

STUDIES ON THE FAUNA OF CURAÇAO AND OTHER
CARIBBEAN ISLANDS: No. 201

**COPIDOGNATHUS ANGUSTUS VIETS, 1936 (HALACARIDAE),
A REDESCRIPTION**

by

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In 1936 VIETS published a description of *Copidognathus angustus*, based on a single female. In material made available to me through the Smithsonian Institution, Oceanographic Sorting Center, collected in the Caribbean Sea I found a male, which undoubtedly belongs to this species. Many of the characteristics of *C. angustus* described by VIETS (1936), e.g. 3 porose areas on anterodorsal plate, 2 costae on posterodorsal plate, these not extending to anterior margin of plate, long rostrum, reaching to end of third palpal segment, long, conspicuous lamellae on legs, may also be found in other *Copidognathus* species of tropical and subtropical waters. A supplemental description of *C. angustus* is therefore necessary.

I am grateful to Dr. G. HENDLER (Smithsonian Institution) who made halacarid material from the Caribbean Sea available to me.

Female (Holotype)

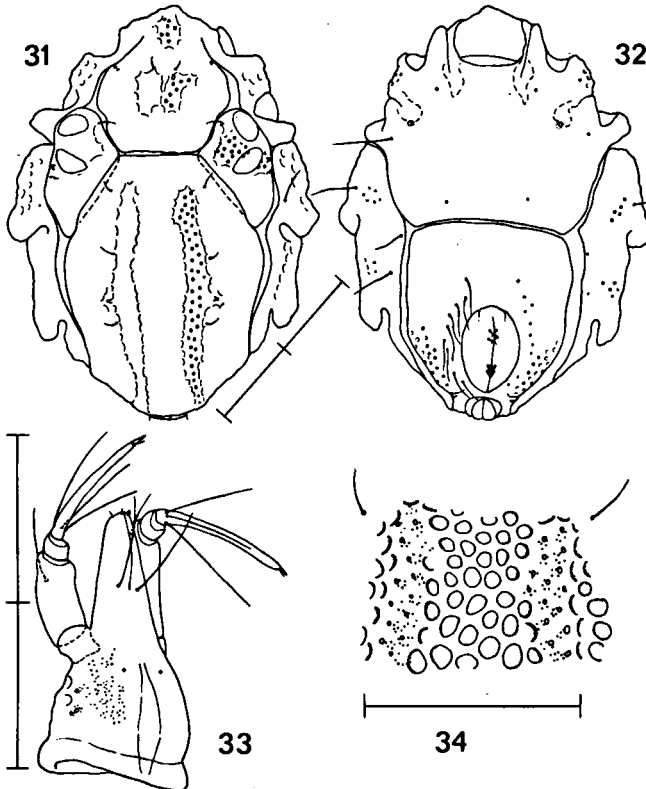
Collecting data: CURAÇAO, Boca Grandi, Savonet, "Zwischen toten Korallen in der Brandung", Station 1016, 2.V.1930, leg P. Wagenaar Hummelinck. – Holotype deposited at the Zoologisches Institut und Zoologisches Museum, Hamburg, FRG.

The female is described in VIETS (1936, p. 393–396, fig. 5–8). The only note to add is: ovipositor very long, extending to anterior margin of genitoanal plate.

Male

Collecting data: 14°34.7'N, 82°58.0'W, (Program CARIB I, Station 39), 0 m, 11.VII.1977, leg. Smithsonian Institution, Oceanographic Sorting Center. – Male deposited at the United States National Museum, Washington, D.C.

Length of idiosoma 230 μ m. On dorsal and ventral plates elevated integumental areas with rosette pores, intermediate spaces panelled (Fig. 31). On anterodorsal plate 3 rosette pore areolae; lateral to the paired median areolae a gland pore in margin of the plate. Ocular plates large;



Figs. 31–34. *Copidognathus angustus* Viets.

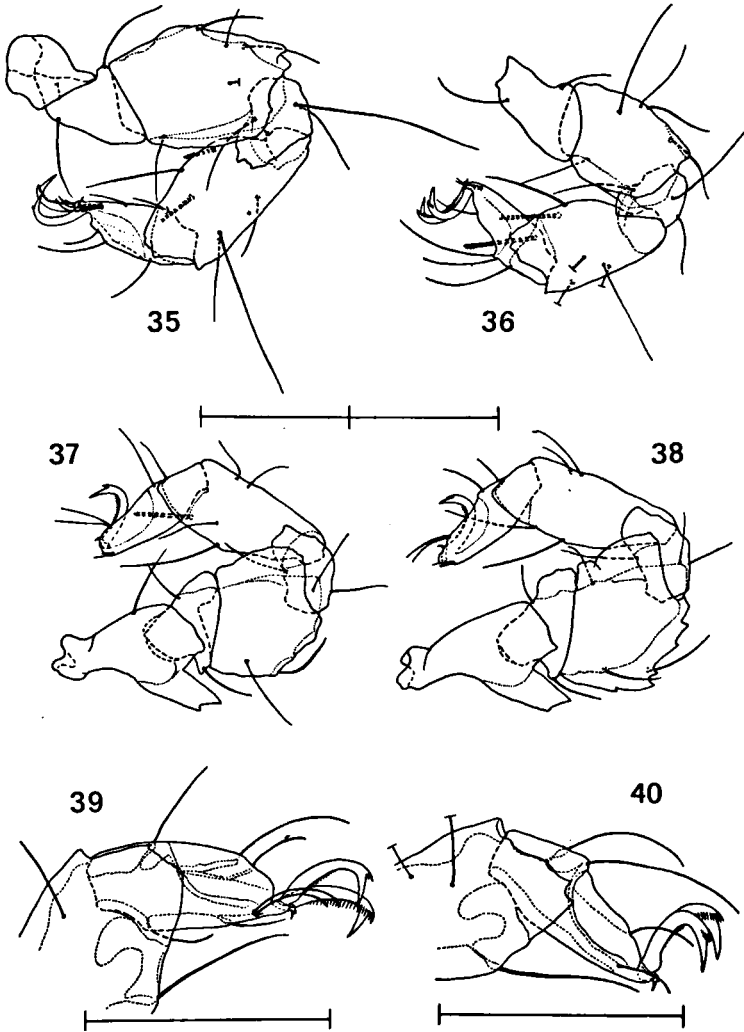
31 Idiosoma, dorsal view; 32 idiosoma, ventral view; 33 gnathosoma; 34 posterodorsal plate at level of third dorsal setae. (Each scale division = 50 μ m).

lateral margin slightly swollen; 2 large corneae; an area with 11–14 rosette pores medial to corneae; 3 rosette pores, 1 gland pore and 1 canalicular pore distal to corneae. Two ridges, 2–3 rosette pores wide, on posterodorsal plate (Fig. 34); ridges not extending to anterior margin of posterodorsal plate. A pair of gland pores at level of insertion of leg IV. Dorsal setae fine; first pair of dorsal setae (d-1) on anterodorsal plate, anterior to paired rosette pore areolae, d-2 on ocular plates, d-3, d-4, and d-5 on posterodorsal plate.

On margin of epimeral plates and on genitoanal plate, at each side of the genital opening, areolae with rosette pores, i.e. ostiae at surface of plate and numerous fine canaliculi in deeper integumental layers. Outside these areolae ventral plates pierced by numerous fine canaliculi. Epimeral processes well developed; long at insertion of leg I, wide and flattened at insertion of leg II (Fig. 32). Epimeral pores distinct. Genital opening surrounded by 19 setae, these arranged in 2 longitudinal rows. Four pairs of small setae on genital sclerites. A pair of canalicular pores at base of anal papillae.

Gnathosoma slender. Base of gnathosoma dorsally panelled, marginally with rosette pores, ventrally with fine canaliculi. Tectum slightly protruding. Rostrum extending to distal end of second palpal segment. First pair of long maxillary setae on base of gnathosoma, second pair on rostrum. Two pairs of minute setae at tip of rostrum (Fig. 33). Rostral sulcus extending posteriad to second pair of maxillary setae. Fourth palpal segment equals second in length.

Integument of legs slightly granular, not panelled. All telofemora, genua and tibiae with large lateral and medial lamellae (Figs. 35–38). Ventrolateral lamellae on telofemora often larger than the medial ones; especially telofemora III and IV with huge ventrolateral but only low ventromedial lamellae (Figs. 37, 38). Distal portion of lamellae large both laterally and medially. Dorsal lamella conspicuous on telofemora IV and I (Figs. 38, 35), low on telofemora II and III. On tibiae only distal lamellae present. Conspicuous long dorsal lamellae on trochanters III and IV and large ventrolateral lamellae on basifemora III and IV. On tibiae I and II ventromedially 2 pectinate setae, ventrally 1 smooth, slender seta; on tibia III ventromedially 1 pectinate, ventrolaterally 1 smooth, slender seta; on tibia IV both setae slender and smooth. Tarsi III and IV with 4 dorsal setae. Large lateral and medial membranes of claw



Figs. 35-40. *Copidognathus angustus* Viets.

35 Leg I, lateral view; 36 leg II, lateral view; 37 leg III, lateral view; 38 leg IV, lateral view; 39 end of leg I, lateral view (medial setae omitted); 40 end of leg II, lateral view (medial setae omitted). (Each scale division = 50 μ m; 35-37 dotted lines = border between lamella and segment; finely dashed line = outline of medial lamellae; coarsely dashed line = outline of segments obscured; 39-40 dotted line = border between lamella and segment; finely dashed line = epidermis; coarsely dashed line = outline of tarsus obscured).

fossae on all tarsi. At tip of tarsus I a pair of doublet, eupathid parambulacral setae (Fig. 39), at tip of tarsus II single eupathidia (Fig. 40); on tip of tarsi III and IV laterally 1 spine-like, medially 1 hairlike parambulacral seta. All lateral claws with a long finely toothed comb. Minute, bidentate median claw between lateral claws.

Discussion

According to the description of VIETS (1936) the rostrum of the female extends to the end of the third palpal segment, while the rostrum of the male described above just surpasses the second palpal segment. However, this difference is negligible when one considers that the third palpal segment is very short, only 5 μm long, and that the ratio rostrum length: palpal length is influenced by the degree to which the palps are bent.

The most remarkable characters in *Copidognathus angustus* are the elaborate lamellae of the legs, the huge dorsal lamella on telofemur IV, the ventral lamellae on basifemora III and IV, and the long dorsal lamellae on trochanters III and IV. Similarly conspicuous lamellae are found only in species of the *gibbus* group (cf. BARTSCH 1977a), but *C. angustus* is not a member of the *gibbus* group, it belongs to the *lamellosus* group (cf. NEWELL 1947, BARTSCH 1977b).

NEWELL (1947) described the subspecies *Copidognathus angustus floridensis*. According to this description in *C. a. floridensis* the lamellae on the legs are not as elaborate as in *C. a. angustus*; the lamellae on legs III and IV are smaller than those on legs I and II; apparently there are no ventral lamellae on basifemora III and IV. In contrast, in *C. angustus* the ventrolateral lamellae on telofemora III and IV are very large, the dorsal lamella on telofemur IV is larger than the ones on telofemora I and II. Accordingly, *C. a. floridensis* ought to be raised to specific rank.

SUMMARY: *Copidognathus angustus* VIETS, 1936 is redescribed and compared with *C. angustus floridensis* NEWELL, 1947. *C. a. floridensis* is raised to specific rank.

REFERENCES

- BARTSCH, I., 1977a. Zur oculatus- und gibbus-Gruppe der Gattung Copidognathus (Halacaridae, Acari). *Ent. Mitt. zool. Mus. Hamburg* 6 (97): 1-12.
- BARTSCH, I., 1977b. Interstitielle Fauna von Galapagos. XX. Halacaridae (Acari). *Mikrofauna Meeresboden* 65: 1-108.
- NEWELL, I. M., 1947. A systematic and ecological study of the Halacaridae of Eastern North America. *Bull. Bingham oceanogr. Coll.* 10: 1-232.
- VIETS, K., 1936. Zoologische Ergebnisse einer Reise nach Bonaire, Curaçao und Aruba im Jahre 1930. No. 18. Halacariden aus Westindien. *Zool. Jb. (Syst.)* 67: 389-424.

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