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THE LARGEST KNOWN BATHYPELAGIC ISOPOD, *ANUROPUS BATHYPELAGICUS* N. SP.*

By ROBERT J. MENZIES† and THOMAS DOW.

INTRODUCTION.

THE genus *Anuropus* was first described by Beddard in 1886. It was based upon a single specimen collected in 1875 by the "Challenger" Expedition from 1,070 fathoms between New Guinea and the Admiralty Islands in the South Pacific. Lat. 2° 33′ S., Long. 144° 4′ E. This specimen was seven centimetres in length, thus constituting the second largest species of the Isopoda then known. The genus *Bathynomus*, containing a few benthonic species, has one which reaches the length of about one foot. Our five specimens ranged in size between 4·1 and 7·0 cm. in length. They were mostly taken from net hauls at midwater depths and the data strongly suggest that the genus *Anuropus* is bathypelagic rather than benthonic as was supposed by Beddard (*op. cit.*).

SYSTEMATICS.

Beddard (1886, p. 152) placed his new genus *Anuropus* in the Flabellifera (which then included the Anthuridea and Gnathiidea) in the family Cymothoidae. Stebbing (1893, p. 345) dealt with *Anuropus* under the family Cirolanidae, and thought it had some claims to be the type of a new family Anuropidae. In 1903 Hansen regarded the Cirolanids as a subfamily of the Cymothoidae *sensu lato* and, of course, he used Anuropinae. Some authors follow Hansen and regard the family Cymothoidae as comprising eight subfamilies (*e.g.* Nierstrasz, 1931, 0. 162), others prefer to use family names, Cirolanidae, etc. (*e.g.* Richardson, 1905, p. 55).

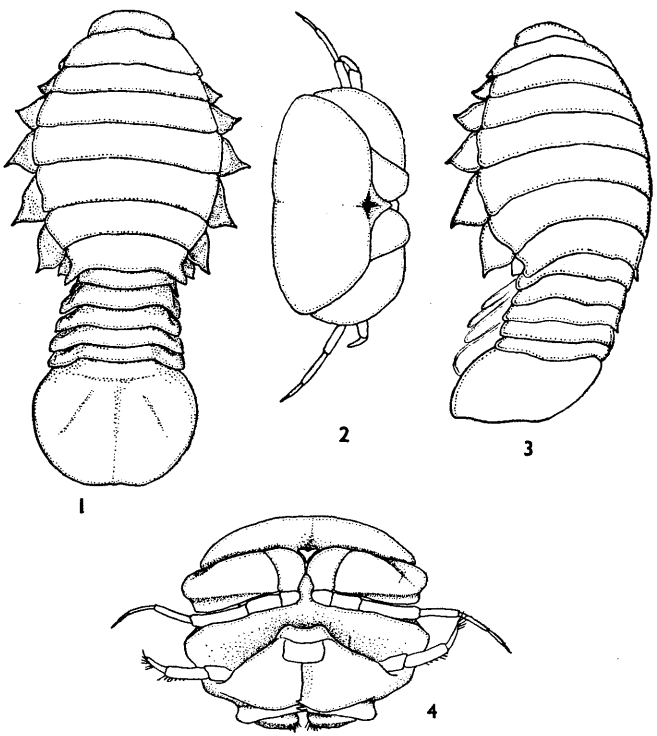
* Contribution No. 295, Lamont Geological Observatory (Columbia University) Palisades, New York ; Biology Program No. 19.

† Research Associate, Geology Department, Columbia University, New York.

Unlike the majority of the Cirolanidae the mandibles of *Anuropus* lack a lacinia mobilis. A setiferous molar is present on both the left and right mandibulae. This we believe was mistakenly identified by Hansen (*op. cit.*) as a lacinia mobilis.

In the course of this study we have discovered a few cases of misclassification in Miss Richardson's monograph on the American isopoda (Richardson, 1905). The genus *Tridentella*, for instance, should be transferred from the Exocorallanidae to the Cirolanidae (as defined by Richardson). *Syscenus* with its biarticulate maxillipedal palp does not belong in the Aegidae and may represent the type of a distinct family. The genus *Branchuropus* is closely allied to *Anuropus* and we feel that they should both be included in whatever unit, family or subfamily that is finally decided upon. Tentatively we accept Stebbings' Anuropidae as valid.

Figs. 1–4.



Anuropus bathypelagicus, n. sp. 1, Dorsal view ; 2, Dorsal view of head ; 3, Lateral view ; 4, Frontal view of head.

Family **Anuropidae** Stebbing.

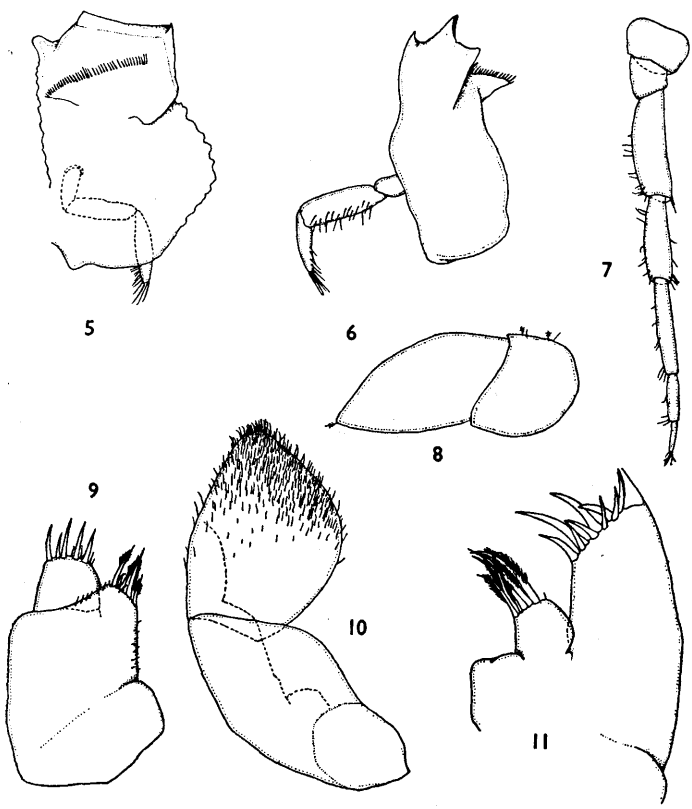
Type genus : *Anuropus*, species *A. branchiatus* Beddard, by monotypy.
Composition : *Anuropus* and *Branchuropus*.

Distribution: Pelagic (bathy- and epi-) in the Caribbean and in the Pacific Ocean.

Species *Anuropus bathypelagicus*, n. sp. (Figs. 1–16.)

Diagnosis : Epimeral plates pointed on lateral margins, not blunt. Apex of pleotelson with small median triangulation. Otherwise exactly as described for genus by Beddard (1883) and Hansen (1903), the only two investigators previously to have examined the genus.

Figs. 5–11.



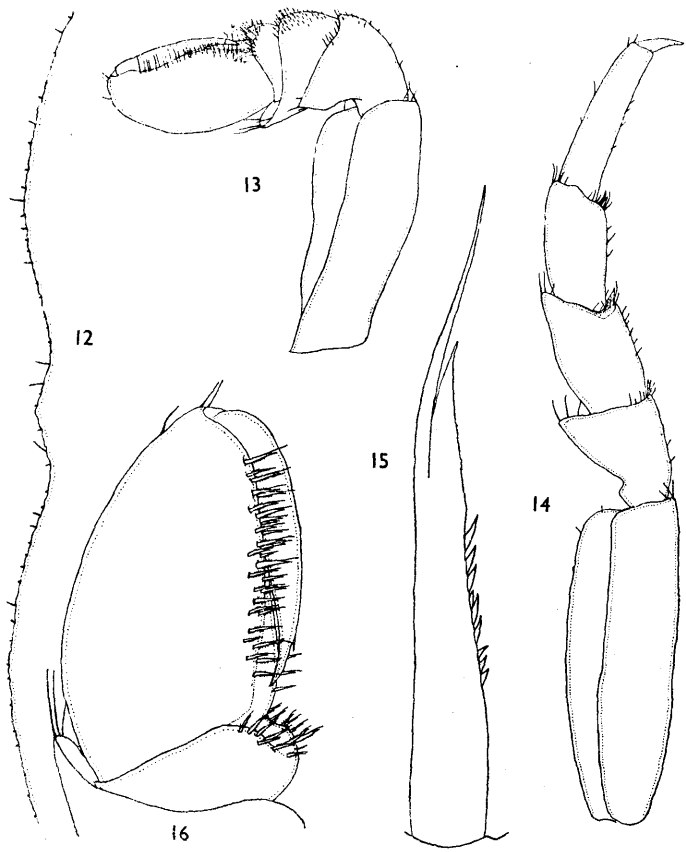
Anuropus bathypelagicus, n. sp. 5. Inner view of mandible. 6. Outer view of mandible. 7. Second antenna. 8. First antenna. 9. Second maxilla. 10. Maxilliped. 11. First maxilla.

Description. Cephalon : Swollen, eyes lacking, a massive mandibular musculature occupies area where eyes might have been. Front with pointed rostrum, not meeting clypeus.

First antenna : Composed of two articles, first one-third the length of last one ; both swollen.

Second antenna : With seven segments, first two subequal in length about one-third the length of third segment. Third to fifth subequal in length. Fourth one-half the length of third and subequal in length to a narrower fifth segment.

Figs. 12–16.



Anuropus bathypelagicus, n. sp. 12. Outer posterior margin of pleotelson. 13. First peraeopod. 14. Seventh peraeopod. 15. Seta on outer face of first peraeopod. 16. Outer face of the distal segments of first peraeopod.

Mandibles : Right and left similar. Incisor slightly coloured (golden), lacking teeth. Lacinia mobilis lacking. Molar process flattened, cutting edge with about 62 stout setæ. Palp with three articles.

First maxilla : Bilobed, inner lobe with seven apical setæ, outer with ten.

Second maxilla : Bilobed, inner with about six setæ, outer with nine setæ.

Maxilliped : Palp with one multisetiferrous article which is as long as sympod. Exognath lacking.

Peraeon : Coxal plates present on somites two to seven pointed at margin. Body lacking pigmentation.

Peraeopods : First prehensile, all others ambulatory.

Pleon : With six distinct somites including pleotelson. Apex of pleotelson bluntly rounded but with minute triangulate median projection. Minute setæ present on margin. Longituding grooves present on dorsum, one median, two lateral.

Pleopods : In six pairs, all fleshy, lacking plumose marginal setæ.

Uropods : [Apparently]* lacking but represented by unmodified sixth pair of pleopods.

Measurements : Length 4·1 cm., 4·4 cm., 4·7 cm., 5·5 cm., 7·0 cm.

Type locality and types : The types and only specimens are located in the British Museum of Natural History, Reg. No. 1957. 12. 19. 1–5 ; none is sexually mature.

Distribution : Known only from the Eastern Pacific Ocean from depths between 500 and 1600 fathoms.

Specimens examined : The specimens examined all came from collections made by the Scripps Institution of Oceanography at La Jolla, California. We do not have complete data regarding their capture ; what we do have we give in the following table.

Specimens Examined.

No.	Water depth (fm.)	Depth sampled (fm.)	Date	Time	Lat.–Long.	Location	No. of specimens
(1) NH–2	2000	500	Aug. 2, 1951	2400	40° 27·1′ N. 131° 06·2′ W.	N.E. Pacific off Calif.	1
(2) NH–23	> 2500	1170	Sep. 9–10, 1951	1650–0335	41° 20·2′ N. 155° 13·3′ W.	N.E. Pacific off California	1
(3) Trawl 4		0–680	Aug. 26–7, 1954	1955–0407	30° 53′ N. 117° 30′ W.	San Diego Trough off California	1
(4) H–32 Trawl 1		1600	Nov. 29–30, 1951	?	?	?	1
(5) MWT		0–660	Aug. 26–27, 1954		30° N. 117° W.	Probably off San Diego near Trough	1

Food : Three of the five specimens studied contained a yellowish mass in their intestines, one had many nematocysts (holotrichus isorhizas) within the mass. We suspect, therefore, that the species occasionally feeds on coelenterates.

Affinities : This species is very closely related to *Anuropus branchiatus* as described by Beddard. The major difference and one which is perhaps

* Inserted by I. G.

subspecific or varietal rather than specific is the fact that the epimeral or coxal plates have acutely pointed rather than blunt lateral margins. No intergradations in this characteristic have been observed and we are accordingly forced to consider our specimens as representatives of a new species. Additionally the apex of the pleotelson of our species has a short acumination at the midpoint of the distal margin. This is lacking in the figures given by Beddard for *A. branchiatus*.

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