

AMSTERDAM EXPEDITIONS TO THE WEST INDIAN ISLANDS, REPORT 10 *)

CURASSANTHURA HALMA, A NEW GENUS AND SPECIES OF
INTERSTITIAL ISOPOD FROM CURAÇAO, WEST INDIES
(CRUSTACEA: ISOPODA: PARANTHURIDAE)

by

BRIAN KENSLEY

Department of Invertebrate Zoology, Smithsonian Institution, Washington, D.C. 20560, U.S.A.

ABSTRACT

Curassanthura halma n. gen., n. sp. is described from a hypersaline interstitial habitat on Curaçao, West Indies. The species may represent a stage in the invasion of hypogean fresh water by a primarily marine group.

RÉSUMÉ

Curassanthura halma n. gen., n. sp. est décrite d'un habitat interstitiel hypersalin à Curaçao, Indes occidentales. L'espèce pourrait être représentative d'un stade d'invasion des eaux hypogées par un groupe primaire marin.

INTRODUCTION

An undescribed species of paranthurid isopod was found in a sample of crustaceans sent to me for identification. The species which was collected by the Amsterdam Expeditions to the West Indian Islands, and was taken from hypersaline interstitial water, could not be placed in any of the recently revised genera of the Paranthuridae (Poore, 1980).

SYSTEMATICS

Curassanthura n. gen.

Diagnosis. — Pleonites 1 to 6 free. Single telsonic statocyst present. Eyes absent. Flagella of antennae

1 and 2 with fewer than 9 articles. Mandibular palp 3-segmented. Maxillipedal palp 4-segmented; endite present. Pereopod 1 propodus expanded. Pereopods 2 to 6 slender, essentially similar, with rectangular/linear carpus. Pereopod 7 absent. Uropodal exopod shorter than basis or endopod, erect.

Type-species. — *Curassanthura halma* n. sp.

Etymology. — The generic name *Curassanthura* (gender feminine) is derived from the type-locality, Curaçao, plus the frequently-used suffix "anthura" which refers to the flower-shaped tail-fan of the Anthuridea.

Curassanthura halma n. sp. Fig. 1.

Material. — Amsterdam Expeditions to the West Indian Islands, Sta. 73/1, Curaçao, Piscadera Bay (12°07'33"N 68°58'02"W), from coarse coral rubble, 1½ m above tide line, clarity 33221 mg/l: 1 non-ovigerous ♀ (holotype), total length 2.1 mm, Zoological Museum Amsterdam coll. no. ZMA Is. 105, 157; 1 non-ovigerous ♀ (paratype), total length 2.0 mm, Zoological Museum Amsterdam coll. no. ZMA Is. 105, 158; 1 non-ovigerous ♀ (paratype), total length 2.0 mm, National Museum of Natural History, Washington, D.C., coll. no. USNM 181672 (2 microscope slides).

Description. — Integument non-indurate. Eyes lacking. Rostral point not extending beyond antero-lateral corners of cephalon; latter slightly shorter than subequal pereonites 1 to 6 in length; pereonite 7 one-third length of pereonite 6. Pleonites 1 to 6 completely free, short, subequal in length; slight middorsal notch in posterior margin of

*) Report 9 appeared in *Bijdr. Dierk.*, 50 (2): 387-401 (1980). The fieldwork on which the present report is based, has been supported by a grant of the Netherlands Foundation for the Advancement of Tropical Research (WOTRO), The Hague.

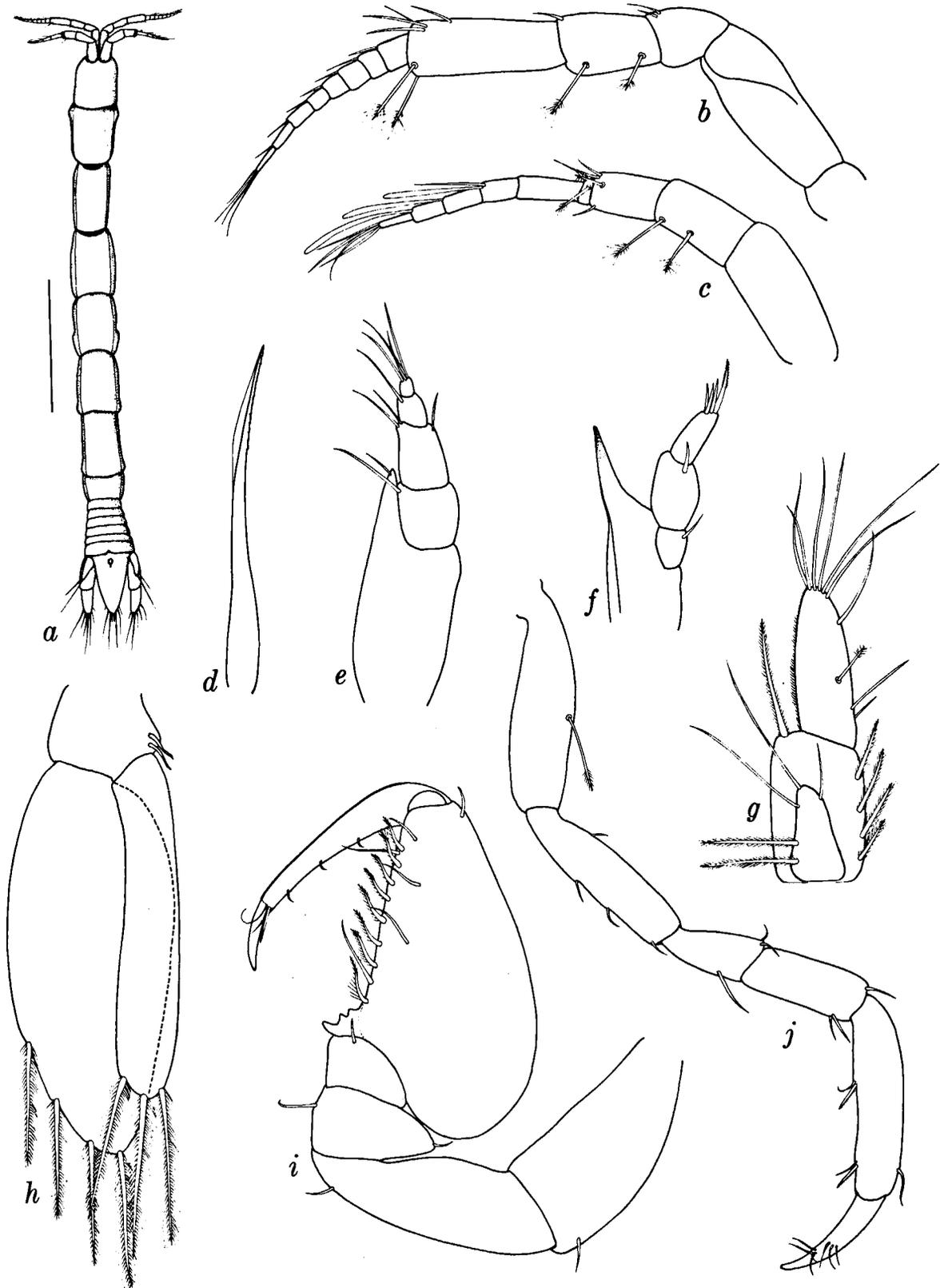


Fig. 1. *Curassanthura halma* n. sp., ♀: a, holotype in dorsal view, scale = 0.5 mm; b, antenna 2; c, antenna 1; d, maxilla; e, maxilliped; f, mandible; g, uropod; h, pleopod 1; i, pereopod 1; j, pereopod 6.

pleonite 6. Telson proximally broad, tapering to narrowly rounded apex; with single proximo-medial statocyst.

Peduncle of antenna 1 4-segmented, basal segment subequal in length to second and third segments together, fourth segment short; flagellum of 5 relatively elongate articles, 3 aesthetascs on second to fourth articles. Peduncle of antenna 2 5-segmented, first and third segments short, second and fifth segments three times longer than wide; flagellum of 8 articles. Mandible narrowly acute; palp 3-segmented, terminal segment with 4 spines; middle segment broader and longer than first or third segments. Maxilla lancet-like, with 12 distal serrations. Maxilliped with 4-segmented palp, two proximal segments subequal, relatively elongate, 2 distal segments short; endite narrowly triangular, reaching beyond first palpal segment. Pereopod 1 with unguis one-third length of dactylus, latter with 3 or 4 tiny setae on inner margin; propodus inflated, with row of 8 pectinate spines and few scattered simple setae on palm; thin tridentate proximal lobe present. Pereopods 2-6 similar, slender, unguis more than half length of dactylus; carpus two-third length of propodus, elongate-rectangular, with 2 finely serrate spines on flexor margin. Pereopod 7 lacking. Pleopod 1 larger than following pleopods, exopod operculiform, slightly longer and about three times width of endopod, with 4 distal plumose setae; endopod with 3 distal plumose setae; basis with 2 retinacula. Uropodal exopod much shorter than basis, triangular, with few elongate setae, situated dorsally on basis; endopod subequal in length but narrower than basis, with few elongate setae, reaching to telsonic apex.

Etymology. — The specific name is derived from the Greek word ἄλμη meaning salt-water, and refers to the hypersaline water in which the species was found.

Remarks. — Using Poore's (1980) key to the genera of the paranthurids, the pauciarcticate antennal flagella, quadrate carpi of the posterior pereopods, and the absence of pereopod 7 and eyes, leads (with less than an exact fit) to *Cruregens* Chilton, 1894. Represented by the single

species *C. fontanus*, from New Zealand, this is the only freshwater paranthurid known. Although resembling *Curassanthura* in the lack of eyes and seventh pereopod, and in the pleonal structure, *Cruregens* lacks a mandibular palp and telsonic statocyst, and possesses an unsegmented maxilliped, i.e. the palp and endite are fused and indistinguishable.

Other paranthurid genera which lack a seventh pereopod are *Colanthura*, *Neoanthura*, and *Zulanthura*. *Colanthura* Richardson possesses an unsegmented maxilliped and eyes, and lacks a mandibular palp and statocyst. *Neoanthura* Menzies lacks a statocyst, and possesses a triangular carpus in the posterior pereopods, and an unsegmented maxilliped. *Zulanthura* Poore possesses multiarticulate antennal flagella and a 2-segmented maxillipedal palp.

Curassanthura halma was collected from an interstitial habitat, along with specimens of the amphipod *Saliweckelia*, isopods of the genus *Microcerberus*, and a species of the mollusc *Caecum*. Apart from the New Zealand *Cruregens* which is found in freshwater wells, *Curassanthura* appears to be the only other paranthurid from hypogean waters. The genus *Cyathura* (family Anthuridae) has several times been recorded as a stygobiont, e.g. *C. milloti* along with microparasellids and amphipods from Réunion (Chappuis, Delamare Deboutteville & Paulian, 1956); *C. curassavica* with the amphipod *Metaniphargus* from Curaçao (Stork, 1940); and *C. specus* from Cuba (Bowman, 1965).

It is possible that *Curassanthura* represents a state in the movement of a section of Paranthuridae from the marine into the hypogean habitat, a movement which is much further advanced in the Anthuridae. Although taken from interstitial water 11½ meters above high water of springs, this water, perhaps due to tidal resurgence, had a salinity close to "normal" seawater.

Although *Curassanthura* exhibits some of the features typical of the stygobiontic anthurideans, viz. loss of eyes, reduced and dorsally erect uropodal exopod, and broad telson, it also shows a neotenous feature in the lack of development of pereopod 7, and a supposedly primitive feature in the 4-segmented maxillipedal palp. Retention

of these two latter features probably confers some advantage connected with the hypogean-interstitial habit.

ACKNOWLEDGEMENTS

My sincere thanks are due to Professor Jan H. Stock for making West Indian anthurids available to me for study and to Dr. T. E. Bowman of the Smithsonian Institution for his critical reading of this paper.

REFERENCES

- BOWMAN, T. E., 1965. *Cyathura specus*, a new cave isopod from Cuba. *Stud. Fauna Curaçao*, **85**: 88-97.
- CHAPPUIS, P. A., C. DELAMARE DEBOUTTEVILLE & R. PAULIAN, 1956. Crustacés des eaux souterraines littorales d'une résurgence d'eau douce à la Réunion. *Mém. Inst. scient. Madagascar*, (A) **11**: 5-78.
- CHILTON, C., 1894. The subterranean Crustacea of New Zealand: with some general remarks on the fauna of caves and wells. *Trans. Linn. Soc. Lond.*, (2, Zool.) **6**: 163-284.
- POORE, G. C. B., 1980. A revision of the genera of the Paranthuridae (Crustacea: Isopoda: Anthuridea) with a catalogue of species. *J. Linn. Soc. Lond.*, (Zool.) **68**: 53-67.
- STORK, H. A., 1940. A new fresh-water isopod from Curaçao. *Stud. Fauna Curaçao*, **2**: 147-150.

Received: 7 October 1980