



<http://dx.doi.org/10.11646/zootaxa.3821.3.4>

<http://zoobank.org/urn:lsid:zoobank.org:pub:3CC0AB40-F154-4BE7-AA9D-79EF614BE354>

A new species of *Munidopsis* Whiteaves, 1874 (Crustacea: Anomura: Galatheoidea: Munidopsidae) from the Gulf of Mexico and Caribbean Sea

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Abstract

A new species of squat lobster, *Munidopsis shulerae* sp. nov., from the Gulf of Mexico and western Caribbean, is fully described and illustrated. This new species is named in honor of the late Barbara Shuler Mayo (1945–1988), who first recognized this new taxon in her 1974 unpublished doctoral dissertation, but never formalized it. This new species is placed in the *Anoplnotus* group based on the presence of simple, narrow rostrum, spineless eyes, fused sternites 3 and 4, well-marked carapace regions, unarmed pleonal tergites, and smooth dactyls of pereopods 2–4. Among western Atlantic congeners, *M. shulerae* sp. nov. is most similar to *M. polita* (Smith, 1883), from which it can be distinguished by the straight shape of the rostrum with a tuberculate dorsal carina extending to the epigastric region, coarse ornamentation of the carapace, and a conspicuous submarginal protuberance on each side of the carapace between the antennal and ocular peduncles.

Key words: Crustacea, Decapoda, Anomura, Galatheoidea, Munidopsidae, squat lobster, *Munidopsis*, new species, *Anoplnotus* group, Gulf of Mexico, western Caribbean

Introduction

The squat lobster family Munidopsidae Ortmann, 1898, currently includes five genera: *Shinkaia* Baba & Williams, 1998, *Leiogalathea* Baba, 1969, *Galacantha* A. Milne-Edwards, 1880, and *Munidopsis* Whiteaves, 1874. Of these, *Munidopsis* contains the largest number of species, which typically occur in waters deeper than 500 m, although they range from 2 m to 5330 m in depth, and show the highest morphological diversity within the family (Macpherson & Segonzac 2005; Baba *et al.* 2008; Taylor *et al.* 2010; Ahyong *et al.* 2011; Komai 2011; Poore *et al.* 2011). Of the estimated 226 species of *Munidopsis* known worldwide, at least 71 (31.4%) are known to be distributed in the Atlantic Ocean, of which 36 (15.9%) occur in the Gulf of Mexico (Felder *et al.* 2009).

Knowledge on the taxonomy, abundance and distribution of *Munidopsis* species from the Gulf of Mexico has been summarized in a number of faunistic studies in the last decade (Macpherson & Segonzac 2005; Wicksten & Packard 2005; Baba *et al.* 2008; Felder *et al.* 2009). Of the 36 species from the Gulf, 28 were described from the late mid 19th century through the first half of the 20th century (Lovén 1852; A. Milne-Edwards 1880; Smith 1885; Perrier 1886; A. Milne-Edwards & Bouvier 1894; Benedict 1902; Boone, 1927; Chace 1939, 1942), and the remaining eight from 1970 until 1995 (Pequegnat & Pequegnat 1970, 1971; Pequegnat & Williams 1995). For the Western Atlantic, one of the most complete and extensive studies of species of *Munidopsis* is Barbara Shuler Mayo's (1974) dissertation, which unfortunately was never published; the author passed away in 1988 (*The Boston Globe* 1988). In her work, Mayo (1974) reviewed and illustrated 34 previously known species, and one undescribed species which she based on three specimens (two from the western Caribbean, off the coast of Yucatán, Mexico, and another from the Straits of Florida), very similar to *M. polita* (Smith, 1883).

During Mexican research expeditions carried out during 1999–2007 in deep-waters of the Gulf of Mexico, from Tamaulipas to Quintana Roo, a large number of specimens belonging to 17 species of *Munidopsis* were found.

Colour. Overall whitish.

Distribution. Known from the northern and southwestern Gulf of Mexico, the Straits of Florida, off coast of Campeche, and the western Caribbean off the Mexican coast of Yucatan. Depth: 320 to 787 m.

Remarks. As previously mentioned, Mayo (1974) was the first to recognize this new species in her unpublished doctoral dissertation. Regrettably, Mayo never published a description before, and her dissertation does not meet the Code's criteria for publication (art. 8, ICZN 1999). Therefore, the name she used, which to our knowledge has never been mentioned in any capacity in any publication, is unavailable. Mayo's specimens of this new species, one male and one female from R/V *Pillsbury* station 607, off Yucatan, presumably deposited in USNM, and one ovigerous female from R/V *Gerda* station 160, in the Straits of Florida, presumably deposited in UMML, have not been found and are considered lost.

Munidopsis shulerae **sp. nov.** is most similar to a western Atlantic congener, *M. polita* (Smith, 1883), in the shape and size of the rostrum as well as presence of a dorsal, longitudinal carina, a carapace with well delimited regions, and general shape and size of all pereopods. The two can be distinguished based on the following characters: the carapace regions are better delimited and are more inflated (Fig. 1A, D) in the new species than in *M. polita* (Fig. 3A–C); the rostrum of the new species is horizontal (Fig. 1E), directed straight ahead, and has a distinct, tuberculate, dorsal carina that extends into the epigastric region, whereas in *M. polita* the rostrum (Fig. 3D) is oblique, directed downwards, and the dorsal carina does not extend to the epigastric region; the dorsal ornamentation of the carapace is coarser, with larger and more numerous tubercles in the new species (Fig. 1A, D) than in *M. polita* (Fig. 3A, B, D); in the new species there is a conspicuous, blunt, submarginal protuberance between the antennal and ocular peduncles (Fig. 1F), whereas in *M. polita* there is no such protuberance (Fig. 3B, C); and in the new species, sternite 3 is divided into narrow, ovate lobes with sinuous anterior and posterior margins (Fig. 2B), whereas in *M. polita*, sternite 3 is divided into subcircular lobes (Fig. 3E).

Of the seven groups of *Munidopsis* species recognized by Ah Yong *et al.* (2011), *M. shulerae* **sp. nov.** can be assigned to the *Anoplnotus* group, which includes species characterized by having a simple, narrow rostrum, lacking eye spines, carapace with regions well marked, fused sternites 3 and 4, pleonal tergites unarmed dorsally, and dactyls of walking legs falcate and with smooth flexor margins. Ah Yong *et al.* (2011) included six species in this group: *M. polita*, *M. bruta* Macpherson, 2007, *M. granulata* Miyake & Baba, 1967, *M. palmatus* Khodkina, 1973, *M. truculenta* Macpherson & Segonzac, 2005, and *M. vesper* Taylor *et al.*, 2010. Of these, only *M. polita* occurs in the western Atlantic, whereas the remainder are distributed in the Pacific or Indian Ocean, or the eastern Atlantic. *Munidopsis shulerae* **sp. nov.** is clearly distinguished from all others in the *Anoplnotus* group by the presence in this new species of a dorsal, longitudinal carina on the rostrum that extends to the epigastric region, and a conspicuous submarginal protuberance between the antennal and ocular peduncles.

Acknowledgements

At UMML we thank Drs. Nancy Voss and Julio García-Gómez for help in attempting to locate specimens used by Barbara Shuler Mayo. The help of Mary K. Wicksten in locating specimens of this new species is gratefully acknowledged. Rose Gullledge assisted in the electronic preparation of the figures. We are grateful to Magaly Galván Palmerín for her assistance in taking photos. This study was partially supported by a grant (IN223109-3) of the Dirección General de Asuntos del Personal Académico, UNAM. We also thank the crew of the R/V *Justo Sierra* that participated in research cruises.

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