

NEW RECORDS OF *INDOMYSIS NYBINI* BIJU & PANANPUNNAYIL, 2010
FROM THE SOUTH OF IRAQ

BY

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INTRODUCTION

The mysid fauna of the Persian Gulf (= Arabian Gulf; including the Gulf of Oman) currently comprises 15 species from 10 genera (Saudi Arabia: Murano, 1998; Bahrain: Grabe et al., 2004; Oman: Wooldridge & Victor, 2004; Kuwait: Jones, 1986). These comprise: *Anisomysis arabica* Wooldridge & Victor, 2004, *Erythrops minuta* Hansen, 1910, *Gastrosaccus kemp* W. M. Tattersall, 1922, *Gastrosaccus trilobatus* Murano & McLachlan, 1998, *Haplostylus bengalensis* (Hansen, 1910), *Haplostylus parerythraeus* (Nouvel, 1944), *Haplostylus quadrispinosus* Wooldridge & Victor, 2004, *Heteromysis proxima* W. M. Tattersall, 1922, *Indomysis annandalei* W. M. Tattersall, 1914, *Indomysis nybini* Biju & Pananpunnayil, 2010, *Kainatomysis foxi* Tattersall, 1927, *Lycomysis platycauda* Pillai, 1961, *Mysidopsis kemp* Tattersall, 1922, *Siriella brevicaudata* Paulson, 1875, and *Siriella hansen* W. M. Tattersall, 1922. The genus *Indomysis* W. M. Tattersall, 1914, comprises two brackish-water species: *I. annandalei* and *I. nybini*, found on the northern coast of the Indian Ocean.

In the present paper, we report new records of a recently described species, *Indomysis nybini* Biju & Pananpunnayil, 2010, from the south of Iraq. Our findings support suggestions that mysids identified as *I. annandalei* from Saudi Arabia (Murano, 1998) and Bahrain (Grabe et al., 2004) may be referred to *I. nybini*.

MATERIAL AND METHODS

A total of 37 specimens of *Indomysis* was collected from the marshes, Shatt Al-Arab and Shatt Al-Basrah, Iraq (fig. 1). The marshes sampled lie in the delta of

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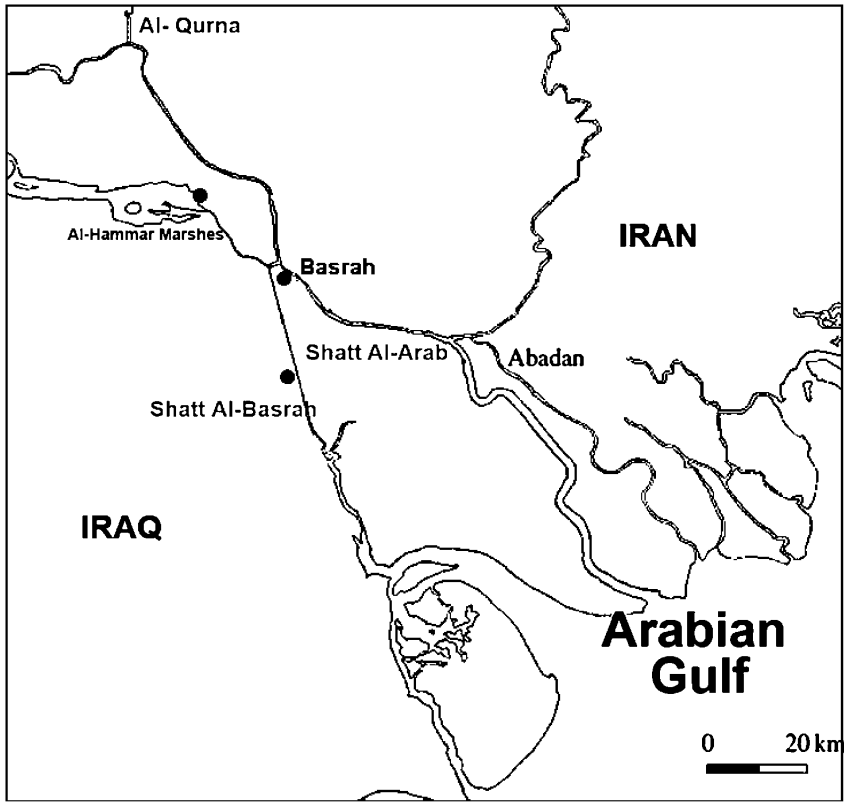


Fig. 1. The sampling area in southern Iraq (black dots) at the northern end of the Arabian Gulf (= Persian Gulf).

the rivers Tigris and Euphrates, and extend over an area of more than 1500 km² (Thesiger, 1964). The eastern and central marshes draw their water from the Tigris, while the western marsh, Al-Hammar, receives water from numerous Euphrates channels and discharges into the Shatt Al-Arab, or “Stream of the Arabs”. The Shatt Al-Arab is the major source of fresh water for the northern Gulf (length: 195 km, average width: 500 m, depth: 8-15 m) (Al Ramadhan & Pastour, 1987). The Shatt Al-Basrah is a canal that links the Euphrates River and Khor Al-Zubair. Some physico-chemical parameters recorded from the area on the Shatt Al-Arab River during the collections made in April 2009 were: air temperature, 35°C; water temperature, 24°C; pH, 7.85; salinity, 1.6 psu; dissolved oxygen (DO), 6.53 mg/L; total dissolved solids (TDS), 5.4 g/L. For the collections in the Al-Hammar marsh, in January, 2009, the physico-chemical parameters included: air temperature, 16°C; water temperature, 14°C; pH, 8.14; salinity, 1.54 psu; dissolved oxygen (DO), 10.03 mg/L; total dissolved solids (TDS), 4.8 g/L. Finally, for the Shatt Al-Basrah Canal, where specimens were collected in May 2009, these data

were as follows: air temperature, 39°C; water temperature, 29°C; pH, 8.46; salinity, 8 psu; dissolved oxygen (DO), 11.86 mg/L; total dissolved solids (TDS), 9.106 g/L.

Specimens were collected with a sieve, from the intertidal zone in the vicinity of aquatic plants and from under stones. Illustrations were made using a compound microscope (Zeiss, Germany) with the aid of a camera lucida. Specimens were preserved in 70% alcohol and have been deposited in the Natural History Museum in Bergen, Norway (ZMBM) and the Zooplankton Lab., Marine Science Centre, University of Basrah (MSCB, 26).

RESULTS AND REMARKS

Indomysis nybini Biju & Pananpunayil, 2010

(fig. 2)

Indomysis nybini Biju & Pananpunayil, 2010: 562-567.

Indomysis annandalei — Murano 1998: 50-52. — Grabe et al., 2004: 2326-2327.

Material examined. — Two females (6.5 mm) (Shatt Al-Arab River at 30°34'16.26"N 47°45'1.78"E); 2 females (6.2 mm) (Al-Hammar marshes at 30°41'11.34"N 47°37'31.16"E); 3 females (6.0 mm) (Shatt Al-Arab River at 30°34'16.26"N 47°45'1.78"E); 2 males (6.5 mm) (Shatt Al-Basrah canal at 30°24'30.61"N 47°46'33.59"E); 2 males (5.5 mm) and 1 male (6.0 mm) (Al-Hammar marshes at 30°41'11.34"N 47°37'31.16"E).

Remarks. — The *Indomysis* specimens from brackish waters in the northern Persian Gulf bear close resemblance to specimens of *I. annandalei* reported previously from Tarut Bay (Murano, 1998) and Bahrain (Grabe et al., 2004). However, those identifications have recently been reassigned to *Indomysis nybini*, a new species erected for *Indomysis* specimens collected from salt pans in Mumbai, India by Biju & Pananpunayil (2010).

Hence, it is relevant to give a comparison of morphological characters of *I. nybini* from Iraq and those of *I. annandalei*, as follows:

The frontal margin of the male carapace is evenly rounded and has no rostral projection (fig. 2A). The antennal scale has an apical suture (fig. 2A; diagnostic for *I. nybini*, not present in *I. annandalei*). The carpopropodus of the 7th thoracic endopod is armed with a robust nail and two curved, serrated spines (fig. 2B). An articulation is absent on the exopod of the 4th male pleopod in *I. nybini*, whereas it is present in *I. annandalei*, but we do observe the presence of a spine and small setae on the distal end of the exopod (diagnostic for *I. nybini*) (fig. 2C, D). The distal part of the 5th male pleopod (fig. 2E) is armed with 10 setae (8 long, 2 short); 9 is diagnostic for *I. nybini*, 6 setae (5 long and 1 short) are found in *I. annandalei*. The endopod of the uropod is armed with 1 small spine in the region of the statocyst (diagnostic for *I. nybini*, not observed in *I. annandalei*) (fig. 2G, H). The lateral

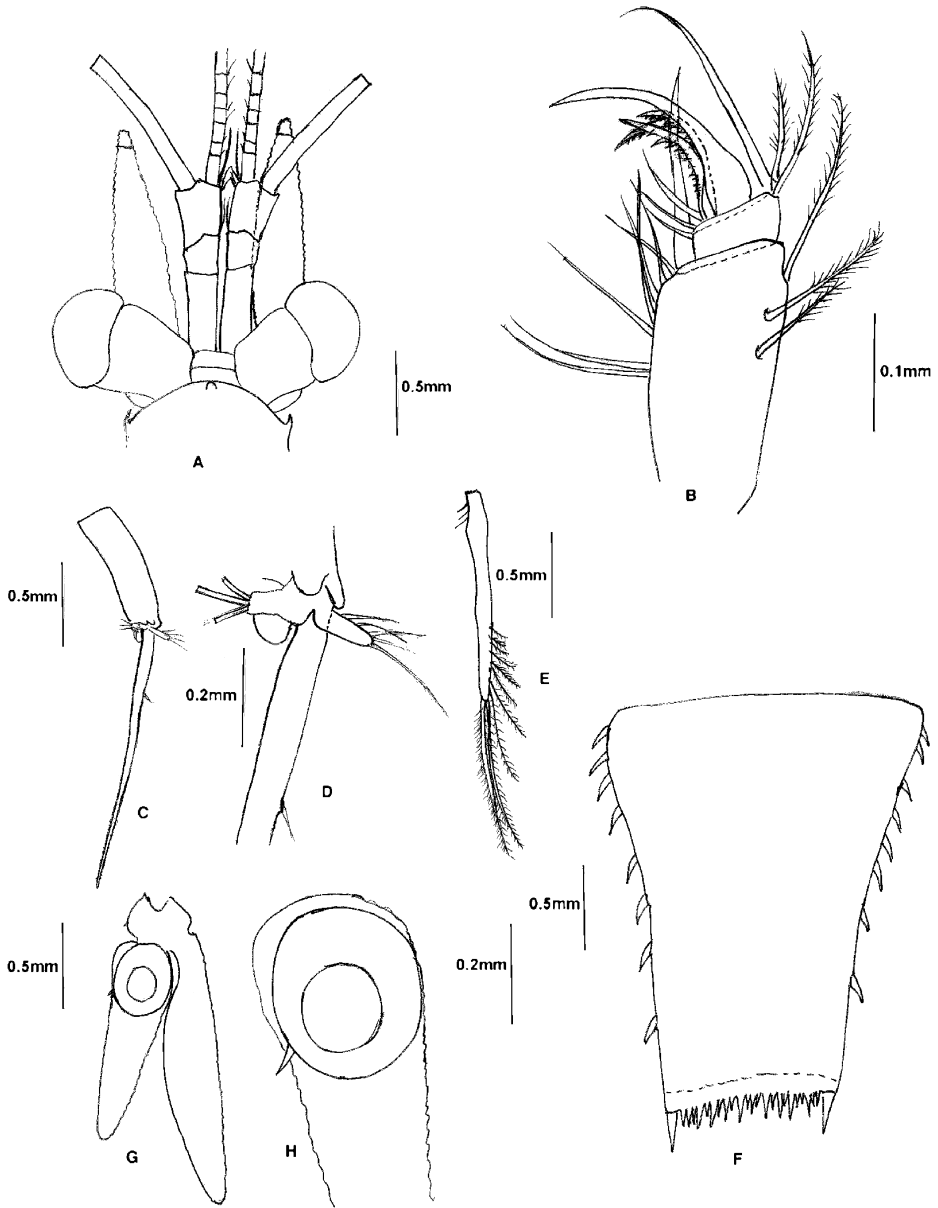


Fig. 2. *Indomysis nybini* Biju & Pananpunnayil, 2010. A, anterior end of adult male (6.5 mm); B, 7th male thoracic endopod, distal end; C, D, 4th pleopod of male; E, 5th male pleopod; F, telson; G, H, endopod of uropod.

margins of the telson are armed with 6-7 spiniform setae, 8 in adult males (fig. 2F). W. M. Tattersall (1914) reported 4-7 spiniform setae on the lateral margins of the telson for *I. annandalei*.

Habitat and distribution. — Specimens of *I. nybini* from the Shatt Al-Arab were collected amongst aquatic vegetation, such as *Ceratophyllum* sp., or hovering freely, while at Shatt Al-Basrah they were often found under rocks or among plants such as *Phragmites australis* (Cav.) Trin. ex Steud. Our records suggest that *I. nybini* is widely distributed in brackish water systems in the Persian Gulf, and based on the species' type locality in Mumbai, India, is most likely found in suitable habitats along the entire coast of the Arabian Sea.

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