# THE SNAKES OF SURINAM, PART XVIII: FAMILY *ELAPIDAE*, SUBFAMILY *MICRURINAE*.

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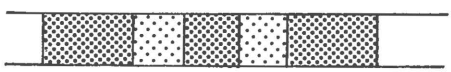
Contents: Key to species of *Micrurus* found in the Guianas - The species of *Micrurus* - References.

## KEY TO SPECIES OF *MICRURUS* FOUND IN THE GUIANAS

1a. Colour combination of two colours (black and white/yellow ..... *Micrurus psyches psyches*
b. Colour combination of three colours (black, white/yellow and red/orange) ..... 2

2a. Colour combination lacks triads ..... 3
b. Colour combination includes triads ..... 4



t r i a d

3a. Tail tricoloured; red rings 6 to 9 times as broad as black rings ..... *Micrurus averyi*
b. Tail bicoloured (black and white); red rings only 3 to 4 times as wide as black rings ..... ..... *Micrurus paraensis debruini*

4a. Black rings as broad, or broader than red rings ..... 5
b. Red rings 2 to 3 times as broad as outer black rings of triad sequence, although central black rings of triad often of same width as red rings ..... 7

5a. Black and red rings of almost equal width .. 6
b. Black rings 2 or 3 times broader than red

rings; anal scale undivided .....
*Micrurus hemprichii hemprichii*

6a. White rings 1 or 2 scales broad dorsally, sometimes becoming wider laterally .....
..... *Micrurus lemniscatus lemniscatus*
b. White rings 2 or 3 scales broad .....
..... *Micrurus lemniscatus diutius*

7a. White rings thinner than black rings; head red scales with clear black ring .....
..... *Micrurus surinamensis surinamensis*
b. White rings as broad as black .....
..... *Micrurus ibiboboca*

## THE SPECIES OF *MICRURUS*

*Micrurus averyi* Schmidt, 1939.

Dutch name: Echte zwart- en witgeringde rode koraalslang.
Surinam name: Krara sneki.
Maximum length: About 70 cm (measurement of only one specimen).
Scalation: Dorsals in 15 rows (smooth scales); about 210 ventrals; about 34 subcaudals (in 2 rows); anal scale divided; 1 pre-ocular; 2 post-oculars; no loreal; 7 supralabials; 7 sublabials; 1+1 temporals (sometimes 1+2).
Colouration: A number of Surinam species have as a characteristic the colour combination "black-white-black-white-black", the so-called "triads". In this species we do not find triads. A remarkable characteristic here is the breadth of the red bands, which have an extra bright appearance, because the scales have no black spot or edge to them. Almost all other species in Surinam do have this dark edge, with the exception of very young specimens. The red bands are separated from each other by small black bands,

which in turn are bordered on both sides by thin yellow bands. The body of this snake (excluding the tail) has 11 black bands.

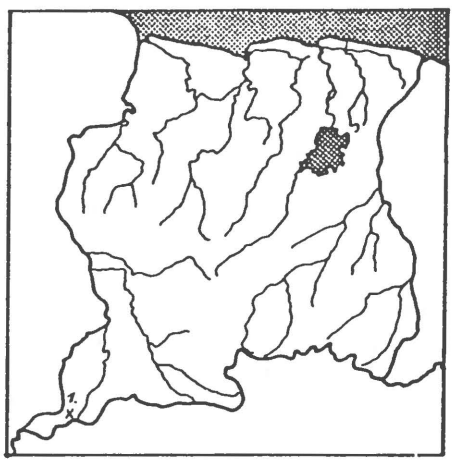
The red bands are 12 to 18 scales long; the black bands only 2 scale-lengths, while the yellow bands are formed by a row of spots of a half scale-length. The spots alternate between front and back of scale and thus do not form a continuous band. They form a transverse line on the belly that covers half a ventral scale thick.

The head is completely black from the parietals forwards. The 2nd to 5th supralabials inclusive are covered by a yellow mark which broadens from the second to fifth supralabial.

The tail has dark red bands, which are, in contrast to those of the body, smaller than the black bands. The black bands on the tail are also bordered by thin yellow bands.

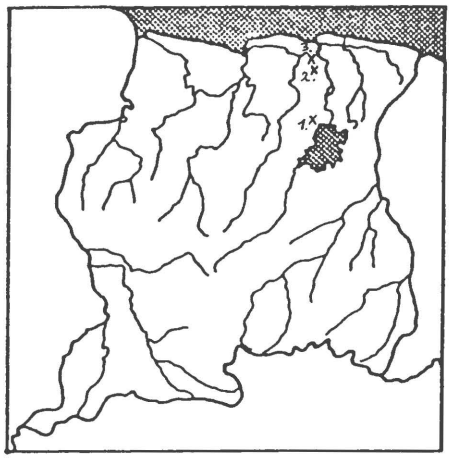
Locality records: Only known of Guyana (District Courantyne, origin Habu Creek, close to the border with Brazil (Schmidt, 1939).

Distribution: Brazil (Amazon area), Guyana and Surinam.



*Micrurus hemprichii hemprichii* (Jan, 1858).

Dutch name: Echte oranje- en witgeringde zwarte koraalslang.
Surinam name: Krara sneki.
Maximum length: About 80 cm.
Scalation: Dorsals in 15 rows (smooth scales); 159 to 184 ventrals; 23-29 subcaudals; a single anal scale (scale divided in all other species); 1 preocular; 2 postoculars; no loreal; 7 supralabials(3rd and 4th entering the orbit); 7 sublabials; 1+1 temporals (Schmidt, 1953).
Colouration: A specific characteristic is the single anal scale. All other species have a divided anal scale. With the real coral snakes we often see a combination of bands known as triads. A triad comprises of the combination black-white/yellow-black-white/yellow-black bands. This species has 7 tot 19 triads. The triads are separated by orange bands of 3 to 3.5 scales in length. The thickness of the black bands varies from 6 to 10 scale lengths, while the white rings are 1 to 1.5 scales thick (personal observation).
The mouth region is black as far as the eyes. On the top of the head however the black goes beyond the eyes, up to and including the back of the parietals. The first orange band is in consequence more or less horse-shoe shaped.
*Micrurus hemprichii hemprichii* belongs to one of the smallest species of the true coral snakes. They lay two or more eggs which measure 7x25 mm.
Remark: From observations on a young specimen (the only one I ever laid hands on) , the orange and white dorsal scales had a thin, black edge. The scales of the first (horse-shoe shaped) orange band had no black edge.
Locality records in Surinam: 1. Brownsweg (J. Kroon and R. Doreleijers, 1980); 2. path of



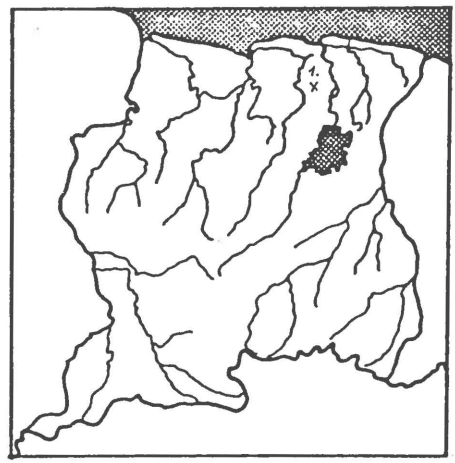
Wanica, km-23, just past the small village Onverwacht (J. de Bruyn, 1984); 3. Lelydorp (J. de Bruyn, 1985).

*Micrurus ibiboboca* (Merrem, 1820).

Dutch name: Echte driekleurige koraalslang.
Surinam name: Krara sneki.
Maximum length: About 100 cm.
Scalation: Dorsals in 15 rows (smooth scales); less than 269 ventrals; less than 25 subcaudals; anal scale divided; 1 preocular (horizontally protracted); 2 postoculars; no loreal; 7 supralabials; 7 sublabials; 1+1 temporals (Peters, 1970).
Colouration: The number of triads in this species varies from 7 to 10 (J.A. Peters, 1970). The number of triads in two specimens I caught were 8 and 10 respectively. A juvenile I later captured had also 8 triads.
The triads of *Micrurus ibiboboca* are separated by orange-red bands. In the adult animals the dorsal, orange-red scales, have a small black spot or edge. On the white dorsal scales this spot is much larger; it covers about one third

of each white scale. These white bands, seen dorsally, show a black net pattern on a white background. Ventrally the orange-red and white scales have no black spots. Thus there is a clear colour difference between the dorsal and the ventral surfaces. The white bands with a black net pattern on the older snakes appear as yellow bands on juveniles.
The snout is ringed black-white-black. The first ring is more like a spot that covers the first supralabials, the rostal, the nasals and the internasals. The white snoutband lies over the prefrontals and the second black band lies over the frontal and supraoculars and further over the eyes to the lower jaw. Posterior to this is the first orange-red band. This one covers the parietals and about 7 scales of the neck. The other orange-red bands are 7 to 9 scales in length. The exterior black bands of the triads and also the bordering white bands are each about 3.5 scale lengths broad, while the central black band of the triads can be as much as 7 scale lengths.

Remark: Late in the evening (about 23.00 hours), in the surroundings of the small village Zanderij I met two coral snakes on the middle of a bauxite road. The two snakes were lying transversely across the road while they bit each other on the neck. One of the two was clearly smaller. Whether this behaviour was a rivalry struggle or the start of a copulation I have not found out yet. At the time I also did not know which species I was dealing with. Through M.S. Hoogmoed I found out the name and it appeared they were of the species "*ibiboboca*". The habitat where the two snakes came from was a savanna area with some spreading, low shrubs. The edge of a savanna wood that laid in the neighbourhood laid about 100 m from the road,



and within about 700 m there was a stream through the savannah.
Locality records in Surinam: 1. A few km west of the small village Zanderij (A. Abuys, 1972).
Distribution: Eastern Brazil and Surinam.

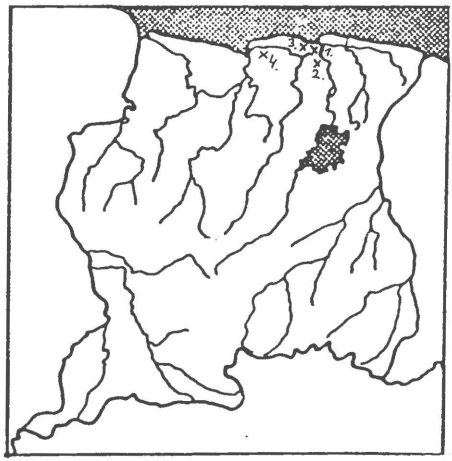
*Micrurus lemniscatus lemniscatus* (Linnaeus, 1758).

Dutch name: Echte lintkoraalslang.
Surinam name: Krara sneki.
Maximum length: About 115 cm.
Scalation: Dorsals in 15 rows (smooth scales); 224-268 ventrals; 33-41 subcaudals (in 2 rows); anal scale divided; 1 preocular; 2 postoculars; no loreal; 7 supralabials (3rd and 4th entering the orbit); 7 sublabials; 1+1 temporals (Cunha, 1978).
Colouration: The number of triads in this species varies from 9 to 14. The black and red bands are 4 to 6 scales long. The white rings only 1 or 2 scales long. A remarkable characteristic of this species is that the white rings are somewhat irregular and become slightly broader towards the belly edge. Sometimes a number of

these rings run obliquely over the sides of the body.
The scales of the red and white bands are black-edged or -spotted distally, but in very young specimens these edges or spots are not yet present.
The head is black until halfway along the parietals, but the black is divided in two by a white band over the prefrontals and the loreal area. The hind part of the head and the neck is covered by the first red band. This runs from halfway along the parietals for up to 5 scale lengths over the neck. Sometimes you find here a round black spot in the neck.

Locality records in Surinam: 1. Surroundings of Paramaribo (village Reeberg, Fam. de Vries, 1974); further John de Bruin mentions the following places: 2. Lelydorp (S. Dipper, 1977); 3. Boma polder (K. van Deursen, 1978); 4. Tijgerkreek (Sauers, 1987).

Distribution: Coastal areas of the Guyanas.




*Micrurus lemniscatus diutius* Burger, 1955.

Dutch name: Echte korte lintkoraalslang.

Surinam name: Krara sneki.
Maximum length: About 105 cm.
Scalation: Dorsals in 15 rows (smooth scales); 212-239 ventrals; 28-41 subcaudals (in 2 rows); anal scale divided; 1 preocular; 2 postoculars; no loreal; 7 supralabials; 7 sublabials; 1+1 temporals. (Roze, 1966).
Colouration: The number of triads in this species varies from 8 to 13. The black bands are 5 to 7 scales long, the red 4 to 6 and the white 2.5 to 3. In this species the ends of the red and the white scales are again black-edged or -spot-ed.

As in *Micrurus lemniscatus lemniscatus* the head is black till halfway along the parietals. This black colour is virtually divided in two by a white band that runs over the prefrontals and the loreal region. This is connected to the first red band, which covers the rear part of the parietals and 4 scales deep on the neck. Hereafter follows the first triad.

Specimens occur where two triads are united because the red band that should lie be tween them is absent. Sometimes one or more white rings are divided in half by a thin, black line.

Remark: From the above mentioned data it appears that there is only a very small difference between the two subspecies. Careful study of the white rings will help one reach a conclusion as to subspecies. In *Micrurus lemniscatus lemniscatus* they are rather irregular and sometimes run a little obliquely while the white rings at *Micrurus lemniscatus diutius* are in general more regular and slightly broader. Nevertheless there is a possibility that other varieties occur within the subspecies are so similar to recognised subspecies that they cannot yet be differentiated on colour and pattern. Also the scalation can be so similar that it becomes very difficult to tell the subspecies apart

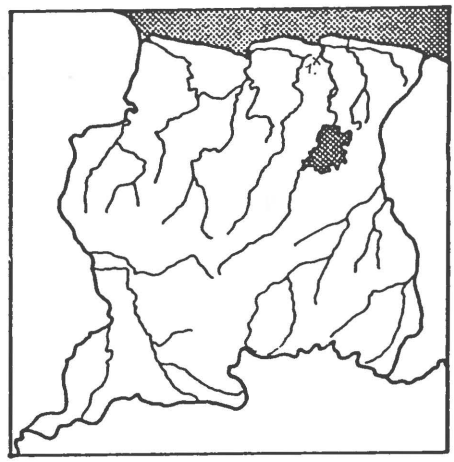
from this.
To demonstrate how difficult this can be, I give below the scale counts of three subspecies:

| Character | *Micrurus lemniscatus lemniscatus* | *Micrurus lemniscatus diutius* | *Micrurus lemniscatus helleri* |
|---|---|---|---|
| Ventrals | 224-268 | 212-239 | 225-258 |
| Subcaudals | 33-42 | 28-41 | 31-40 |
| Triads | 9-14 | 8-13 | 9-11 |

You can clearly see that the counts overlap so much that some specimens are unidentifiable on these counts alone. These three subspecies are visually almost identical, thus one unfamiliar with the species will be unable to separate the subspecies. How can a scientist do this? If you know the country of origin, then there is no problem. But what happens when you get one of these subspecies without knowing exactly where it came from, with the following data: ventrals 231; subcaudals 39; triads 11. What now? It is unidentifiable to subspecific level.
*Micrurus lemniscatus helleri* does not appear in the Guyanas, but it does appear in the directly bordering countries - north Brazil and south Venezuela. Does not that give food for thought? Perhaps the most sensible answer is to place these "subspecies" under one species name, *Micrurus lemniscatus*.

Locality records in Surinam: Not yet found by me; John de Bruin caught one near Lelydorp (determined by B. Lamar, 1985).

Distribution: Trinidad, east Venezuela and the interiors of the Guyanas.



*Micrurus psyches psyches* (Daudin, 1803).

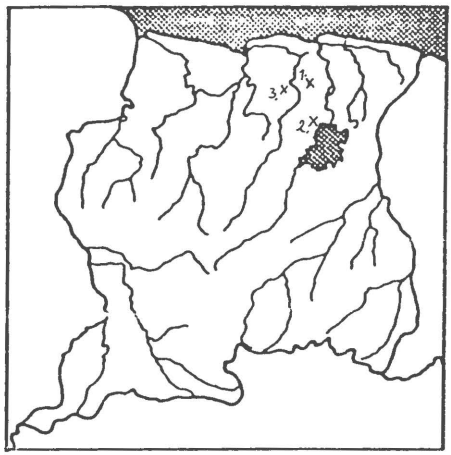
Dutch name: Echte witgeringde zwarte koraalslang.
English name: Bicoloured coral snake.
Surinam name: Blakka krara sneki.
Maximum length: About 80 cm.
Scalation: Dorsals in 15 rows (smooth scales); 185-226 ventrals; 30-50 subcaudals (in 2 rows); anal scale divided; 1 preocular; 2 postoculars; no loreal; 7 supralabials (3rd and 4th entering the orbit); 7 sublabials; 1+1 temporals (sometimes 1+2). (Roze, 1966).
Colouration: The number of black bands (there are no triads) varies from 55 to 72 (Ciase, 1980). Between the specimens from the surroundings of the Bosbivak Zanderij and the specimens from the Brownsberg there was a clear difference in the band- or ring combination: The Zanderij specimen has uniform black bands 5 scales long, separated from each other by small, white rings of about 1 scale length. The white rings in this specimen have a yellowish lustre. The black head has white lateral markings, that run upwards obliquely from the 5th sublabial, over

the 6th and 7th supralabials up to the rear of the parietals. The tail has white rings that are about 1.5 scales long, i.e. broader than the white rings of the body.

In the Brownsberg specimen the white rings are even thinner and these are more or less arranged in pairs. This arrangement appears as follows: Two small white rings of about 0.5 scale long border a black band of about 2.5 scales in length. These combinations are separated from each other by broad black bands of about 5 scales in length. The head of this last mentioned specimen is also black, but it lacks the white lateral head lines. However, triangular spots cover the 5th, 6th and 7th supralabials and both the temporals. As with the previous specimen the white rings of the tail are broader than those of the body.

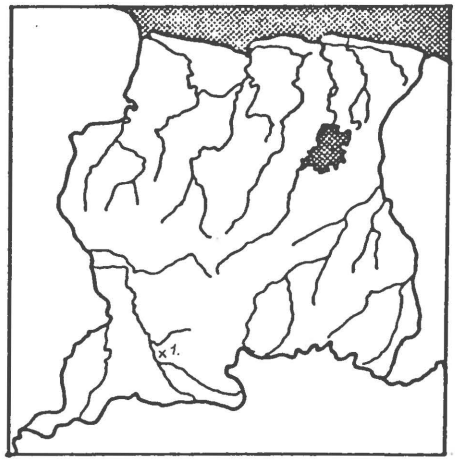
Locality records in Surinam: 1. Near to Bosbivak Zandery (along the railway), (R. Jansen, 1975); 2. Brownsberg (A. Abuys, 1974); 3. along the road, about 8 km passed the Saramacca Bridge, direction Witagron (N. Reyst and F. Ensinck, 1975).

Distribution: Venezuela, extreme southern part of Colombia and the Guyanas.



*Micrurus paraensis debruini* A. Abuys, 1987.

Dutch name: Echte breed-roodbandige koraalslang.
Surinam name: Krara sneki.
Maximum length: About 70 cm.
Scalation: Dorsals in 15 rows (smooth scales); 210 ventrals; 34 subcaudals (in 2 rows); anal scale divided; 1 preocular; 2 postoculars; no loreal; 7 supralabials; 7 sublabials; 1+1 temporals. (Determined by J. de Bruin, June 1982).
Colouration: This subspecies lacks triads. The basic colour of the trunk is brownish red. The black bands, bordered by a white ring on each side, divide the trunk into 19 red parts. These red bands are on average 8-9 scales long. Some red bands are 6-7 scales long, while the first red (neck) band is 12 scales long. The black bands are 2-2.5 scales long and the white rings not quite 0.5 a scale long.
The brownish red scales are at distally black-edged or -spotted. The head is black from the snout up to about 0.5 a scale length behind the parietals. A white spot covers the 4th and 5th supralabials. The black of the head is bordered at the neck (behind the parietals) by a very thin, hardly visible white ring.
The tail is comprised of black bands that are separated from each other by two, narrowly separated thin, white rings. The number of black bands on the tail is six.
Remark: The above described specimen was found among a collection of snakes of the animal dealer T. Henzen. Up to now it is the only one of this species from Surinam. The animal was caught in June 1982 in the surroundings of Kwamalasamoetoe (southern Surinam).
Locality records in Surinam: 1. Kwamalasamoetoe, south Surinam (Indian employee of T. Henzen, 1982).



*Micrurus surinamensis surinamensis* (Cuvier, 1817).

Dutch name: Echte surinaamse koraalslang.
English name: Surinam coral snake.
Surinam name: Krara sneki.
Maximum length: About 125 cm.
Scalation: Dorsals in 15 rows (smooth scales); 170-182 ventrals; 32-37 subcaudals (in 2 rows); anal scale divided; 1 preocular; 2 postoculars; no loreal; 7 (sometimes 8) supralabials (only the 4th enters the orbit); 7 (sometimes 8) sublabials; 1+1 temporals (sometimes 1+2). (Schmidt, 1952).
Colouration: This is a large and strong coral snake of the species that are found in Surinam it is very probably the largest. In this species we again find the well known "triads". The number varies from 6 to 10. In a specimen I caught in Surinam the number of triads was 9. The first black band of the first triad starts directly behind the head, along the back of the parietals. This band however is not of average length, but reduced to a irregular black band that divides the red of the head from the first white band. This white band is also a bit small-

er than the other white or yellowish bands. The average length of the exterior black bands of a triad is about 3 scales. The middle of the three black bands of the triads is however much broader; about 7 scales long.
Another exception to the "standard triads" is the black neck band; this is no less than 13 scales long.
The white or yellowish bands of the triads vary in length from 1.5-2 scales. The triads are separated by red bands each 6-9 scales long. The scales of these red bands are black spotted at the tips. A remarkable characteristic is that the edges of the bands are usually irregular and sometimes even oblique.
Another remarkable characteristic is the head itself. This is somewhat flattened and has red scales with a clear black edging. This gives rise to a net- or mosaic pattern. You can recognise *Micrurus surinamensis surinamensis* quickly, just from this head pattern.

Remark: The specimen I caught was, compared with other species of the genus *Micrurus*, robust and strongly built. When I grasped the snake behind its head, I could hardly prevent it from wrestling itself loose using its strong neck muscles. From my experience with pit vipers, which hardly can defend themselves when you hold them well behind the head, this *Micrurus* species surprised me by the strength of the neck muscles.
In his publication "The Reptiles of the Upper Amazon Basin, Iquitos Region, Peru Dixon states that *Micrurus surinamensis surinamensis* was found on river banks, at the banks of brooks or lakes and often in the water. The stomach contents of specimens analysed consisted almost exclusively of fish and little eels.
The specimen that I caught was not found in the neighbourhood of water, but at the edge of a savanna wood. This wood is directly behind the

Foto 1. *Micrurus hemprichii hemprichii*. Foto: A. Abuys.

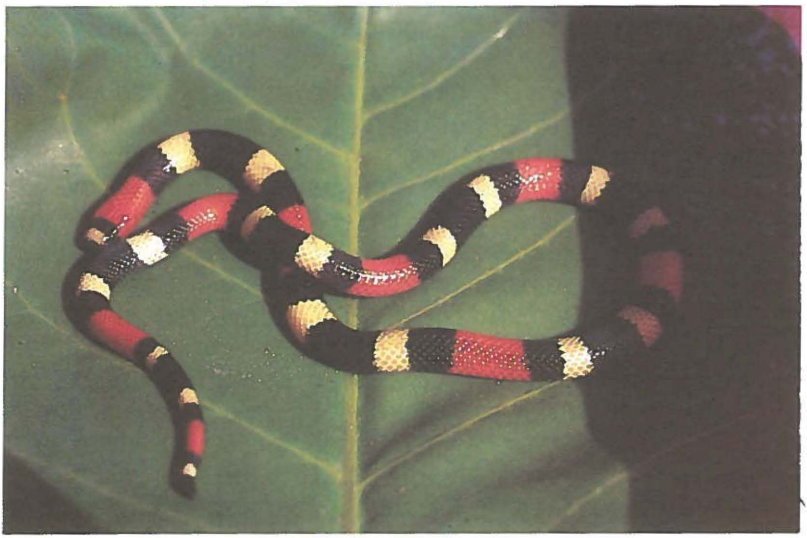


Foto 2. *Micrurus ibiboboca*, juvenile. Foto: A. Abuys.

military wood bivouac at Zanderij and encircled as it were by the well known "Colacreek". The place where the animal crawled about was a dry wood floor, bordering on a slightly grown savanna. The creek itself laid about 200 m away from the point of capture.

Locality records in Surinam: 1. Military wood bivouac at Zandery (A. Abuys, 1974); 2. Path of Wanica, km 21, near the village Onverwacht (J. de Bruin, 1984).

Distribution: Brazil, Colombia, Ecuador, Peru, Bolivia and the Guyanas.


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Table 1. Scalation data and colour characteristics of *Micrurus*.

| Characteristics | *averyi* | *hemprichii hemprichii* | *ibiboboca* | *lemniscatus lemniscatus* |
|---|---|---|---|---|
| Ventrals | 210 | 159-188 | less than 268 | 224-268 |
| Subcaudals | 34 | 23-33 anal single | less than 25 | 33-43 |
| Number of black rings or triads | 11 | 6-10 triads | 7-10 triads | 11-14 triads |
| Width of black rings in scale lengths | 2 | 6-10 | 3-3½ central ring of triad: 5-6 | 3-4 central ring of triad: 5-7 |
| Width of red rings in scale lengths | 12-18 | 3-3½ ends of the scales have black spot | 7-9 ends of the scales have black spot | 3-5 ends of the scales have black spot |
| Width of white rings in scale lengths | ½ | 1-1½ ends of the scales are black edged | 3-3½ ends of the scales have black spot | 1-2 irregular |
| Colour combination on the head | black with a white stripe on each side | front: black back: orange | the snout is black with a white ring | the snout is black with a white ring |
| Colour combination on the tail | black with red and white rings | with a triad | with a triad | with a triad |

From: Cunha & Nascimento, 1978 and 1982; Dixon & Soini, 1977; Lancini, 1979; Peters & Orejas Miranda, 1970; Roze, 1966; Schmidt, 1939; and personal observations.

| *lemniscatus diutius* | *psyches psyches* | *paraensis debruini* | *surinamensis surinamensis* |
|---|---|---|---|
| 212-242 | 185-226 | 210 | 162-187 |
| 28-41 | 30-50 | 34 | 31-38 |
| 8-13 triads | 55-72 | 19 | 6-10 triads |
| 5-7 | 2-5 | 2-2½ | 2½-3 central ring of triad: 5-7 |
| 4-6 ends of the scales have black spot | no red bands | 6-9 ends of the scales have black spot | 6-9 ends of the scales have black spot |
| 2-3 ends of the scales have black spot | ½-1 | ½ | 1½-2 ends of the scales are black edged |
| the snout is black with a white ring | black with a white stripe on each side | black with a white spot on each side | red scales with black borders |
| with a triad | black with white rings | black with paired white rings | with triad(s) |

Foto 3. *Micrurus lemniscatus lemniscatus*, juvenile. Foto: Joep Moonen.

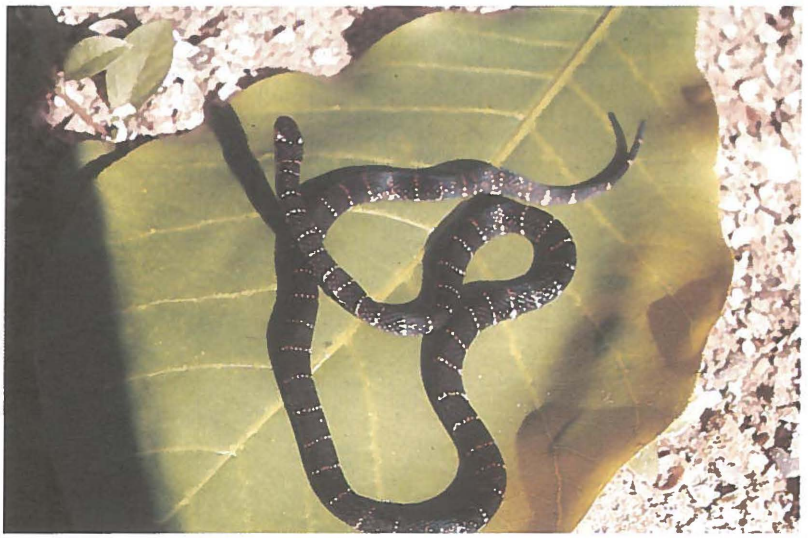

Foto 4. *Micrurus psyches psyches*. Foto: A. Abuys.

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Translation: Fons Sleijpen.

Foto 5. *Micrurus surinamensis surinamensis*. Foto: A. Abuys.