

AGKISTRODON BILINEATUS - GUNTHER THE TROPICAL MOCCASIN

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Contents: Introduction - The species - Distribution and habitat - Venom toxicity and behaviour - Own experiences - References.

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INTRODUCTION

For over a year I have been in possession of a male and a female tropical moccasin (*Agkistrodon bilineatus*). During this period these snakes have become, next to my horned vipers (*Cerastes cerastes karlhartli*), my favourite animals. Therefore I offer the following for further consideration.

THE SPECIES

Agkistrodon bilineatus bilineatus belongs to the family of pitvipers, the *Crotalidae*. They are in possession of a heat sensitive organ both openings of which are found just under the eyes.

Apart from *Agkistrodon bilineatus bilineatus* there are three other subspecies: *Agkistrodon bilineatus taylori*, *Agkistrodon bilineatus nisseolus* and *Agkistrodon bilineatus howardgloydi*. These subspecies deviate in colour and distribution area from the nominate subspecies.

The tropical moccasin is a sturdy venomous snake with a broad triangular head that is clearly distinct from the neck. On both sides of the head runs a bright white stripe which goes from the tip of the nose over the eye to the neck. Also from the tip of the nose (on both sides) runs a second similar stripe parallel to the upper jaw, this terminates again in the neck region (hence *bilineatus* = with two stripes).

The colour of the juveniles deviates from that of the adult animals. The pattern in juveniles consists of alternating light and dark brown bands (several centimeters wide), each band is highlighted by a row of white scales. In the course of the first year these transverse bands become darker and darker.

The basic colour of adult animals is dark brown or black with a vague lighter banding that is still set off with clear white scales. The venter is brownish with white or beige spots.

The distal portion of the tail in juvenile animals is greenish yellow in colour, whilst older animals have a white to yellowish tail. The coloured tail end is used by juveniles to lure prey i.e. frogs. By twisting the tail, the snake mimics the movement of a worm. The food of *Agkistrodon bilineatus bilineatus* consists of mice, rats, frogs, lizards, birds and even fish. The length of an adult animal lies between 90 and 120 cm.

This species is ovo-viviparous and they give birth to about twelve juveniles. The juveniles weigh between 8 and 13 g and are about 20 cm long. Normally they slough after one week, after which they start to eat.

Dependant on climatological circumstances the tropical moccasin can be active during the day, dusk or night. they are often found basking and when disturbed drop either into the water when possible, or withdraw into vegetation. Captive longevity for this species can exceed twenty years.

DISTRIBUTION AND HABITAT

Agkistrodon bilineatus bilineatus inhabits the coastal areas of the Pacific Ocean of Mexico, Guatemala and El Salvador and also the Rio Grijalva valley near Chiapas in Mexico. *Agkistrodon bilineatus taylora* is found in north east Mexico. *Agkistrodon bilineatus howardgloydi* inhabits the coastal areas of the Pacific Ocean in Honduras, Nicaragua and Costa Rica, whilst *Agkistrodon bilineatus nisseolus* inhabits the Yucatan peninsula.

The chosen habitat consists of hilly landscape between 300 and 800 m in elevation. Here the cantils are found in slightly moist and drier conditions in dense vegetation close to water.

On occasions they have been recorded away from their regular habitat in cornfields, near farms and in the moist woods along the coast.

VENOM TOXICITY AND BEHAVIOUR

Tropical moccasins or cantils as they are called in their distribution area, have a solenoglyph venom apparatus, which means that they have moveable venom fangs in the front of the mouth. The yellow coloured venom is according to the available literature, stronger than that of the closely related copperheads (*Agkistrodon contortrix*) and water moccasins (*Agkistrodon piscivorus*). Bites from this species have caused human fatalities, this can occur just a few hours after the bite. Necrotic effect (death of body tissue) of its venom are said to be extensive. In a report of six cases of envenomation, in one case amputation was necessary (Campbell & Lamar, 1989).

These data, coupled with the temperament of these beautiful snakes is ample reason to exercise caution when dealing with them. The behaviour of tropical moccasins can best be described as highly irascible.

When only slightly provoked they pull back the front part of the body in an S-shape, which is held slightly above the rest of the body. The tongue senses slowly in an up and down motion. Unexpectedly there then follow several lightning fast lunges, with an open mouth and erect venom fangs.

A serum is available for the treatment of contingent bites. This serum can in most cases save human life, but it cannot prevent the development of necrotic symptoms.

OWN EXPERIENCES

My own experiences with the tropical moccasin are as yet not outstanding, but I have only maintained this species for a relatively short period. Both the female and male were bought in October 1990 as six month old juveniles, from a German breeder. Their length at that time was about 25 cm with a body weight of approximately 18 g. Both animals are good feeders and have now grown to a length of about 75 cm. Because of their aggressive nature I have not weighed them lately.

Both animals are housed together in a vivarium measuring 60x50x40 cm (lxwxh), which has sashwindows at the front, these are secured with a lock. The furnishings consist of a hollow tree stump for seclusion, a climbing branch and a water bowl. The substrate is forest-bark treated with Neguvon to eliminate any pests. A spotlight of 25 Watt keeps the temperature at around 27°C, a hot spot is afforded under the lamp. During the night the temperature drops to that of the room.

After I had kept them for one year, October 1991, the male suddenly showed mating behaviour after the female had sloughed. Copulations however, were not observed. Some keepers suggest a winter rest is needed to achieve successful reproductive results, others say it is not vital. Because

I also want to breed these interesting snakes I have decided to gradually cool them down, like I do with most of my other snakes, so at the time of writing (January 1992) they are now undergoing a period of winter rest. They have been placed in individual small boxes which are kept in my hall (temperature range 10-13°C). Should this lead to successful breeding, then I will certainly report about it in this journal.