Morlockiidae new family of Remipedia (Crustacea) from Lanzarote (Canary Islands)

BY

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The submarine cave of the Jameos del Agua (Lanzarote) is populated by a highly diverse fauna, most of them clearly adapted to cave environment and with marine abissal relatives. During a recent biological expedition to the cave, August-1984, two specimens of the crustacean class Remipedia Yager (1981) were found. A new family and generic name is proposed here for these animals.

MORLOCKIIDAE, new family.

Diagnosis.—Cephalic shield present, tapering to the front end and with faint transversal grooves. Cephalon with two preantennular process. First maxilla well developed, raptorial: with strong ventral setae and clawlike terminal segment. Maxilla 2 and maxilliped, prehensile. 19-22 trunk segments. Straight end of telson.

Morlockia, new genus.

Diagnosis.—Same as the family.

Morlockia ondinae, new species.

Description.—Body long and slender (Fig. 1); total length: 15.5 mm (one specimen could not be measured). Cephalic shield narrower at the anterior front and with faint medial transversal grooves. Length cephalic shield about 2 mm, maximum width: 1.5 mm. 19-22 free trunk segments; first one partially covered by cephalic shield. 21 homologous, biramous, flat trunk appendages. End of telson straight.

Preantennular frontal process rodlike, similar to that in Speleonectes.

First antenna long, biramous. Dorsal ramus 11-segmented; ventral ramus 7-segmented (Fig. 2). Peduncle with a tuft of ribbonlike aesthetes, these more numerous than illustrated.

Antenna 2 smaller than antenna 1 (Fig. 3). Protopod bisegmented. Endopod three segmented, with long plumose setae. Exopod single oval segment with plumose setae.

Labrum prominent, subtriangular.

Mandible with a 4-cusped incisor process, 2-cusped lacinialike process and setose molar process (Fig. 4).
Figs. 1-4.—*Morlockia ondinae*, n. sp.: 1) Dorsal view; 2) First antenna; 3) Second antenna; 4) Mandible. Each bar 0.1 mm. Fig. 1 by J. Bedoya.
Figs. 5-8.—*Morlockia ondinac*, n. sp.: 5) First maxilla; 6) Second maxilla; 7) Maxilliped; 8) Trunk appendage. Each bar 0.1 mm.
First maxilla 7-segmented, robust, raptorial. First segment with a spiny endite. Second segment with down curved, spiny endite. Some setae in its upper surface. Third segment with two strong spines and several setae in a ventral protuberance. Fourth segment with several strong spines and some setae in a ventral protuberance. Fifth and sixth segment with numerous long setae. Last segment clawlike (Fig. 5).

Second maxilla 7-segmented, robust, similar to first maxilla. Protopod with 4 gnathobasic plates; each endite with several setae; division running between third and fourth endites. Ventral surface of segments with setae. Segment 7 slightly uncate, with several fine setae extending over opposed setae (Fig. 6).

Maxilliped jointed to the cephalon and similar to maxilla 2; 7-segmented. Setae on ventral surface of segments. Last segment slightly uncate with fine setae opposed to stout setae (Fig. 7).

Trunk appendages biramous, flattened with numerous plumose setae (Fig. 8).

**Type material.**

*Holotype.*—Adult, 14-VIII-84, Túnel de la Atlántida (New Galery), Jameos del Agua. 22 trunk segments.

*Paratype.*—1 Adult (?), 13-VIII-84, same locality, at the entrance of the cave. 19 trunk segments.

**Discussion.**

*Morlockia* differs from the other genus in the class *Remipedia* in several characteristics. Main differences are: shorter body length and less number of trunk segments. First antenna with one segment less in each ramus. Mandible 4-cusped and 2-cusped in *Morlockia* and 3-cusped, 3-cusped in *Speleonectes*. First maxilla raptorial in *Morlockia* and prehensile in *Speleonectes*. End of telson straight.

The general morphology of body appendages differs in many other minute details which justified the proposal of a new family.

**Etimology.**

H. J. WELLS described in "The Time Machine" the Morlocks as inhabitants of the interior of the earth. They had lost their eyes and showed other adaptations to subterranean life. Ondina is a fantastic creature of German literature who lives in water.

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**Abstract.**

A new family of the ancient crustacean class *Remipedia* is described from a submarine cave in the island of Lanzarote.
Bibliography.


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