

CROTALUS VEGRANDIS KLAUBER (URACOAN RATTLESNAKE)

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HISTORICAL

The uracoan rattlesnake was first described by Klauber in 1941 as *Crotalus vegrandis*. The type specimen was collected by Harry A. Beatty in 1939. The type locality as given by Klauber (1941) is as follows: 'collected in the Maturin Savannah, near Uracoa, Sotillo District, State of Monagas, Venezuela.'

The common name for this rattlesnake comes from the word Uracoa, the name of the city near the type locality listed above. The specific name of *vegrandis* is Latin for 'not large,' in reference to the size that this species attains in the wild (Brown, 1978).

TAXONOMIC STATUS

Even today controversy still exists as to whether this rattlesnake is a distinct species, or a subspecies of *Crotalus durissus*. In this article I have elected to use the specific status for this rattlesnake, primarily because this seems to be more widely accepted in the herpetological community.

After his original description of this snake as *Crotalus vegrandis*, Klauber (1956) changed the taxonomic status of this rattlesnake and listed it as *Crotalus durissus vegrandis*. Later, in 1972, he again gave it specific status and recorded it as *Crotalus vegrandis*.

Over the years since its original description, this rattlesnake has generally been accepted as a distinct species by numerous authors, including Caras (1974), Freiberg (1982), Harding & Welch (1980), Harris & Simmons (1978), Hoge (1966, 1981), McCranie (1984), Peters & Orejas-Miranda (1970, 1986), Phelps (1984), and Russel (1983).

Other authors, however, including Kilmon & Shelton (1981) and Brown (1973) seemed to prefer assigning a subspecific status to this rattlesnake and thus listed it a *Crotalus durissus vegrandis*.

Clearly, the taxonomy of this crotalid needs to be thoroughly reviewed (as does most of the '*durissus*' group) in order to determine the most reasonable taxonomic status of this rattlesnake in relation to the other members of the '*durissus*' group. Hopefully, the forthcoming publication of Campbell & Lamar (in press) will discuss this area of controversy and perhaps shed new light on the status of the Uracoan rattlesnake.

DESCRIPTION

The ground color can be grayish, tan, reddish brown or olive green. Many of the dorsal scales are white-tipped, thereby giving the snake an overall speckled appearance. In many specimens

the outline of crossbands or dorsal rhombs can be seen, but this seems to be the most prevalent in juvenile specimens. This dorsal pattern, however, is not near as distinct as that found in the closely related forms of *Crotalus durissus*. The head color is usually brownish, marked with numerous white bars or spots. The paravertebral stripes that are typical of *Crotalus durissus* are reduced in this species. These stripes commonly begin approximately 1 head-length behind the head and extend forward to just behind the eyes. The ventral surface is usually cream colored with moderate to heavy punctations of gray or dull brown. The tail, for the most part, is of uniform color being either gray or some shade of brown, although the dorsal scales at the base of the tail may be white-tipped.

One of the most obvious morphological characteristics of this rattlesnake is the presence of a sharp vertebral ridge, similar to that found in *Crotalus durissus*.

SCALATION

Typically, *vegrandis* have 27 scale rows at mid-body, the range being between 25-29. Subcaudal scale counts range from 25-31 (mean 27.0) in males and from 18-25 (mean 21.0) in females. Ventral scale counts range from 162-172 (mean 165.0) in males and from 163-178 (mean 169.0). More detailed accounts of the scalation in this species can be found in Klauber (1956, 1972) and McCranie (1984).

SIZE

The exact maximum length attained by *vegrandis* is somewhat questionable. McCranie (1984) stated that 'Adults reach about 1100 mm (approximately 3 ft, 7 ins.)'. The maximum length of this species, however, is probably closer to 122 cm (4 ft). Peterson, pers. comm), Porras, pers. comm., Strimple, pers. comm) with adult specimens typically ranging between 76-107 cm (2½-3½ ft.).

An interesting and little known fact regarding the size of this rattlesnake is that the specimens which are now in captivity are much larger than the mature adults that are found in the field. Tom Logan has collected this species in the wild, and was responsible for bringing the first specimens of this rattlesnake into the United States. Recently, Logan (pers. comm.) related, to me, some of the information that he obtained from his field observations on wild specimens. Of the 50-60 *vegrandis* that he observed in the wild, none were over 60 cm (2 ft.) in total length. During one trip, he collected 3 mature males and 9 females, some of which were gravid. All of these specimens were between 46-61 cm (18-24 ins) in total length and were considered to be average sized adults.

Apparently wild specimens of *vegrandis* do not grow to the large size that captive specimens do. This could be at least partly due to the fact that captive specimens are fed primarily, if not exclusively, on mice and rats whereas wild specimens feed primarily upon lizards and only infrequently on small mammals.

The small size of wild *vegrandis* has been noted by other herpetologists, including Klauber (1972), who reported that the largest specimen that he examined measured 636 mm (26 ins) in total length, and that the most reliable reported maximum length was 684 mm (27 ins).

RANGE

Uracoan rattlesnakes are found in northeastern Venezuela in the states of Anzoategui and Monagas. Many of the specimens in the United States today have reportedly come from the Maturin Savannah

in eastern Monagas. An updated range map can be found in McCranie (1984). Additional information on the range of this species, including range maps, can be found in Harris & Simmons (1978), Hoge (1966, 1981), Klauber (1956, 1972) and Lancini (1967).

HABITAT

Within their rather limited range, these rattlesnakes are confined to the savannahs and alluvial plains of the Venezuelan Llanos. This vast area extends from west of the Amacuro Delta, across Venezuela into northeastern Colombia and is characterized by a distinct wet-dry season (Staton & Dixon, 1972). Rivero-Blanco & Dixon (1979) reported that these rattlesnakes can be found in sandy savannahs made up of various species of *Trachipogon* grasses. They also reported them from three other types of savannahs: Bancos, Bajios and Esteros. These savannahs differ from each other in their elevation and the amount of flooding that occurs on them during the rainy season (Rivero-Blanco & Dixon, 1979). The savannahs inhabited by these rattlesnakes also differ in the number of trees present, which can range from areas having no trees to areas of dry forest.

Within this habitat, *vegrandis* have been found to utilize abandoned armadillo burrows. Logan (pers. comm.) found that during the hot part of the day these snakes could be found at depths of 90 cm (3 ft), but as the temperature dropped they would position themselves closer to the mouth of the burrow, thereby effectively thermoregulating.

FOOD

In the wild, adult *vegrandis* are known to commonly feed upon lizards of the genus *Cnemidophorus*, which are abundant in the savannahs where these rattlesnakes are found (Logan, pers. comm.). Rodents and other small mammals are not as common around these savannahs but are probably eaten when found.

In captivity, juvenile *vegrandis* will readily feed on newborn mice. As subadult and adults, they will accept adult mice and small to medium-sized rats.

HABITS

In captivity, the temperament of these rattlesnakes can range from tractable to pugnacious. Often, when alarmed, these rattlesnakes will readily assume a defensive stance displaying the elevated s-shaped coil that is so characteristic of *Crotalus durissus*.

Recently, captive specimens of the Uracoan rattlesnake have been the subject of detailed studies concerning a behavior known as strike-induced chemosensory searching (SICS). Chiszar et al. (1985) and O'Connell et al. (1982) reported the observations they made on SICS in both juvenile and adult *vegrandis*, as well as other crotalids and viperids. In addition, Chiszar et al. (1984) provided information pertaining to the effect that male courtship had on the SICS of female *vegrandis*.

BREEDING

Information regarding the reproduction of this species in the wild is rather scant. They apparently breed during the early part of the year and are known to give birth during July and August. Logan (pers. comm.) observed litters of 2-4 young from females he collected in the wild. Murphy

et al. (1979) reported on four gravid females that gave birth in captivity between 21 June and 9 July, 1974. The number of young ranged from 3-6, with one litter of stillborn neonates. Peterson (1982) recorded 3 young that were born on 9 July, 1970 to a wild bred female.

Crotalus vegrandis has frequently been bred in captivity over the last 5-10 years by zoos and private collectors. Courtship has been reported throughout most of the year, centering around June, July and August (Peterson, 1982, Strimple, pers. obser.). Copulation has been observed in September, October and November with parturition usually occurring between the months of April and June, although births in March have occurred (Peterson, pers. comm.). Litter size, in captivity typically range from 2-10 young, but litters of up to 15 are known (Jardine, pers. comm., Peterson, pers. comm.).

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REFERENCES

- Brown, J.H., 1973. Toxicology and pharmacology of venom from poisonous snakes. Charles C. Thomas Publisher, Springfield, Illinois, xvi + 184 pp.
- Brown, R.W., 1978. Composition of scientific words. Reprint Ed. Smithsonian Institution Press, Washington D.C., 882 pp.
- Carl, G., Peterson, K.H. & R.M. Hubbard, 1982. Reproduction in captive Uracoan rattlesnakes, *Crotalus vegrandis*. Herp. Rev., 13 (2): 42-43.
- Chiszar, D., Chiszar, J., Walsh, T., Demeter, B., & H.M. Smith, 1984. Effect of male courtship on strike-induced chemosensory searching in a female Uracoan Rattlesnake (*Crotalus vegrandis*) at National Zoo. Bull. Maryland Herp. Soc., 20 (4): 14.
- Chiszar, D., O'Connell, B., Greenlee, R., Demeter, B., Walsh, T., Chiszar, J., Moran, K., & H.M. Smith, 1985. Duration of strike-induced chemosensory searching in long-term captive rattlesnake at National Zoo, Audubon Zoo and San Diego Zoo. Zoo Biol., 4: 291-194.
- Freiberg, M., 1982. Snakes of South America. T.F.H. Publications, Inc., Neptune City, New Jersey, 189 pp.
- Harding K.A. & K.R.G. Welch, 1980. Venomous snakes of the world, a checklist. Permagon Press, Oxford, England, x + 188 pp.
- Harris, H.S. & R.S. Simmons, 1978. A preliminary account of the rattlesnakes with the descriptions of four new subspecies. Bull. Maryland Herp. Soc., 14 (3): 105-211.
- Hoge, A.R., 1966. Preliminary account on neotropical *Crotalinae* (*Serpentes, Viperidae*). Mem. Inst. Butantan, 32 109-184 (19650).
- Hoge, A.R. & W.L. Romano-Hoge, 1981. Poisonous snakes of the world. Part 1. Checklist of the pit vipers (*Viperoidae, Viperidae, Crotalinae*). Mem. Inst. Butantan, 42-43: 179-309.

- Kilmon, J. & H. Shelton, 1981. Rattlesnakes in America and a history of the Sweetwater Jaycees rattlesnake roundup. Shelton Press, Sweetwater, vi + 234 pp.
- Klauber, L.M., 1941. A new species of rattlesnake from Venezuela. *Trans. San Diego Soc. Nat. Hist.*, 9 (30): 333-336.
- , 1956. Rattlesnakes: their habits, life histories, and influence on mankind. Univ. Calif. Press, Berkeley and Los Angeles, Vol. 1. xxix + 708 pp.
- , 1972. Rattlesnakes: their habits, life histories, and influence on mankind. Second edition. Univ. Calif. Press, Berkeley and Los Angeles, Vol. 1. xx + 740 pp.
- Lancini, V.A.R., 1967. *Crotalus vegrandis* Klauber, redescrpcion y distribucion. *Mem. Inst. Butantan*, 33 (3): 725-734 (1966).
- McCranie, J.R., 1984. *Crotalus vegrandis* Klauber, Uracoan rattlesnake, pp. 350. 1-350.2. In William J. Reimer (ed.), *Catalogue of American amphibians and reptiles*. Amer. Soc. Ichth. and Herp.
- Murphy, J.B., Mitchell, L.A. & J.A. Campbell, 1979. Miscellaneous notes on the reproductive biology of reptiles. III. The Uracoan rattlesnake, *Crotalus vegrandis* Klauber (*Serpentes, Viperidae*). *Jour. Herp.*, 13 (3): 373-374.
- O'Connell, B., Greenlee, R., Bacon, J. & D. Chiszar, 1982. Strike-induced chemosensory searching in old world vipers and new world pit vipers at San Diego Zoo. *Zoo Biol.*, 1: 287-294.
- Peters, J.A. & B. Orejas-Miranda, 1970. *Catalogue of the neotropical squamata: Part I. Snakes*. United States Natl. Mus. Bull., 197: 1-347.
- , 1986. *Catalogue of the neotropical squamata: Part I. Snakes*. Revised ed. Smithsonian Institution Press, Washington D.C. 293 pp.
- Rivero-Blanco, C. & J.R. Dixon, 1979. Origin and distribution of the herpetofauna of the dry lowland regions of northern South America, pp. 281-298. In William E. Duellman (ed.), *The South American herpetofauna: its origin, evolution, and dispersal*. Univ. Kansas Mus. Nat. Hist. Monogr., (7): 1-485.
- Russell, F.E., 1983. *Snake venom poisoning*. Scholium International, New York, xiv + 562 pp.

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