

## Catalogue of American Amphibians and Reptiles.

Tanner, Wilmer W. 1990. *Thamnophis rufipunctatus*.

***Thamnophis rufipunctatus* (Cope)**  
Narrow-headed Garter Snake

*Chilopoma rufipunctatus* Cope, in Yarrow 1875:544. Type-locality, "Southern Arizona." Holotype, National Museum of Natural History (USNM) 8600, collected by H. W. Henshaw, October 1874 (not examined by author).

*Atomarcbus multimaculatus* Cope, 1883:1300. Type-locality, "San Francisco River, New Mexico, on ranch of Mr. H. C. Wilson, which is near the boundary line of Arizona." Collected by E. D. Cope, actual date of collection or museum not available (not examined by author).

*Stypocemus rufipunctatus*: Cope, 1885:387.

*Eutaenia rufipunctatus*: Cope, 1892:666.

*Tropidonotus multimaculatus*: Boulenger, 1893:214.

*Thamnophis angustirostris*: Ruthven, 1908:120.

*Thamnophis rufipunctatus*: Taylor and Knobloch, 1940:125.

*Natrix angustirostris*: Lowe, 1955:307.

• **Content.** Three subspecies are recognized: *rufipunctatus*, *nigronuchalis* and *unilabialis*.

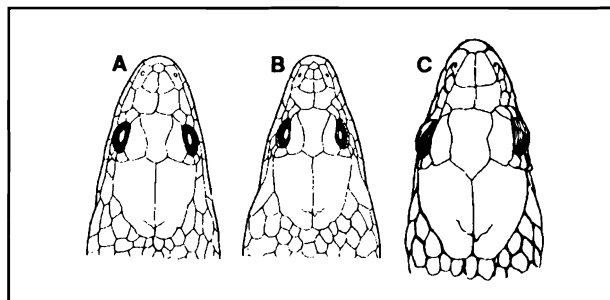
• **Definition.** *Thamnophis rufipunctatus* is a moderate to large-sized garter snake (to 700 mm total length). Mean percent of tail length to total length is 22.1 in females, 24.2 in males. Dorsal scale rows usually 21-21-17. The head is narrow, elongate, and compressed laterally, with one loreal, 2 preoculars, 3-4 postoculars (the lower may or may not contact the 4th supralabial), temporals usually 1 + 3, supralabials 8-9 (usually 8), with the 4th or 4th and 5th entering the orbit, infralabials 9-10 (usually 10), 2 pairs of elongate chinshields, the posterior pair separated by small scales. Ventrals range from 151-171 ( $\bar{x}$  = 159.0) in males, 155-179 ( $\bar{x}$  = 164.8) in females; subcaudals 68-88 ( $\bar{x}$  = 76.9) in males, 62-79 ( $\bar{x}$  = 68.9) in females.

Dorsal ground color is dark to olive brown, usually with 6 rows of dark or rust-colored middorsal spots involving 3-5 scales and extending from the nape onto the tail. No stripes are present. The belly is patterned with irregular dark spots or a series of dark brown cross bars, often on the anterior edge of the ventrals.

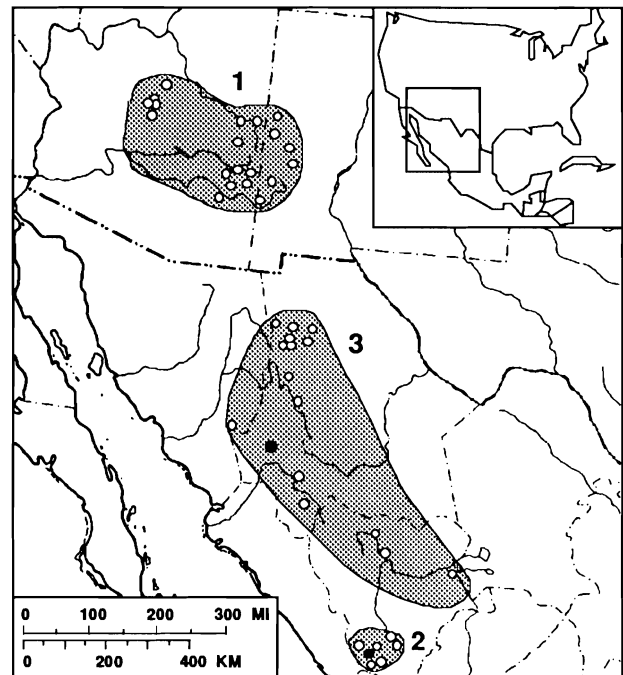
• **Descriptions.** Descriptions of morphology are in Cope (1900), Brown (1901), VanDenburgh (1922), Smith (1942), Lowe (1955), Thompson (1957), Tanner (1959, "1985" [1986]). Conant (1963, "1974" [1977]) provided details of morphology and color.

• **Illustrations.** Line drawings are in Cope (1900), Thompson (1957:1, pl. 1 and 2) provided drawings of head and nape color patterns. A photograph of an adult is in Conant (1963) as is a map of Chihuahuan Desert distribution ("1974" [1977]). A color plate in Stebbins (1985) shows a lateral view of the head and anterior body. Line drawings of dorsal head plates and variation of scales around the eyes in the three subspecies are in Tanner ("1985" [1986]).

• **Distribution.** *Thamnophis rufipunctatus* occurs from central Arizona eastward into western New Mexico (all localities near or within Gila River drainage), then southward into central and western Chihuahua and northern and western Durango, México.



**Figure 1.** Relationship of preinternasal scale to nasal and internasals in *Thamnophis rufipunctatus*: A. single azygous scale; B. paired and azygous scales; C. usual pattern (from Tanner, 1985 [1986]).



**Map.** Solid circles mark type-localities (type-locality of *T. r. rufipunctatus* is too imprecise to plot). Open circles mark other records.

• **Fossil Record.** None.

• **Pertinent Literature.** The most recent taxonomic works are those of Taylor and Knobloch (1940), Smith (1942), Smith and Taylor (1945), Lowe (1955), Thompson (1957), Tanner (1959, "1985" [1986]), and Conant (1963). Kennicott (1860) described *Eutaenia angustirostris* from a specimen collected at Parras, Coahuila, México. Ruthven (1908) recognized *E. angustirostris* as the valid name, thus placing in synonymy Cope's species *rufipunctatus* and *multimaculata*. Stejneger and Barbour (1917), Van Denburgh and Slevin (1918), Van Denburgh (1922), and Schmidt (1953) concurred. Lowe (1955) questioned the generic status of the population in west-central Arizona (Oak Creek), in which approximately 20 percent have divided anals, all with narrow heads (unlike other *Thamnophis*), and an aquatic behavior that seemingly related them to members of the genus *Nerodia*. Thompson (1957) reexamined the morphology of *T. rufipunctatus*, including the Arizona and Mexican specimens, that he described as *T. nigronuchalis* from west-central Durango, indicated color and scale pattern differences, and retained the species in the genus *Thamnophis*. Thompson (1957) also examined four specimens from Parras, Coahuila, the type-locality of *T. angustirostris*, and on the basis of scutellation and color pattern referred them to *Thamnophis marcianus* and placed *T. angustirostris* Kennicott in the synonymy of *T. marcianus* Baird and Girard. Tanner (1959) examined a series from Chihuahua, compared external characters to those reported for the Arizona series, and agreed with Thompson in retaining *Thamnophis rufipunctatus* for the Arizona, New Mexico and Mexican populations. Conant (1963, "1974" [1977]) further described the distribution and habitat for Mexican specimens, provided a distribution map, and retained all specimens in the species *Thamnophis rufipunctatus* (Cope).

Tanner ("1985" [1986]) described external morphology, coloration, and scale patterns, mapped the distribution, included *T. nigronuchalis* as a subspecies, retained the Arizona and western New Mexico populations as the type subspecies *T. r. rufipunctatus*, and described as a new subspecies the populations in northern Durango and Chihuahua. Tanner ("1985" [1986]) included a further consideration of the generic relationships and indicated that the divided anal occurs only in the western population in Yavapai and Gila counties, Arizona, and stated that the everted hemipenes are capitate, not bilobate as in *Nerodia barteri* (Trapido, 1941).

Cope (1900) described the color pattern, noting the six rows of spots characteristic of the species. Color pattern is further discussed by Thompson (1957) and Tanner ("1985" [1986]). Conant (1963), quoting R. G. Zweifel, refers to "red" spots. Tanner ("1985" [1986])

described the spotting and noted that the "red" spots were actually a bright yellowish rust and seen on some but not all individuals.

The aquatic habits of this species have been noted by Cope (1900), Lowe (1955), Conant (1963, "1974" [1977]), and Tanner ("1985" [1986]). Food habits are noted by Tanner ("1985" [1986]).

• **Etymology.** The name *rufipunctatus* is derived from the Latin *rufus*, meaning "red" or "ruddy," referring to the red or rust-colored spots on some individuals, and the Latin *punctatus*, meaning "spotted" or "having spots" in reference to the numerous dark body spots; *nigronuchalis* refers to the large, dark spot on the nape; and *unilabialis* refers to the single supralabial that enters the orbit.

### 1. *Thamnophis rufipunctatus rufipunctatus* (Cope)

#### Arizona Narrow-headed Garter Snake

*Chilopoma rufipunctatus* Cope, in Yarrow, 1875:544. See species account.

*Thamnophis rufipunctatus rufipunctatus*: Tanner "1985"[1986]:647.

• **Definition.** A subspecies with 3-3 postoculars, occasionally 3-4 or 4-4, the lowest usually not or barely contacting the 4th supralabial. The 4th or 4th and 5th supralabials may enter the orbit. Ventrals 156-171 ( $\bar{x}$ =164.68) in females, 159-179 ( $\bar{x}$ =171.0) in males; subcaudals 67-79 ( $\bar{x}$ =70.21) in females, 76-88 ( $\bar{x}$ =81.93) in males; ventrals plus caudals 232-263. Ground color is brown to olive brown with six rows of dark brown or rust-colored spot; nape with two enlarged dark spots.

• **Remarks.** Approximately 21% of animals in the Oak Creek population have divided or grooved anals. This condition is rare in eastern Arizonan, New Mexican, and Mexican populations.

### 2. *Thamnophis rufipunctatus nigronuchalis* Thompson

#### Durango Narrow-headed Garter Snake

*Thamnophis nigronuchalis* Thompson, 1957:1. Type-locality, "San Luis, Durango, Mexico." Holotype, Univ. Michigan Mus. Zool. 113611, an adult female collected by Richard Parker, 22 July 1955 (not examined by author).

*Thamnophis rufipunctatus nigronuchalis*: Tanner, "1985" [1986]:648.

• **Definition.** A subspecies with 3-3 postoculars, lowest not in contact with the 4th supralabial, the 4th and 5th supralabials enter the orbit. Ventrals 152-160 ( $\bar{x}$ =156.53) in females, 157-167 ( $\bar{x}$ =161.92) in males; subcaudals 62-72 ( $\bar{x}$ =66.57) in females, 68-77 ( $\bar{x}$ =72.54) in males; ventrals plus caudals 215-240. Nape with a single dark spot.

### 3. *Thamnophis rufipunctatus unilabialis* Tanner

#### Chihuahua Narrow-headed Garter Snake

*Thamnophis rufipunctatus unilabialis* Tanner, "1985" [1986]:648.

Type-locality, "0.5 mi SW of Bocoyna, Chihuahua, Mexico." Holotype, Brigham Young University 14217, an adult female collected by W. W. Tanner and W. G. Robison, 11 July 1958 (examined by author).

• **Definition.** A subspecies with 3-4 postoculars, the lower in broad contact with the 4th supralabial, which enters the orbit. Ventrals are 151-163 ( $\bar{x}$ =156.68) in females, 155-169 ( $\bar{x}$ =161.51) in males, subcaudals are 65-76 ( $\bar{x}$ =69.95) in females, 71-82 ( $\bar{x}$ =76.2) in males, ventrals plus caudals are 219-249. It has two enlarged nape spots, six rows of dark brown or rust-colored spots on body, and

ventrals usually with anterior margins heavily pigmented to form a light-and-dark, crossed-barred pattern.

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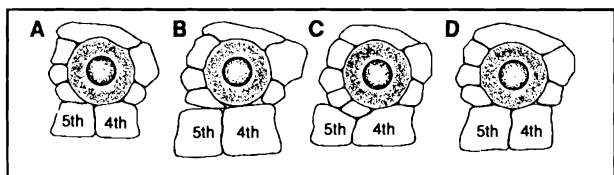


Figure 2. Relationship of supralabials and lower preoculars in: A., B. *T. r. rufipunctatus*; C. *T. r. unilabialis*; and D. *T. r. nigronuchalis*.