



A new record of the hairy crab *Pilumnus savignyi* Heller, 1861 (Pilumnidae Samouelle, 1819) from the northwest of the Persian-Arabian Gulf

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Abstract

As part of ongoing project on brachyuran crab diversity of Iraq, a specimen of the hairy crab *Pilumnus savignyi* Heller, 1861 (Pilumnidae Samouelle, 1819) was collected from the rocky intertidal zone of Fao using hand picking method in June 2012 of the Persian-Arabian Gulf, Basrah, Iraq. The species identified up to species level using standard literature. The species looks similar morphologically to the species which was already identified from the Persian-Arabian Gulf. The present study records significant expansion in the distribution range of this species. The diagnostic morphological characteristics and remarks on the taxonomy and distribution of the species are given in the present paper.

Keywords: *Pilumnus savignyi*, Brachyura, Pilumnidae, Iraq

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INTRODUCTION

A great attention was recently paid to study the brachyuran fauna of Iraq and to specify the species boundaries for these species in the Persian-Arabian Gulf (Naser 2009; Ng et al. 2009; Naser et al. 2010; Naser 2011; Naser et al. 2012; Ng et al. 2012; Naser et al. 2013; Naser 2018; Naser 2019; Yasser and Naser 2019). The infraorder Brachyura Linnaeus, 1758 is currently constituted by more than 6,793 species, among these, 372 species belong to the family Pilumnidae Samouelle, 1819, known as "hairy crabs" (Ng et al. 2008). The hairy crab genus *Pilumnus* Leach, 1816 in the Arabian Gulf is represented by six species: *Pilumnus vespertilio*, *Pilumnus incanus*, *Pilumnus longicornis*, *Pilumnus minutus*, *Pilumnus propinquus* and *Pilumnus savignyi* (Nadeloo 2017). In general, the morphology of *P. propinquus* is very similar to that of *P. savignyi*, especially with regard to the apical part of G1, which has a small spine on the hepatic margin of the carapace, frontal characteristics with two semi-square lobes, and overall carapace morphology. In the spinning of chelipeds, the only simple distinction is seen. Those of *P. propinquus* on the upper and outer surfaces of the carpus and palm have broad and more conspicuous spines. The spines of larger chelipeds on the outer palm surface are distinct covering all the surfaces. However,

P. savignyi's larger cheliped palm has tiny spines on the proximal and lower parts of the outer surface and is totally smooth on the upper surface (Nadeloo 2017).

The hairy crab *Pilumnus savignyi* is widely distributed in the world, from Western Indian Ocean: East Africa, Aldabra, Red Sea, southern Oman, Persian-Arabian Gulf and Gulf of Oman and Kuwait (Stephensen 1946; Naderloo and Sari 2007; Naderloo and Turkey 2012; Naderloo et al. 2013; Jones 1986).

The present study, we report occurrence of *Pilumnus savignyi* Heller, 1861 (Pilumnidae Samouelle 1819) for the first time from Iraq. The present study showed significant extension in the distribution range of this species.

MATERIALS AND METHODS

Two specimen of hairy crabs *Pilumnus savignyi* were collected from the north western part of the Persian-Arabian Gulf, Fao region (**Fig. 1**) using hand picking method on June 2012. The specimens were cleaned, photographed, preserved in 70% alcohol and deposited in the Marine Science Centre (MSC), University of

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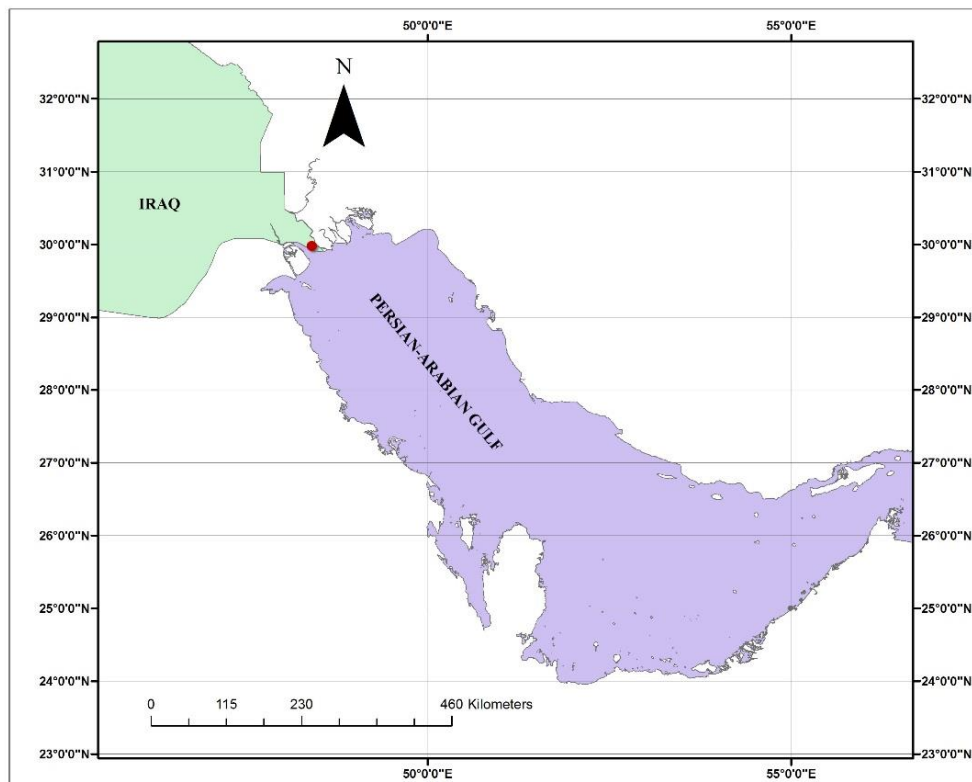


Fig. 1. Sampling site, red dot

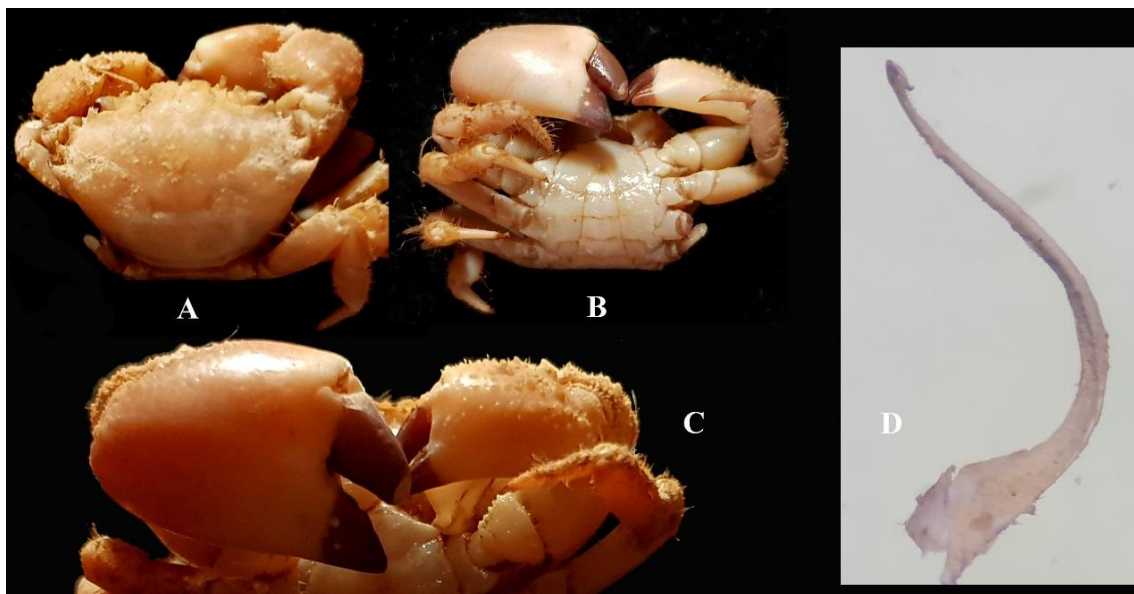


Fig. 2. *Pilumnus savignyi* Heller, 1861. Male, Carapace Length = 14.0, Carapace width = 18.0 mm, A, dorsal view; B, ventral view; C, chelipeds and D, right G1

Basrah, Iraq. Size of the specimen was recorded in millimetre (mm). Classification of the species was adopted from Naderloo 2017). Following abbreviations were used: CW: carapace width; CL: carapace length; G1: male first left gonopod; coll.: specimen collector.

RESULTS AND DISCUSSION

Order Decapoda Latreille, 1802

Family: Pilumnidae Samouelle, 1819

Pilumnus savignyi Heller, 1861

(Fig. 2A-2D)

Type locality: Red Sea.

Material examined: 2 ♂,

Diagnosis

Narrow forehead, bilobed. Convex carapace, surface with scattered long setae, granules and short spines in the anterior and anterolateral portions; anterolateral margin with 4 sharp spines (**Fig. 2A**). The abdomen well segmented (**Fig. 2B**). Chelipeds unequal, upper surface and external face of the carpus of the minor cheliped covered with long and short setae, granules and strong spines, while the larger cheliped with palm mostly smooth on external surface (**Fig. 2C**). First gonopod G1 with markedly hook-shaped apical process (**Fig. 2D**).

The hairy crab *Pilumnus savignyi* is widely distributed in the world, from Western Indian Ocean: East Africa, Aldabra, Red Sea, southern Oman, Persian-Arabian Gulf and Gulf of Oman and Kuwait (Stephensen 1946; Naderloo and Sari 2007; Naderloo and Türkay 2012; Naderloo et al. 2013; Jones 1986). The species

lives on substrate rocky areas at the intertidal up to 16m. The species collected from the rocky intertidal zone of Fao region, Iraq looks similar to *Pilumnus savignyi* except slight morphological variations, being the species from Iraq is less hairy, H-shaped gastric groove more prominent and the G1 is slightly curved outward. We listed these morphological differences within phenotypic variations, however more samples of this species are needed to look at it carefully morphologically and genetically.

CONCLUSION

The present study is a part of ongoing project on brachyuran crab diversity of Iraq. The crab *Pilumnus savignyi* Heller, 1861 (Crustacea: Decapoda: Brachyura: Pilumnidae Samouelle, 1819) is widely distributed in the Persian-Arabian Gulf. We report occurrence of *Pilumnus savignyi* for the first time from Iraq.

REFERENCES

- Jones DA. A field guide to the sea shores of Kuwait and the Arabian Gulf. University of Kuwait, Distributed by Blandford Press, Poole. 1986.
- Naderloo R, Sari A. Subtidal crabs of the Iranian coast of the Persian Gulf: new collections and biogeographic considerations. *Aquat. Ecosyst. Health Manage.* 2007;10:341–349
- Naderloo R, Türkay M, Sari A. Intertidal habitats and decapod (Crustacea) diversity of Qeshm Island, a biodiversity hotspot within the Persian Gulf. *Mar Biodivers.* 2013;43:445–462
- Naderloo R, Türkay M. Decapod crustaceans of the littoral and shallow sublittoral Iranian coast of the Persian Gulf: faunistics, biodiversity and zoogeography. *Zootaxa.* 2012;3374:1–67.
- Naderloo R. Atlas of crabs of the Persian Gulf. Springer Verlag. 2017:1–443. DOI 10.1007/978-3-319-49374-9
- Naser MD, Ali MH, Yasser AG. New record of the fiddler crab *Uca* (Paraleptuca) *sindensis* (Crustacea: Brachyura: Ocypodidae) from Khor Al-Zubair, Basrah, Iraq, *Marine Biodiversity Records.* 2010;3:1-3.
- Naser MD, Alkhafaji KhS, Yasser AGh, Darweesh HSh. New record of *Nanosesarma sarii* (Naderloo and Turkey, 2009) (Crustacea: Decapoda: Brachyura: Sesarmidae) from Khor Al-Zubair, south of Iraq. *Bull. Iraq nat. Hist. Mus.* 2013;12(4): 35-41.
- Naser MD, Page TJ, Ng NK, Apel M, YasserA, Bishop JM, Ng PKL, Clark PF. Invasive records of *Eriocheir hepuensis* Dai, 1991 (Crustacea: Brachyura: Grapsoidea: Varunidae): Implications and taxonomic considerations. *BiolInvasions Records.* 2012;1(1):71–86.
- Naser MD. A new record of *Eurycarcinus integrifrons* De Man, 1879 (Decapoda, Brachyura, Pilumnidae) from NW of the Persian – Arabian Gulf, Iraq. *J. Biolo. Stud.* 2018;1(1): 9-13.
- Naser MD. A new record of *Eurycarcinus orientalis* A. Milne-Edwards, 1867 (Decapoda, Brachyura, Pilumnidae) from the north western part of the Persian-Arabian Gulf. *J. Biolo. Stud.* 2019;1(4):160-164.
- Naser MD. First record of the freshwater crab, *potamon mesopotamicum* brandis, storch & Türkay, 1998 (Decapoda, Brachyura, Potamidae) from the Al-Huwaizah marshes, Iraq. *Crustaceana.* 2009;82(12):1599-1602.
- Naser MD. The Sesarmid crab *Parasesarma persicum* Naderloo and Schubart, 2010 (Crustacea: Decapoda: Brachyura: Sesarmidae), New to the Iraqi Coastal Waters of Khor AlZubair and Shatt Al-Basrah Canal, Basrah, Iraq. *J. J. Biolo. Sci.* 2011;4(3):185-190.
- Ng PKL, Rahayu D, Naser MD. The Camptandriidae of Iraq, with description of a new genus and notes on, *Leptochryseus* Al-Khayat & Jones, 1996 (Crustacea: Decapoda: Brachyura). *Zootaxa.* 2009;2312:1–26.
- Ng PKL, Safaie M, Naser MD. A new species of *Raphidopus* Stimpson, 1858, from the Persian Gulf (Crustacea: Decapoda: Anomura: Porcellanidae). *Zootaxa.* 2012;3402(1). DOI: <http://dx.doi.org/10.11646/zootaxa.3402.1.4>
- Stephensen K. The Brachyura of the Iranian Gulf. With an appendix: the male pleopoda of the Brachyura. In Jessen K. and Spärck R. (eds) *Danish Scientific Investigations in Iran. Part IV* [1945]. Copenhagen: E. Munksgaard. 1946:57–237
- Yasser A, Naser M. First report of leucosiid crabs (Decapoda, Brachyura) from the Iraqi coast of the Persian Gulf. *J. Biolo. Stu.* 2019;2(1): 25-30.
- Yasser A, Naser MD. A new record of *Dorippe quadridens* (Fabricius, 1793) (Decapoda, Brachyura, Dorippidae) from the north western Persian-Arabian Gulf, Iraq. *J. Biolo. Stu.* 2019;2(1):1-3.

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