

## Catalogue of American Amphibians and Reptiles.

Campbell, Jonathan A. 1988. *Crotalus transversus*.

***Crotalus transversus* Taylor**  
**Cross-banded Mountain Rattlesnake**

*Crotalus triseriatus anabuacus*: Martín del Campo, 1940: 742. See Comment.

*Crotalus transversus* Taylor, 1944a:47. Type-locality, "about 55 km. SW México (city), near Tres Marias [Marías] (Tres Cumbres), Morelos, elevation about 10,000 ft.," a locality repeated by Smith and Taylor (1950:336), probably in error, amended by Davis and Smith (1953:141) to "Laguna Zempoala, state of México" (also probably in error; see Distribution). Holotype, E. H. Taylor-H. M. Smith Coll. No. 100129, presently at Field Museum of Natural History 100129, an adult female, collected by E. Powell on 14 August 1942 (examined by author).

• **Content.** No subspecies have been described.

• **Definition and Diagnosis.** *Crotalus transversus* is a small rattlesnake not known to exceed 465 mm in total length. The smallest known specimen is 183 mm and the average size at birth is estimated to be 150 mm (Klauber, 1972). The tail comprises 10.5% of the total length in the single male measured and 7.1-7.9% in six females. The scutellation is as follows: dorsal scales in 21-21-17 rows; prefrontals 3-5; ventrals 141-145 in males 142-152 in females; subcaudals 25-27 (males), 19-22 (females); distal 3-9 subcaudals divided; supralabials 8-10 (usually 9); infralabials 8-9 (usually 9); preoculars 2; suboculars 2; postoculars 2-3 (usually 2); loreal 1; internasals 2; canthal 1; 19-21 interrials; and 8 rattle-fringe scales. The tip of the snout and canthus rostralis are not raised into a sharp ridge. The scales on the crown of the head tend to be relatively large and flat for the genus. The canthals usually are separated from each other by a single scale, although they may be in contact or separated by two scales. There are 2-3 intersupraoculars and the scales in the parietal region are mostly smooth. Infrequently the postnasal or loreal may touch the second supralabial, but such contact is usually precluded by the presence of a single large prefoveal; subfoveals and postfoveals are absent. The lower preocular usually becomes narrowly tapered anteriorly and touches the loreal; however, in some specimens an extra scale of greatly varying size, the supralacunal, intervenes, obstructing contact. Infralabials 3, 4, and 5 contact the suboculars.

The dorsal pattern consists of 37-43 dark brown to black crossbands on the body and 5-9 crossbands on the tail. The species is apparently polymorphic with either an orange or brownish-gray ground color. There is a pair of short nape blotches and a dark postocular stripe which extends from the eye to the angle of the jaw. The labials are pale with brown and black mottling. The ventral surface varies from pale with irregular dark mottling to almost black. The rattle is relatively small and the color of the proximal segment is the same as the ground color.

*Crotalus transversus* may be distinguished from its congeners by the following combination of characteristics: midbody dorsal scales in 21 rows; 8-10 (usually 9) supralabials; 8-9 (usually 9) infralabials; supralabials 3, 4 and 5 contacting suboculars; loreal single and usually not in contact with any supralabial; 37-45 dark crossbands on body.

• **Descriptions.** The best descriptions of external morphology, pattern, and color are in Klauber (1952, 1972), Taylor (1944a), and Smith (1946). Less complete descriptions are in Campbell (1982), Klauber (1971), and Martín del Campo (1940).

• **Illustrations.** Line drawings of dorsal, ventral, and lateral aspects of the head, as well as dorsal scales and pattern, are in Taylor (1944a). A line drawing showing arrangement of anterior head



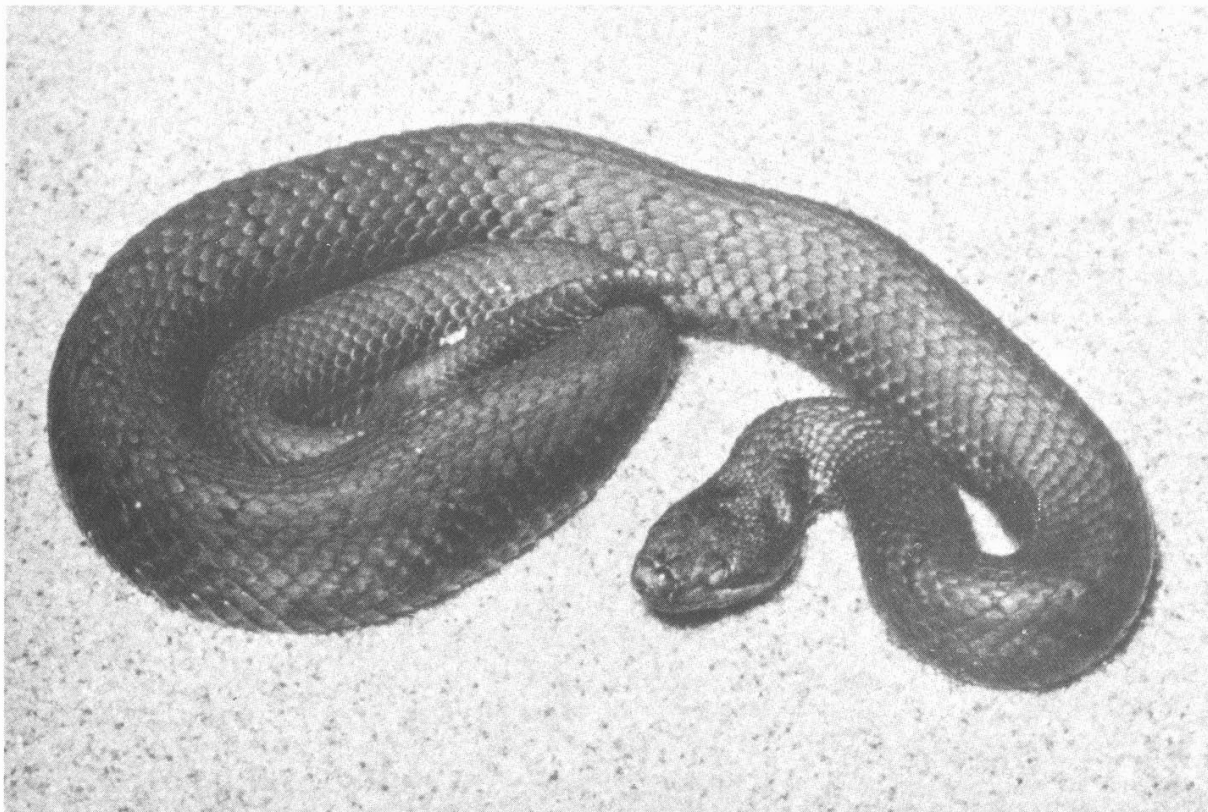
**Map.** Solid circle indicates the type-locality. Open circles mark other localities.

scales is in by Martín del Campo (1940). Black and white photographs of the adult holotype and juvenile paratype are in Taylor (1944a); black and white photographs of adult living specimens are in Armstrong and Murphy (1979) and in Harris and Simmons (1978). Armstrong and Murphy (1979) provided a black and white photograph of the habitat.

• **Distribution.** This rattlesnake is known only from temperate boreal forest (as defined by Leopold, 1950) in the Sierra Ajusco of the Transverse Volcanic Cordillera, where it is found at elevations exceeding 2900 m. It is known with certainty only from the hillsides surrounding the Lagunas de Zempoala. There has been much confusion concerning which state "Laguna Zempoala" (sometimes spelled "Cempoala") lies. In actuality, this locality may refer to any of at least six lakes, all of which lie in the state of Morelos, and all of the specimens (9) of *C. transversus* with which I am familiar are from the northwestern portion of this state. For some snakes bearing locality data "Laguna Zempoala" it is not possible to ascertain from which of the many ridges or peaks the specimens were taken; others bearing this locality (KU 159361-62, UCM 51421-23, UTA R-3988) were collected on the south-facing hillsides to the north of the primary lake (sometimes referred to as the "primera laguna"), which is also the most accessible by vehicle. *Crotalus transversus* has most frequently been encountered on steep volcanic slopes in relatively open areas of pine and bunch grass (zacatón).

• **Fossil Record.** None.

• **Pertinent Literature.** The most extensive information on this species is in Armstrong and Murphy (1979), Klauber (1952, 1972), Smith (1946), and Taylor (1944a). Various aspects of its biology are as follows: basking behavior, captive maintenance, and collecting conditions (Armstrong and Murphy, 1979), elevational distribution (Klauber, 1972; Taylor, 1944a), food (Klauber, 1972), habitat (Armstrong and Murphy, 1979; Klauber, 1972), length



**Figure 1.** *Crotalus transversus*, adult female 434 mm in total length, from near Lagunas de Zempoala, Morelos, México, 2987 m in elevation (Univ. Colorado Mus. 51423). Photograph by J. H. Tashjian.

(Klauber, 1972), pattern (Klauber, 1971, 1972; Martín del Campo, 1940; Taylor, 1944a), relationships or phylogeny (Brattstrom, 1964; Klauber, 1952, 1972; Smith, 1946), squamation (Campbell, 1982; Klauber, 1952, 1972; Martín del Campo, 1940; Smith, 1946; Taylor, 1944a). Keys for distinguishing this species from other Mexican species are in Klauber (1952, 1971, 1972), Smith (1946), and Smith and Taylor (1945). The majority of the literature on the species is in Smith and Smith (1973, 1976). General distributional information is in Duellman (1965), Hoge (1966), Hoge and Romano (1971), Hoge and Romano-Hoge (1982), Klauber (1952, 1971, 1972), Martín del Campo (1950), Smith (1946), and Smith and Taylor (1945); range maps are in Harris and Simmons (1978), Hoge and Romano (1971), Klauber (1972), and Smith (1946). Taylor (1944b) lists the types and type-locality for the species.

• **Remarks.** Campbell (1982) discusses the status of a specimen of *Crotalus* from Cerro Tancitaro, Michoacán; the relationships of the population represented by this specimen are unclear, but it may be either conspecific with or closely related to *C. transversus*. The Michoacán locality lies in the Transverse Volcanic Cordillera some 325 km to the west of the known range of *C. transversus*. Martín del Campo (1940) was the first to describe a specimen of *C. transversus* in the literature, which he presumed was an aberrant *C. triseriatus*. Taylor's (1944a) counts for many characters in the type description are erroneous.

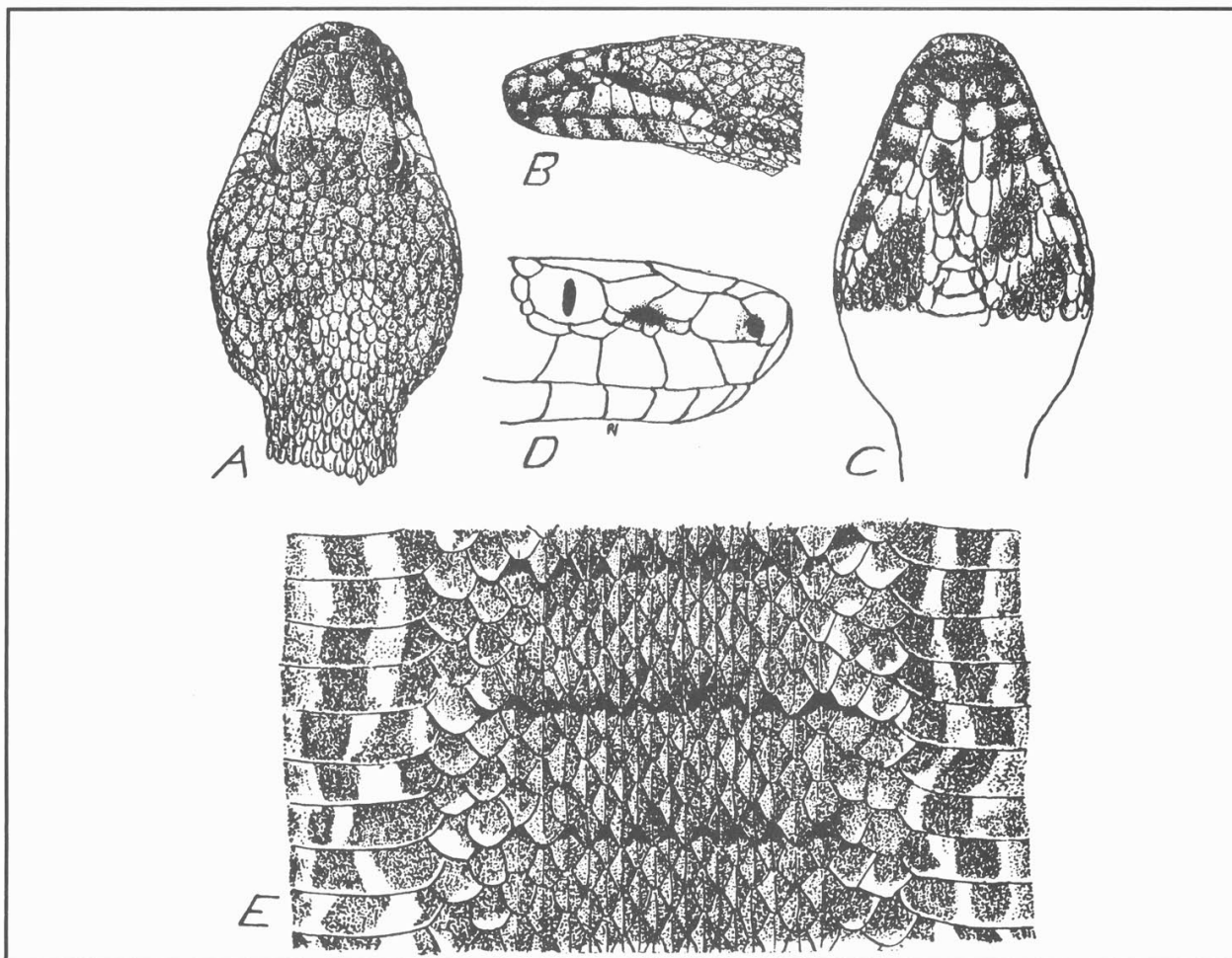
• **Etymology.** The name *transversus* is derived from the Latin prefix *trans* meaning "across," and the Latin *versus* meaning "to turn," in reference to the distinctive dark crossbands on the dorsum of this species.

• **Comment.** *Crotalus transversus* is a poorly known species with little information available on any aspect of its biology. It is known from fewer than 20 specimens. Tres Mariás, Morelos, probably is not the provenance of the type specimen as purported by

Taylor (1944a). Tres Mariás is a small village at the crossroads of the México City-Cuernavaca highway and the road that historically has been the route by which access has been gained to the Lagunas de Zempoala. The region immediately surrounding Tres Mariás is somewhat lower in elevation than the lower distributional limit known for *C. transversus* and intensive collecting near this village has not revealed the presence of this species. *Crotalus transversus* has relatively large eyes and appears to be strictly diurnal. One specimen (UTAR-12588) contains an adult *Sceloporus grammicus*. The holotype and UCM 513423, collected in August and July, respectively, are gravid.

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**Figure 2.** *Crotalus transversus*, type specimen. From Taylor (1944a), reproduced by permission.

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