, Texas 76019

ABSTRACT

A new subspecies of *Crotalus triseriatus* is described from south-central Jalisco. It differs from closely related forms by characters of squamation, pattern, and color. 1979 Trans. Kansas Acad. Sci., vol. 81:4, pp.

The systematic status of the populations of rattlesnakes assignable to *Crotalus triseriatus* has been reviewed by Gloyd (1940) and Klauber (1952), who allocated specimens from the western portion of its range (Michoacan, Jalisco, Nayarit) to *C. t. triseriatus*. However, Klauber (1952, p. 23) noted the great variability of squamation and pattern in the subspecies and suggested that further investigation might reveal subspecific segregation. The extremely diverse physiography of Mexico has allowed many highland-adapted populations of *C. triseriatus* to become ecologically/geographically isolated from each other. Among the Mexican snakes in the University of Texas at Arlington Collection of Vertebrates (UTA) are nine specimens of a rattlesnake from the south-central highlands of Jalisco, Mexico. These specimens resemble *C. t. triseriatus* in some characters and *C. t. aquilus* in others. Nevertheless, they possess other characters that do not fall within the range of variation of either of these taxa. The differences are so distinctive that the snakes from Jalisco appear to warrant subspecific recognition. In appreciation of my field companion, Barry L. Armstrong, whose enthusiasm and perseverance contributed much to the acquisition of the series, I propose that the new subspecies be named

Crotalus triseriatus armstrongi subsp. nov.
Armstrong's Dusky Rattlesnake

Holotype.—UTA R-6258, an adult male from Rancho San Francisco, 1.5 mi NW Tapalpa, Jalisco, Mexico, elevation 2103 m, collected 23 July 1976 by J. A. Campbell and B. L. Armstrong. Original number JAC 2674. Fig. 1.

Paratypes.—Eight specimens: UTA R-5893, 6257, 6259, 6260, 7937, same data as holotype; UTA R-4909, 7232, same locality and collectors as holotype, taken June 1969 and July 1972, respectively; UTA R-7739, near Tapalpa, 26 June 1973, R. M. Hubbard.

Diagnosis.—*Crotalus triseriatus armstrongi* can be distinguished by its pale gray, reddish brown, brownish yellow, or yellowish green ground color from *C. t. triseriatus* which has a dark gray or dark grayish brown dorsum. In *C. t. armstrongi* the body blotches tend to be as wide or wider than long while in *C. t. triseriatus* the blotches are usually longer than wide. *Crotalus t. armstrongi* further differs from *C. t. triseriatus* in that males (N=3) generally have fewer ventrals and subcaudals, 130-138 (134.3) and 24-26 (25.3), respectively, as compared to 136-151 (144.0) and 26-34 (29.2), respectively. *Crotalus t. armstrongi* can be distinguished from *C. t. aquilus* by having a distinct postocular stripe, a proportionally smaller rattle, and in males possessing fewer ventrals (the number usually exceeding 145 in *C. t. aquilus*). *Crotalus t. armstrongi* females (N=6) generally have fewer ventrals, 138-146 (142.0), and more subcaudals, 22-25 (23.5) than female *C. t. aquilus* which have 143-160 (151.7) ventrals and 17-23 (20.4) subcaudals. The only other rattlesnake with which *C. t. armstrongi* may be confused is *C. pusillus*, but it may be easily distinguished from this form by its having fewer ventrals and subcaudals, fewer pterygoid teeth, and canthals that fail to make contact with each other.

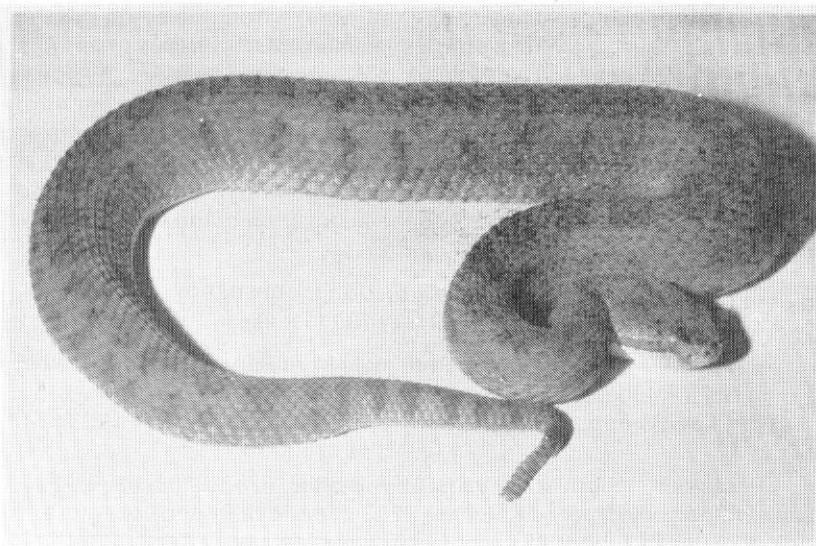


Figure 1: *Crotalus triseriatus armstrongi*, holotype, UTA R-6258, photographed while alive.

Description of holotype.—Head length 26.1 mm, comprising 5.4% of total; total length 484 mm; tail length 44 mm, comprising 9.1% of total; dorsoventral width of proximal rattle segment 3.8 mm; straight-line fang length from upper lumen to tip 4.5 mm; 3 palatine, 6 pterygoid, 8 dentary teeth; dorsal scale rows 25-23-17, 9 above tenth subcaudal; ventrals 135; subcaudals 26, undivided; anal entire; rattle-fringe scales 8; rostral 1.13 times broader than high; nasals divided by vertical suture; loreal single; prefoveals 3/3; subfoveals lacking; postfoveals 1/1; preoculars 2/2, suboculars 2/2, postoculars 2/1; supralabials 11/11; interocular series incomplete, anterior subocular contacting supralabials 4 and 5; infralabials 10/12, first pair in contact along midventral line, anterior 4/3 contact chin shields; mental 1.63 times broader than long; chin shields large, 6 gulars between chin shields and first ventral; scales in frontal area without keels, but scales keeled in parietal region; single large canthal per side; 2 internasals in contact; intercanthals 2; intersupraoculars 3 (anteriorly).

Dorsum in life brownish yellow; paired occipital blotches, 32 dorsal body blotches, and 7 brown tail bands, irregularly edged with black; dorsal body blotches offset laterally by vertically elongate blotches in single series; supralabial, infralabial, and gular region white; a distinct, sharply defined postorbital stripe extending from lower posterior edge of eye to rictus, involving first temporal row and upper portion of supralabials; venter yellow with stippling more pronounced toward outside of

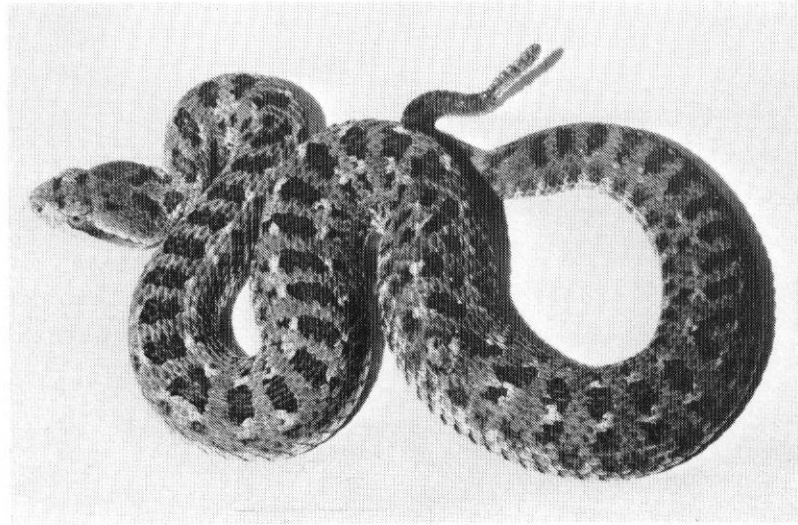


Figure 2. *Crotalus triseriatus armstrongi*, female paratype, UTA R-6259, photographed while alive.

ventrals; subcaudals orangish yellow with few dark flecks; proximal rattle segment orange; iris bronze.

Variation.—The following data were obtained from the type series including the holotype (9 specimens). The series contains three males and six females. Males range in total length from 479 to 484 mm; females from 379 to 475 mm. Head length comprises 5.2 to 5.9% ($\bar{x}=5.6$) of the total length. Tail length comprises 9.1 to 10.2% ($\bar{x}=9.6$) in males; from 7.9 to 8.8% ($\bar{x}=8.3$) in females. The dorsoventral width of the proximal rattle segment is equal to 8.2 to 8.6% ($\bar{x}=8.4$) of the tail length in males; from 8.4 to 10.3% ($\bar{x}=9.6$) in females. Palatine teeth number 3 in all specimens, pterygoid teeth range from 5 to 6 ($\bar{x}=5.6$) and dentary teeth from 8 to 11 ($\bar{x}=9.8$). Dorsal scale row formulae are 25-23-17 (3 specimens), 24-21-17 (3), 23-23-17 (1), 27-23-17 (1), and 25-23-19 (1). Ventrals number 130 to 138 ($\bar{x}=134.3$) in males and 138 to 146 ($\bar{x}=142.0$) in females; subcaudals in males 24 to 26 ($\bar{x}=25.3$) and in females 22 to 25 ($\bar{x}=23.5$). Rattle-fringe scales are 8 in all but one specimen that has 9. Prefoveals are generally 3, but occasionally 1 (6%), 2 (17%), or 4 (6%). Preoculars are always 2/2, suboculars number 3 about twice as frequently as 2, and postoculars are generally 2, but may be 1 (6%) or 3 (17%). Supralabials are 11 to 13 ($\bar{x}=12.1$) and infralabials from 10 to 13 ($\bar{x}=11.6$). Interanthals are 2 in all but one specimen which has 3, and intersupraoculars are 3 (5), 4 (3), or 5 (1).

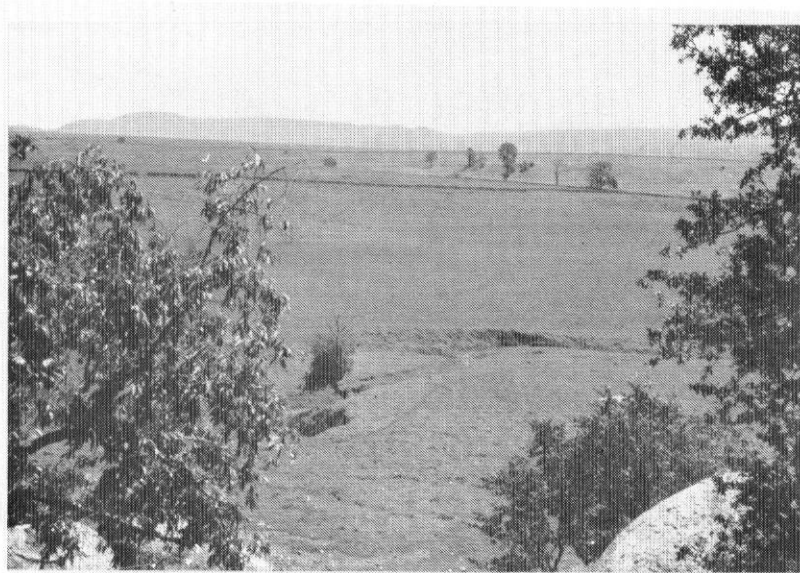


Figure 3. Habitat (type locality) of *Crotalus triseriatus armstrongi*, 1.5 mi NW Tapalpa, Jalisco, Mexico. Photograph taken 23 July 1976.

Color and pattern are highly variable. Three specimens have a light grayish brown dorsum with dark brown, black-edged blotches (Fig. 2). The blotches are bordered with white, particularly dorsolaterally between the dorsal and lateral blotches. In these specimens the blotches are more sharply defined than in the holotype. Ventrolaterally the scales are suffused with pink, and the venter is dark. Other specimens, including the holotype, range in color from reddish brown to yellowish green. In these snakes the dorsal blotches are not bordered with black and white edging and the venter is lightly mottled to almost immaculate. Lateral blotches are usually wider than long; body blotches range from 32 to 48 ($\bar{x}=42.0$) and involve 5 to 7 mid-dorsal scale rows.

Habitat and range.—The type series of *C. t. armstrongi* was taken in a gently rolling meadow bordered by pine forest (Fig. 3). Most specimens were coiled along rock walls in which they quickly tried to seek refuge, but a few were found long distances from these walls where they apparently utilized gopher burrows for shelter. *Crotalus t. armstrongi* is apparently similar to *C. t. aquilus*, but not *C. t. triseriatus*, in sharing its range with *C. polystictus*, the only other rattlesnake collected near Tapalpa. A large number of other reptiles and amphibians were collected in the vicinity of the type locality including species of the genera *Diadophis*, *Lampropeltis*, *Pituophis*, *Salvadora*, *Tantilla*, *Storeria*, *Thamnophis*, *Kinosternon*, *Anolis*, *Sceloporus*, *Eumeces*, *Barisia*, *Ambystoma*, *Bufo*, *Eleutherodactylus*, *Hylactophryne*, *Hyla*, and *Rana*.

Crotalus t. armstrongi is apparently restricted to portions of Jalisco north of the Neovolcanic Axis (Volcán de Colima to Volcán Citlaltépetl), which is inhabited by *C. t. triseriatus*. I have examined a specimen from Ameca (USNM 46465) that is referable to *C. t. armstrongi*. It seems probable that specimens from southern Nayarit will prove to be *C. t. armstrongi*, but the allocation of this population will have to wait until additional material becomes available.

ACKNOWLEDGMENTS

I thank Dr. William F. Pyburn, James B. Murphy and Darrel Frost for their critical review of this manuscript. The Dirección de la Fauna Silvestre, Departamento de Planeación y Proyecto (formerly Departamento de Conservación) kindly issued collecting permits for Mexico. I am grateful to the Department of Biology of the University of Texas at Arlington for their continuing support.

LITERATURE CITED

- Gloyd, H. K. 1940. The rattlesnakes, genera *Sistrurus* and *Crotalus*. Chicago Acad. Sci., Spec. Publ. 4:1-266.
Klauber, L. M. 1952. Taxonomic studies on the rattlesnakes of mainland Mexico. Bull. Zool. Soc. San Diego 26:1-143.