

STUDIES ON THE FAUNA OF CURAÇAO, ARUBA,  
BONAIRE AND THE VENEZUELAN ISLANDS: No. 10.

A NEW FRESH-WATER ISOPOD FROM CURAÇAO

by

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Dr. P. Wagenaar Hummelinck entrusted me with the study of 20 adult specimens of a new species of *Cyathura* which he collected in fresh-water springs of the limestone-region in Curaçao. These localities are described in the 1st and the 4th paper of this series.

*Cyathura curassavica* n.sp.

**Diagnosis.** Eyes absent. Flagellum of antennulae 2-jointed; distal joint of peduncle, in males, with two sheaves of hairs which are thickened at the top. Flagellum of antennae 4-jointed. Mandibular-palp 3-jointed; inner margin of incisive plate strongly serrated. Lateral lobe of metastoma distinctly but obtusely dentated; median lobe broad and medio-distally emarginated. Outer lobe of maxillulae with several strongly spiniform processes. Maxillipeds 4-jointed. Second pair of thoracopods without protruding angle on the prehensile margin of the propus; apex of carpus subacutely projecting; claw long. Distal end of appendix masculina distinctly broadened, entire, with a few very short hairs at the proximal side. Telson sub-ovate, widest at the proximal side. Endopod of uropods about as broad as long, distally rounded; exopod narrowly elliptical. Whitish (in life); 4–7 mm in length.

**Holotype.** Rijksmuseum van Natuurlijke Historie, Leiden: adult female, 6 mm in length, not dissected, cf. fig. 21. Type-locality: Curaçao, Hato, Bak di Boca di Leeuw, Stat. 72A. — **Paratypes.** Rijksmuseum van Natuurlijke Historie, Leiden: Hato, St. 71, 1 specimen; Hato, St. 72, 4 sp.; San Pedro, St. 79, 1 sp. Zoölogisch Museum, Amsterdam: Hato, St. 72, 3 sp.; Hato, St. 76, 2 sp.; San Pedro, St. 79, 1 sp.; partly dissected. Zoölogisch Museum, Utrecht: Hato, St. 71, 6 sp.; Hato, St. 72, 1 sp.; largely dissected, cf. figg. 22 and 23.

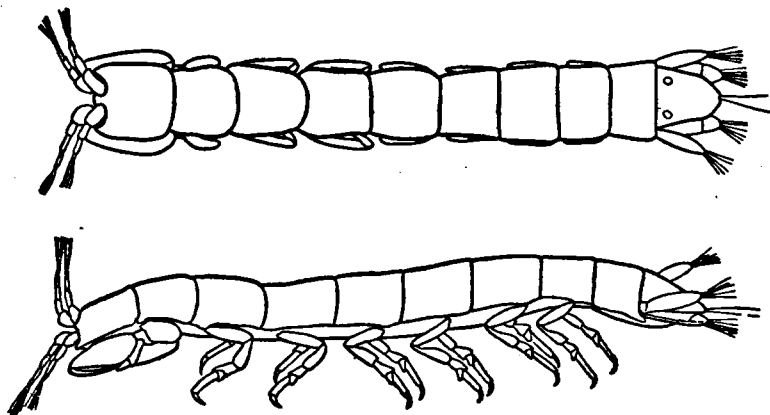


Fig. 21. Female *Cyathura curassavica* from Curaçao, St. 72A, holotype, 6 mm in length, from dorsal and from the left (14 X).

CURAÇAO, Boca Spelonk di Bak Ariba, Hato, St. 71 (7 females, 4–7 mm in length) [310 mg Cl/l, 30 °C]; Boca di Leeuw, Hato, St. 72 (5 fem., 5–7 mm, 3 males, 5–7 mm) [210 mg Cl/l, 30 °C]; Bak di Boca di Leeuw, Hato, St. 72A (1 fem., 6 mm) [abt. 210 mg Cl/l, 29–31 °C]; Bron Wandongo, Hato, St. 76 (1 fem., 5 mm, 1 m., 4 mm) [230 mg Cl/l, 28 °C]; Bron San Pedro S., San Pedro, St. 79 (2 fem., 6 mm) [360 mg Cl/l, 30 °C].

The 8th (= 7th free) thoracic-segment is distinctly smaller than the other thoracic-segments (fig. 21), which do not show obvious differences in size, but are more varying in shape. The caudal side of the 2d (= 1st free) segment is broader than the cranial side, but in the 3d segment it is exactly the opposite; both are rounded at their caudal side. The sides of the 4th segment are converging in caudal direction, those of the 6th and 7th in cranial direction. The 5th segment is broadest in the middle and somewhat longer than the other. The peduncle of the antennulae (fig. 22a) is 3-jointed, with a strongly developed basal joint, which, in males, is distinctly smaller than in females. The flagellum is 2-jointed, the distal one extremely small; in females the flagellum has some long hairs, while, in males (fig. 22b), there are, in addition to these, several hairs, which are somewhat thickened at the top, and arranged in two sheaves which are inserted on the ultimate joint of the peduncle. The peduncle of the antennae (fig. 22c) is 5-jointed, the second one the most strongly developed. The flagellum has 4 joints, but the 3 distal ones are extremely small. The palp of the mandibles (fig. 22d) is 3-jointed; the distal joint bearing some hairs which are strongly developed; the proximal and distal joint are about equal in length, the middle one, however, is distinctly longer. The inner margin of the incisive-plate is strongly serrated. The lateral lobe of the metastoma (fig. 22e) is distinctly but obtusely dentated; the median lobe is broad and medio-distally emarginated. The distal end of the outer lobe

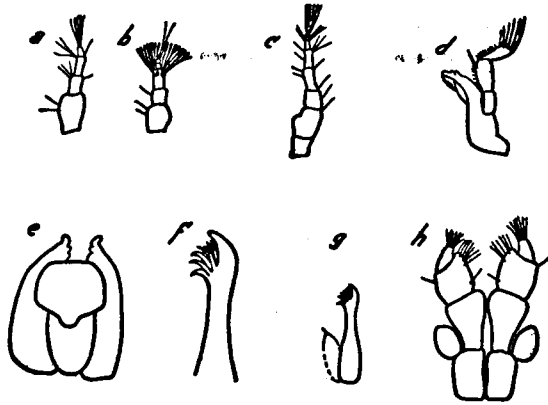


Fig. 22. *Cyathura curassavica* from Curaçao, Hato; a antennule of female, b antennule of male, c antenna (24 X); d left mandible (48 X); e metastoma, f distal part of left maxillula (120 X); g left maxillula, h maxillipeds (48 X).

of the maxillulae (fig. 22f,g) is developed into about seven strongly spiniform processes at its inner side. The inner lobe, which has been figured by Hansen (1916, p. 181, tab. 15 fig. 2e-d) from *Cyathura truncata*, is also present in this new species; it also has a single short hair at the apex. The maxillipeds (= 1st pair of thoracopods) (fig. 22h) are 4-jointed. The coxa and the base (basipodite) are subequal in size; the former with a rounded epipod. Both joints of the palps have a group of several hairs at the apex. The 2d pair of thoracopods (fig. 23a) is strongly developed and subchelate. The prehensile margin of the propus (= propus + carpus after Hansen) is straight, without any traces of a protruding angle, and has a single row of short hairs; the apex of the carpus (= merus after Hansen) is subacutely projecting. The claw is long, nearly equalling the dactyl in length. The propus of the 3d and 4th pair of thoracopods (fig. 23b) is cylindrical; the dactyl is feebly curved; both having a short spine at their medio-distal side. The 5th to 8th pair of thoracopods (fig. 23c) are very much alike the 3d and the 4th pair. The endopod of the 1st pair of pleopods (fig. 23d) is very small; the exopod, in males, is slightly narrower than in females. The appendix masculina of the endopod of the 2d pair of pleopods (fig. 23f) is distinctly broadened at its distal end, which is entire, and has a few very short hairs at its proximal side. The 3d to 5th pair of pleopods (fig. 23g) is of the usual shape. The exopod of every pleopod has several plumose hairs at its distal side (fig. 23d-g). The endopod of the uropods (fig. 23h) is about as long as broad, distally rounded, and bearing some long hairs at its distal side; the base (basipodite) is slightly shorter than the exopod; the exopod is narrowly elliptical, about four times as long as broad, and has some long hairs at its apex. The exopods are slightly pointing outwards in a dorso-lateral direction. The telson (fig. 23h) is subovate, one and a half times as long as broad, widest at its proximal side; its distal side is rounded, shallowly inden-

ted medially, and has two long hairs at the apex. The two statocysts in the telson are plainly visible. — In two large females, three pairs of oöstegites are present at the 4th, 5th and 6th thoracic-segment. — Colour whitish (in life). Length of adult specimens, both females and males, 4–7 mm.

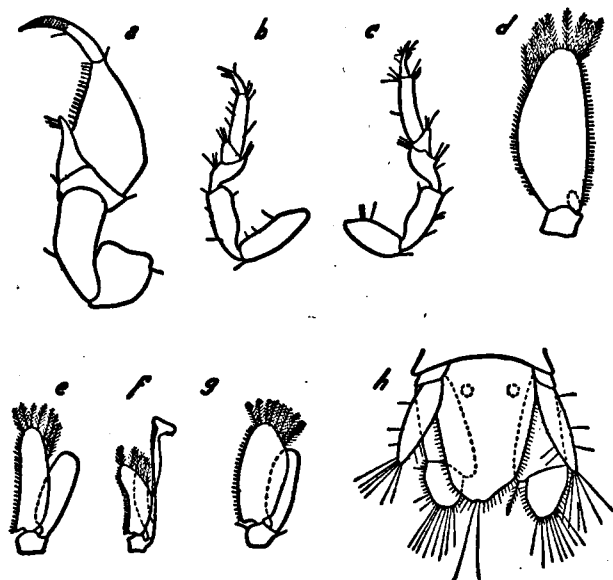
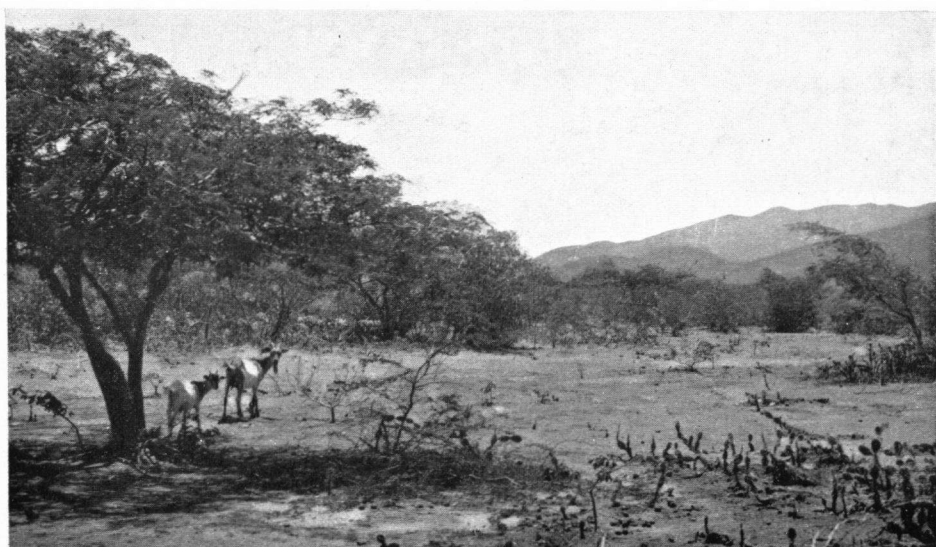


Fig. 23. *Cyathura curassavica* from Curaçao, Hato; a second thoracic-leg, b third thoracic-leg, c fifth thoracic-leg, d first pleopod of female, e second pleopod of female, f second pleopod of male, g fourth pleopod of female, h tail-fan of female (24 ×).

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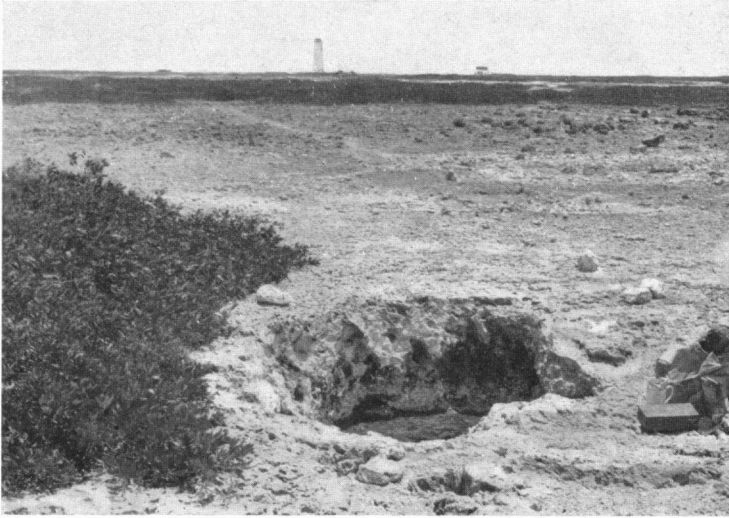


Ia Plain near San Antonio, South of the Cerros de Copey, Margarita, with a scanty vegetation of shrubs and small trees, *Opuntia Wentiana*, *Caesalpinia Coriaria* and *Croton Milleri* predominating. (Stat. 151)



Ib Looking eastward, towards the Cerro de Santa Ana (abt. 800 m), Paraguaná. The high limestone-plateau in the foreground, the so-called Cerro Transverso, has a scanty vegetation of thorny shrubs and cactuses. (Stat. 280)

TAB. II



II a Most southern waterhole of the Lansberg Putten, in the limestone-plateau of southern Bonaire, looking towards the lighthouse of Zuidpunt. A very scanty vegetation with scattered specimens of creeping *Conocarpus erecta*. (Stat. 60, near Stat. 181)



II b Low limestone-plateau, northwest of the Lansberg Putten, in southern Bonaire, looking northwestward across the Pekelmeer. The terrace was covered by a thin sinter-deposit on a white, clayish substance; this smooth layer of recent limestone cracked and was, afterwards, broken up by the temporary root-action of *Conocarpus erecta*. (Stat. 182)



III a Aerial view of a cultivated area in central Bonaire, East of Deenterra. The fields are fenced off by *Lemaireocereus griseus* and are mostly planted with *Aloe vera*. The foreground, to the right, shows a pond with rainwater.



III b Tanki Monpos, a permanent pond in the limestone-region of Hato, Curaçao; bordered by *Stemodia maritima*, in the water *Echinodorus cordifolius*, in the background *Hippomane Mancinella*. (Stat. 78)

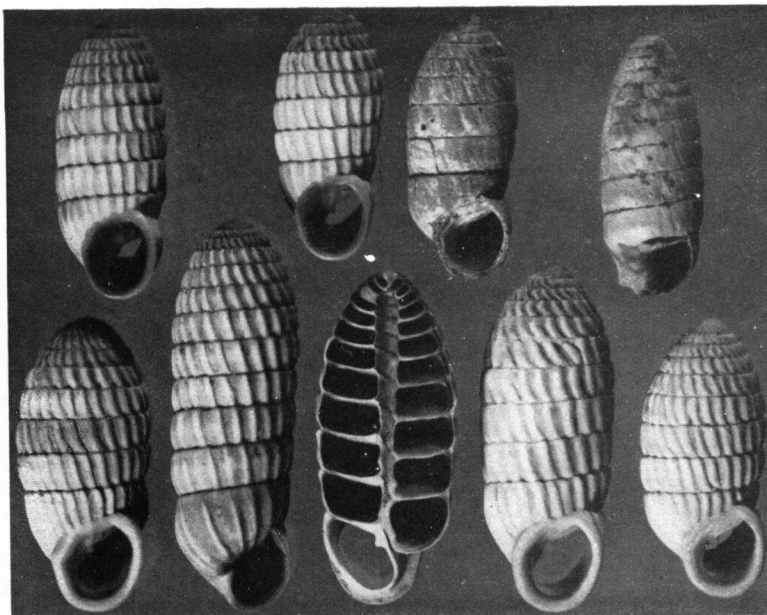
TAB. IV



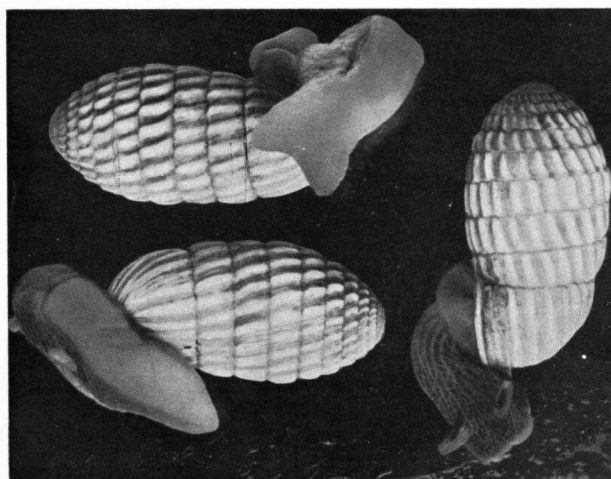
IV a Tanki Mon Plaisir, a temporary pool in the detritus-region near Oranjestad, A r u b a ; bordered by some *Prosopis juliflora*. (Stat. 97)



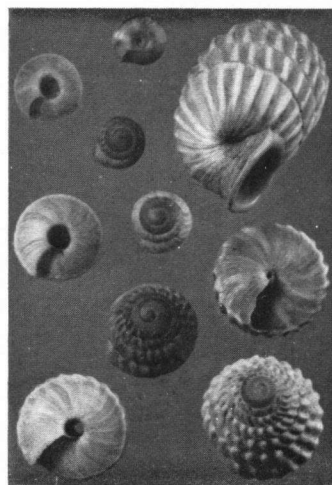
IV b Aerial view of the reef of Boekoeti, near Oranjestad, A r u b a ; looking southward, the open sea on the right, the lagoon on the left. This islet consists of a wall of coral-debris with beach-vegetation and a considerable growth of *Rhizophora Mangle*. (Stat. 278)



V a *Cerion uva*; 1-4, from left to right, from Bonaire, St. 184A; 5 and 7 from Curaçao, St. 234; 6, 8 and 9 from Aruba, Cave of Quadirikiri, fossil. Showing an enormous specimen, nr. 3, which do not show any disposition to finish growth. ( $\times \frac{5}{3}$ )

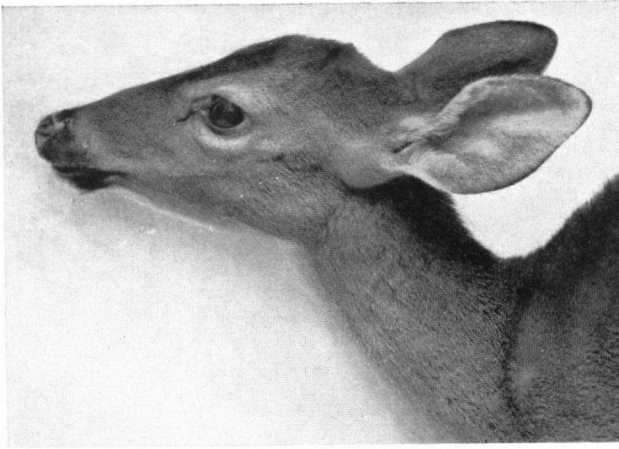


V b *Cerion uva* from Curaçao, St. 221. Showing a specimen with a bifurcated tail. (formaline-specimens,  $\times \frac{5}{3}$ )

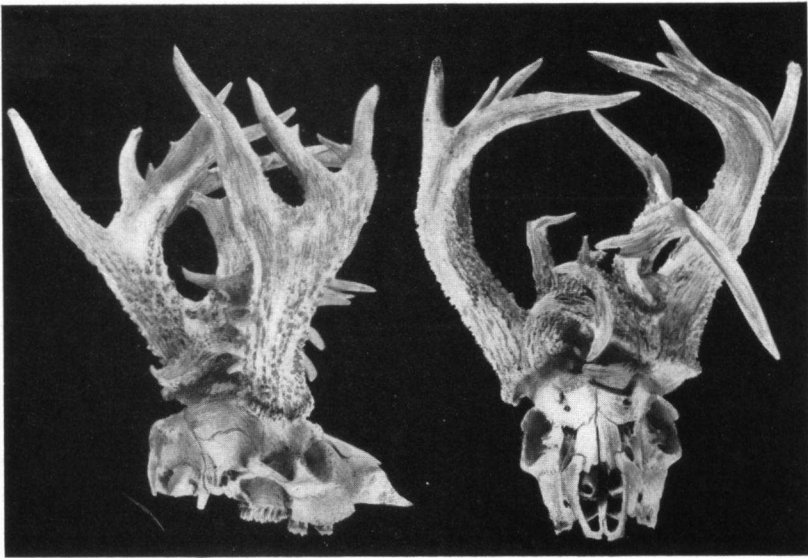


V c *Cerion uva* from Curaçao, St. 243A. Showing different stades; young specimens resembling *Helix pentodon* Pfeiff. ( $\times \frac{5}{3}$ )

TAB. VI

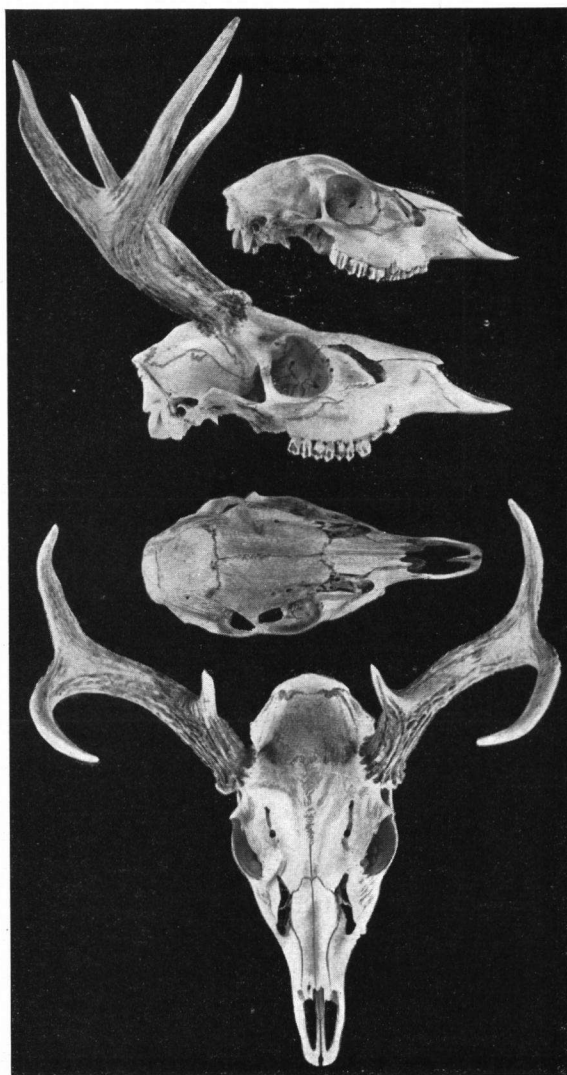
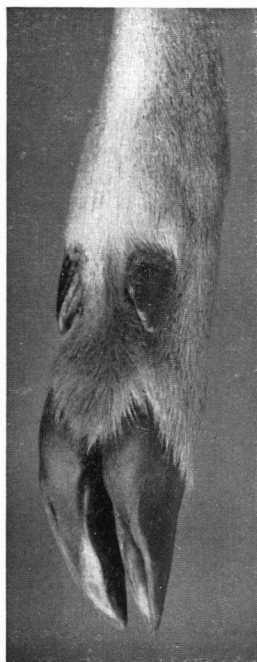


VIa Head of nine months old female *Odocoileus gymnotis curassavicus* from Curaçao. (Odoc. 2, paratype; just after death)



VIb Skull of adult male *Odocoileus gymnotis margaritae* from Margarita (Odoc. 15). The antlers are extraordinarily heavy and have an unusual complicated structure. The left sub-basal snag shows a rather fantastical growth, apparently caused by an injury whilst in a young stage of development. A projection, abt. 3 cm long, of the left pedicel, was covered by the skin of the head. Number of points (right and left, sub-basal snag separately cited) protruding at least 10 cm: 3—1, 1—3; at least 6 cm: 3—2, 6—3; 4 cm: 4—3, 8—5; 2 cm: 4—4, 11—5; 1 cm: 9—6, 14—6.

TAB. VII



VII *Odocoileus gymnotis margaritae* from Margarita. Skulls of adult male (Odoc. 17) and adult, one-and-a-half year old female (Odoc. 14). Head of the latter specimen, about a year old, from life. *Odocoileus gymnotis gymnotis* from Sucre; right forefoot of a 5 months old male (Odoc. 30), just after death.

TAB. VIII



VIII a *Odocoileus gymnotis gymnotis* from the peninsula of A r a y a. Young "Chacopato" (Odoc. 23), about 5 days old, in his hotelroom in Margarita.



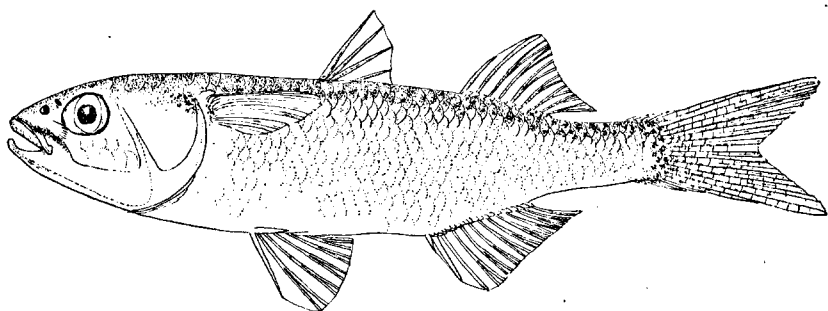
VIII b Old "Chacopato" (Odoc. 23), about 3 years old, sunbathing and ruminating on his grounds near The Hague.

TAB. IX

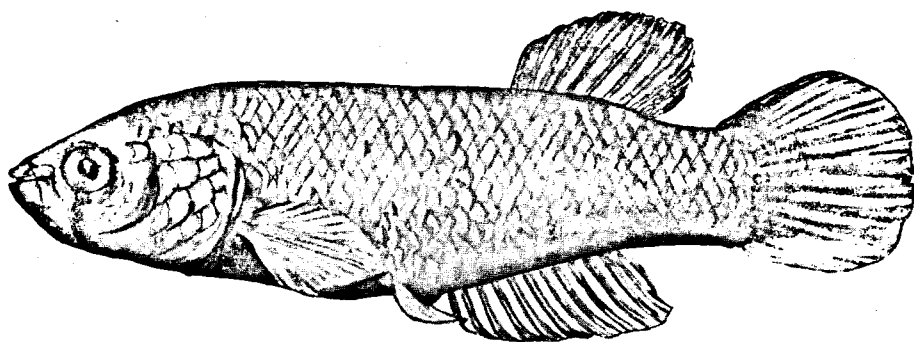


IX *Odocoileus gymnotis gymnotis* from Venezuela. "Guanta" (Odoc. 24)  
with her two days old son "Muchacho" (Odoc. 30).  
(phot. M. G. Wagenaar Hummelinck Jr.)

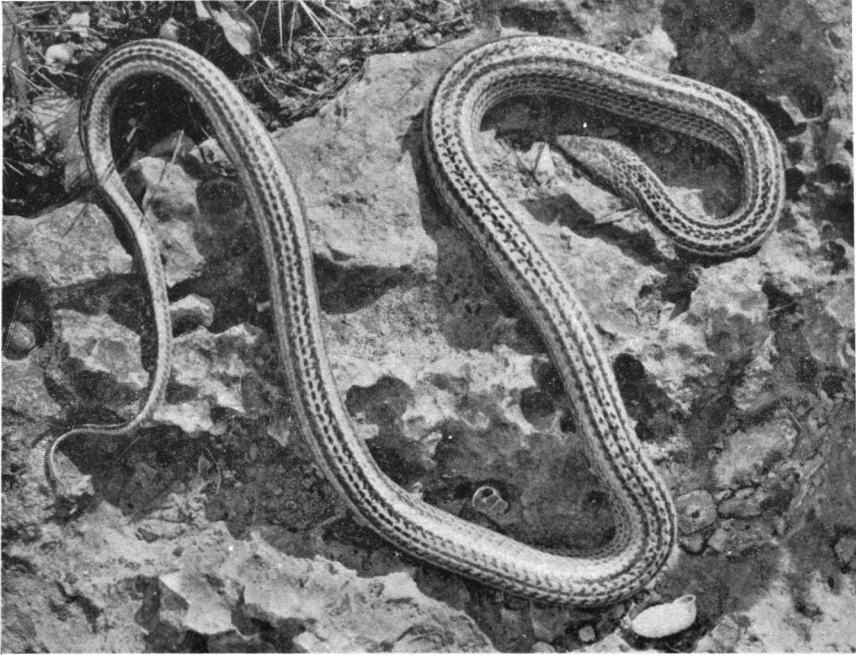
TAB. X



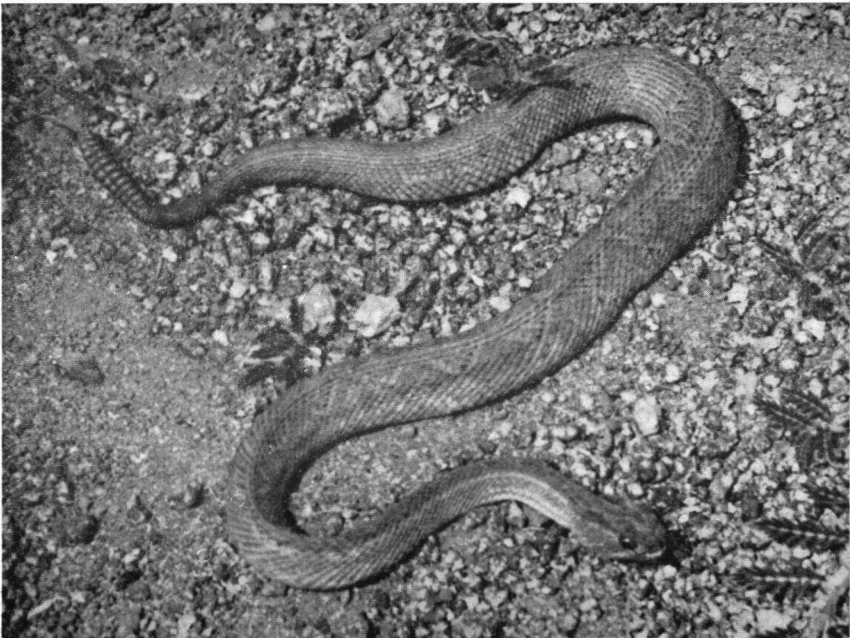
X a *Myxus calancae* n.sp. from La Goajira, Colombia, St. 115  
( $\times 2$ , L. F. de Beaufort del.)



X b *Rachovia hummelincki* n.sp. from Paraguaná, Venezuela, St. 106.  
( $\times 2$ , L. F. de Beaufort del.)



XI a *Leimadophis triscalis* from Hato, C u r a ç a o (Oph. 43, female).  
(phot. P. Wagenaar Hummelinck)

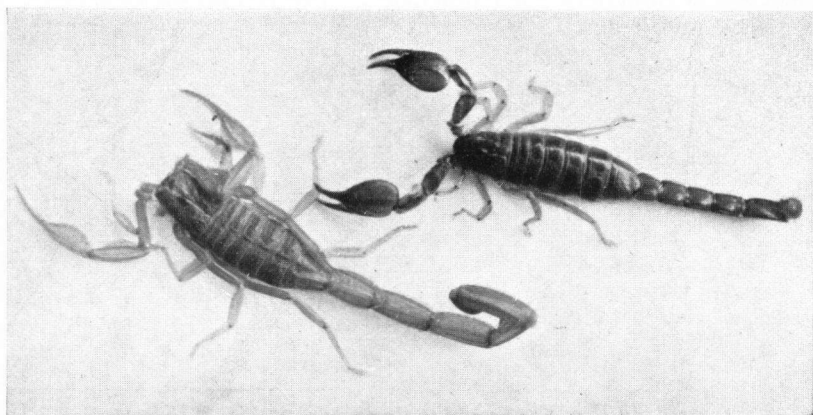


XI b *Crotalus durissus unicolor* from Rooi Tamboe, A r u b a (Oph. 54, female).  
(phot. P. Wagenaar Hummelinck)

TAB. XII



XII a *Crotalus durissus unicolor* from Aruba (Oph. 57, juvenile)  
(preserved specimen; phot. H. Cornet)



XII b *Rhopalurus hasethi*, left, and *Diplocentrus hasethi*, right, from  
Curaçao, St. 213. (resp. male and female, from life,  $\times \frac{6}{4}$ )