

CROTALUS MITCHELLI, THE SPECKLED RATTLESNAKE

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Contents: Historical - Pattern - Habitat - Food - Habits - Breeding - The subspecies of Crotalus mitchelli.

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HISTORICAL

The speckled rattlesnake of the southwestern United States and Lower California was first described by Cope in 1861 as *Caudisona mitchellii* from a specimen collected in Cape San Lucas, Lower California, Mexico. It was named in honor of Dr. S. Weir Mitchell, a famous neurologist, scientist, and author from Philadelphia, who at the time was doing research on rattlesnake venoms.

Later, in 1866, Cope described *Caudisona pyrha* (flame colored, reddish) from a specimen collected in Yavapai County, Arizona. It was not until 1875, that Cope placed both specimens into the genus *Crotalus*, which had first been used by Linné back in 1758. In addition to this, Cope also changed the species name *pyrrha* to *pyrrhus* and remained this way for some twenty years.

In 1895, Stejneger considered *pyrrhus* to be a subspecies of *mitchellii* rather than a separate species. These two rattlesnakes were then known as *Crotalus mitchellii mitchellii*, the San Lucan speckled rattlesnake, and *Crotalus mitchellii pyrrhus*, the Southwestern speckled rattlesnake. These remained the only valid subspecies of *Crotalus mitchellii* until the years 1930, 1949, and 1963 when Klauber described three more subspecies. respectively these were: *Crotalus mitchellii stephensi*, the Panamint rattlesnake; *Crotalus mitchellii muertensis*, the El Muerto Island rattlesnake; and *Crotalus mitchellii angelensis*, the Angel de la Guarda Island rattlesnake.

In 1952, Klauber changed the spelling of the species to *Crotalus mitchelli*. He did so in accordance with a rule of nomenclature that eliminated the terminal *ii* in names formed from modern personal names. However, in the second edition of his work on rattlesnakes, Klauber reinstated the terminal *ii* to the species name because this rule was no longer effective. Although the proper spelling should probably be *mitchellii*, most of the recent literature maintains Klauber's original spelling of *mitchelli*, and I will follow this throughout the rest of this article.

Although the five subspecies of *Crotalus mitchelli* differ in several characteristics, some generalizations can be made about the species as a whole.

PATTERN

The speckled rattlesnakes are small to moderately sized snakes having a banded or blotched appearance. The blotches are quite often irregular and indefinite in outline, with the centers being lighter in color than the outer edges. These blotches may be in the form of crossbands, or they may approach a hexagonal, hour-glass, diamond, or even rectangular shape. In number they range anywhere from 23-46 depending on the subspecies. In addition to these primary blotches

there is frequently a secondary series of lateral (side) blotches. Quite often these lateral blotches will join with the posterior dorsal blotches to form a definite cross-banded or ringed appearance.

Many specimens will also show a 'salt and pepper' speckling that strongly resembles decomposed granite in appearance. very often one finds that the coloration of the snake in combination with this speckling, will resemble the color and type of the soil and rocks where the animal is found.

The head pattern of *Crotalus mitchelli* is generally inconspicuous, and in the form of irregularly spaced blotches or spots, usually darker than the ground color. Tail rings in this species are usually in contrast with the ground color, and are ash-gray or black in color. The lighter spaces in between the rings are white or grayish in color and are wider than the tail rings themselves.

HABITAT

Crotalus mitchelli is typically a rock dwelling form whose habitats include: rocky mountains, buttes, rocky outcrops, canyons, talus, and rocky foothills. It does occur at or near sea level, but is typically found at higher elevations up to around 7,000-8,000 feet. Even where it is found at lower elevations in habitats such as chaparral, it is generally not found far from rock piles, boulders, or cliffs.

FOOD

The various forms of *Crotalus mitchelli* generally feed upon mice, rats, and other small mammals. In particular, white-footed mice, kangaroo rats, and ground squirrels are frequently eaten. In addition to mammals, these rattlesnakes will occasionally feed upon birds and even lizards. It is generally the juveniles that feed upon lizards, however, there are many records of adult speckled rattlesnakes feeding on lizards as well.

HABITS

Throughout the fall and spring, speckled rattlesnakes are generally diurnal (active by day) in habit. As the summer progresses the daytime temperatures typically reach into the high with extremes of over 32°C. These temperatures are above the tolerance levels for most, if not all, snakes including the rattlesnakes, and it is during these summer months that the speckled rattlesnakes become nocturnal in habit.

BREEDING

Speckled rattlesnakes generally breed in the spring (April-May) with females giving birth to between 2-12 young in July or August, and possibly in early September. These juveniles average between 8-12 inches in total length and after their first shed will feed upon lizards or new-born mice.

THE SUBSPECIES OF *CROTALUS MITCHELLI*

Crotalus mitchelli mitchelli (Cope), San Lucan speckled rattlesnake.

Description

This species usually has a light gray or tan ground color with a series of 26-41 (mean 32.2) irregular blotches. These blotches, being dark brown or black in color, are in contrast with the ground colour and become rather conspicuous rings posteriorly. Ventrally these snakes are usually buff colored with aggregations of dark spots. The outer edge of each supraocular (large scale above the eye) usually has a conspicuous light tip.

Scalation

Specimens of *Crotalus mitchelli mitchelli* normally have 25 scale rows at mid-body, the range being between 23-27. The subcaudal scale counts between 22-28 (mean 25.1) for males and 16-24 (20.7) for females. The rostral scale is not in contact with the prenasal scales, being separated from them by rows of small scales or granules.

Size

This subspecies is intermediate in size between the five, being smaller than *angelensis* and *pyrrhus*, but larger than *stephensi* and *muertensis*. The largest specimen so far resorted is a male measuring 39 inches. Most adults however, average about 28-33 inches in total length.

Range

Crotalus mitchelli mitchelli is found in southern and central Lower California, and on several islands in the Gulf of California. These islands include: Carmen, Cerralvo, Espiritu Santo, Monserrate, San Jose and Santa Margarita.

Crotalus mitchelli angelensis Klauber, The Angel de la Guarda Island speckled rattlesnake.

Description

Young specimens of this form are usually light gray dorsally with between 36-46 (mean 41.0) dark gray blotches. As these snakes mature the colorations gradually changes to a tan or buff ground color with brown blotches. Eventually, the adults may develop a pink coloration with a pattern of russet (yellowish or reddish-brown) blotches. Although there is some variation, the general shape of these dorsal blotches is hexagonal, even if somewhat ill-defined.

Ventrally the adults are typically pinkish-cinnamon with irregular brown blotches on the outer edges of the ventral scales.

Scalation

This subspecies normally has 27 scale rows at mid-body, the range being between 25-27. The subcaudal scale counts range between 23-28 (25.4) for males and 19-21 for females.

The rostral scale is separated from the prenasal scales, as is the case with four of the five subspecies. In *angelensis*, however, this separation is in the form of one scale between each prenasal and the rostral, rather than several small scales or granules. The supraoculars typically have sutures or blemishes at their outer edges.

Size

Crotalus mitchelli angelensis is the largest of the five subspecies, attaining a maximum length of at least 54 inches. Most adults probably average around 36-42 inches, with large males averaging up to 48 inches. The large size attained by *angelensis* is unusual because in most cases the insular (island) forms of rattlesnakes are smaller in size than their mainland relatives.

Range

Crotalus mitchelli angelensis is endemic to Angel de la Guarda Island. This is a rather large island with an area of over 550 square miles. It is located in the north end of the Gulf of California, Mexico.

Crotalus mitchelli muertensis Klauber, the El Muerto Island speckled rattlesnake.

First described by Klauber in 1949 from a specimen collected on El Muerto Island, Gulf of California, Mexico.

Description

The ground color of this form is quite often grayish, although many specimens will have a pinkish coloration, especially in the areas between the dorsal blotches. These blotches are indefinite in outline, but tend towards hexagons anteriorly and towards cross-bands posteriorly. In coloration these blotches are usually brown in the center and grayish towards the edges. Quite often there is a speckling of dark gray, dark brown or black in the blotches themselves. The number of blotches is usually between 32-39 (35.7).

Ventrally the coloration is cream to buff with dark mottling, especially at the edges of the ventral scales.

Scalation

Crotalus mitchelli muertensis typically have 23 scale rows at mid-body, with occasional specimens having 24 or even 25. The subcaudal scale counts range between 21-24 (22.9) for males and 16-18 (17.4) for females. As in the previous two subspecies, the rostral is separated from the prenasal scales by other scales.

Size

Crotalus mitchelli muertensis is a dwarfed form of *Crotalus mitchelli*, with a maximum recorded length of 25 inches. Most adults probably average between 18-22 inches. Specimens larger than 25 inches may yet be found, especially when one considers that Klauber examined nine males and found that four of them had total lengths in excess of 23½ inches.

Range

This subspecies is endemic to El Muerto Island, a small island in the northernmost end of the Gulf of California, Mexico.

Crotalus mitchelli pyrrhus (Cope), the Southwestern speckled rattlesnake.

Description

This subspecies shows more variation in color and pattern than any of the other four subspecies. The ground color can be white, tan, gray-brown, buff, drab, pink, orange, or salmon. The pattern consists of a series of 23-42 (33.3) blotches which are frequently in the form of cross-bands, but

can also be hexagonal, hourglass, rectangular, or even diamond-shaped. In coloration they are red, pink, salmon, brown, gray-black, or even a mixture of these colors.

Ventrally, they are buff, cream, or pink in color with darker punctuations or blotches.

Scalation

Specimens of *Crotalus mitchelli pyrrhus* normally have 25 scale rows at mid-body, the range being between 21-27. Subcaudal scale counts range between 20-28 (23.7) for males and 16-23 (19.3) for females.

The rostral scale is separated from the prenasals by a row of small scales or granules.

Size

Crotalus mitchelli pyrrhus is the second largest of the five subspecies, attaining a maximum length of 51 inches. Most adults average between 30-40 inches, although there have been records of females giving birth while they were only 24 inches in total length.

Range

In the United States *Crotalus mitchelli pyrrhus* is found in the following states: Utah, extreme southwest corner; Nevada, extreme southeastern corner; Arizona, central and western portions of the state, including the following counties: Maricopa, Mojave, Yavapai and Yuma; and California, southern portion, including the following counties; Imperial, Orange, Riverside, San Bernardino, and San Diego.

In Mexico it is found in extreme northwestern Sonora, and throughout northern Baja, California.

Crotalus mitchelli stephensi Klauber, the Panamint rattlesnake.

First described by Klauber in 1930 from a specimen collected 2 miles west of Jackass Springs, Panamint Mountains, Inyo County, California.

Description

The ground color of *Crotalus mitchelli stephensi* can be straw, tan, buff, yellow-brown, red-brown, gray, or even a bluish-gray. The pattern consists of a series of between 27-43 (36.8) irregular blotches. The blotches are usually subhexagonal in shape, but can be diamond, squarish, or rectangular in some specimens. The coloration of these blotches is buff, gray, brown, or red-brown.

Ventrally, these snakes are colored buff or tan, and usually have groups of darker punctuations. The supraoculars are usually free from light-colored cross-marks. Overall, this form of *Crotalus mitchelli* has the least amount of speckling of all the subspecies, giving it a more blotched appearance.

Scalation

Typically this subspecies has 23 scale rows at mid-body, the range being between 21-25. Subcaudal scale counts range between 21-28 (25.0) for males and 17-24 (20.0) for females.

This is the only subspecies of *Crotalus mitchelli* in which the rostral scale is typically in contact with the prenasal scales. Supraocular sutures are also very characteristic of this subspecies. These sutures can be in the form of longitudinal cuts, especially at the outer edges of the scale, or may even be in the form of whorls. In addition, the outer edges of the supraoculars often have a rough appearance.

Size

The largest specimen of *Crotalus mitchelli stephensi* so far recorded measured 35 inches. Adults of this form generally average between 20-30 inches in total length. Thus, making this the second smallest of the five subspecies.

Range

Crotalus mitchelli stephensi occupies the northernmost range of the species, being found in southwestern Nevada (Esmeralda, Clark, Nye and Mineral counties), and east-central California (Inyo, Kern, Mono, and San Bernardino counties).

Note: If anyone has knowledge of documented record lengths (for any of these subspecies) exceeding those listed in this article, please let me know so that my records can be updated.

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