

## Checklist of the Marine Brachyura of the North Western Persian-Arabian Gulf, with the New Record of *Phalangipus persicus* Griffin, 1973 (Crustacea: Brachyura: Epialtidae MacLeay, 1838) from the Iraqi Coast

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Research Article

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### Abstract

The checklist of the marine Brachyura from the Iraqi coast has been analyzed and presently it comprises 29 species. The Pilumnidae, Leucosiidae, Camptandriidae, and Macrophthalmidae are the most diverse families in the northwestern Persian-Arabian Gulf. Specimens of *Phalangipus persicus* Griffin, 1973 have been collected from the northwest of the Persian-Arabian Gulf, Iraq, at the Fao region in July 2019. This species is widely distributed in the Persian-Arabian Gulf, Iran, Saudi Arabia, and UAE; however, it is recorded for the first time from the Iraqi coasts.

**Keywords:** Checklist, Fao region, *Phalangipus persicus*, Brachyura

**Kuzeybatı Basra-Arap Körfezi'nde denizel Brachyura'nın tür listesi ve *Phalangipus persicus* Griffin 1973'in, Irak kıyılarında yeni kaydı (Crustacea: Brachyura: Epialtidae MacLeay, 1838)**

### Özet

Irak kıyılarında denizel Brachyura'nın tür listesinin 29 türden oluştuğu tespit edildi. Pilumnidae, Leucosiidae, Camptandriidae ve Macrophthalmidae, kuzeybatı Basra-Arap Körfezi'ndeki en yaygın familyalardır. *Phalangipus persicus* Griffin, 1973'ün örnekleri Temmuz 2019'da Irak'taki Basra Körfezi'nin kuzeybatısındaki Fao bölgesinden toplanmıştır. Bu tür, Basra-Arap Körfezi, İran, Suudi Arabistan ve BAE'de yaygın olarak bulunmaktadır. Irak kıyılarında ilk kez kaydedilmiştir.

**Anahtar Kelimeler:** Kontrol listesi, Fao bölgesi, *Phalangipus persicus*, Brachyura

## INTRODUCTION

The investigated area comprises Shatt Al-Arab estuary and many open lagoons, such as Khor Al-Khafga, Khor Al-Umaya, Khor Al-Rocka, and Khor Abdullah, which occupy the northwesternmost tip of the Arabian Gulf (Albadran et al., 2016). Given the limitation of 105 km of Iraqi coastline, 1034 km<sup>2</sup> of the continental shelf, and 716 km<sup>2</sup> of the territorial sea, these territories are considered the most productive region in the Gulf due to the Shatt Al-Arab River running off (Bibik et al., 1970).

Naderloo (2017) illustrated 256 species of Brachyura from the Persian Gulf and the Gulf of Oman, subsequently described or recorded in previous studies, such as Naser (2009); Ng et al. (2009); Naser et al. (2010); Naser (2011); Naser et al. (2012); Naser et al. (2013). New records followed from the Iraqi coast, such as Naser (2018); Naser (2019); Yasser and Naser (2019a); Yasser and Naser (2019b), and Yasser et al. (2021).

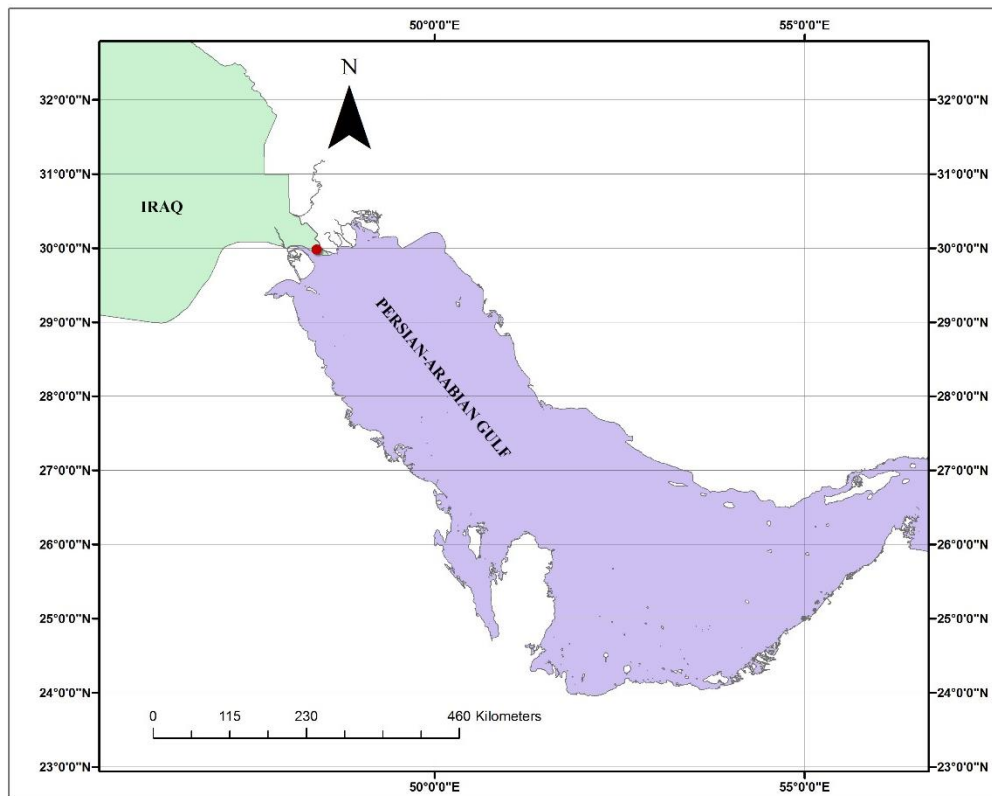
The genus *Phalangipus* (Latreille, 1828) is represented by only one species that is *P. persicus* Griffin, 1973 in the Persian-Arabian Gulf (Naderloo, 2017). Although the length of the coast is much larger in Kuwait and the habitat variation as well compared to the Iraqi coast, the species was not known from Kuwaiti coasts (Jones, 1986), while the species was recorded from Iran (Stephensen, 1946), from Saudi Arabia (Basson, et al., 1977) and UAE (Nobili, 1905).

In the present paper, a first checklist of the marine Brachyura of the northwestern Persian-Arabian Gulf, more precisely the Iraqi coasts, is provided based on the original and recently published data and the record of *P. persicus* is given.

## MATERIALS AND METHODS

To prepare the comprehensive checklist of the known brachyuran specimens from Iraqi coasts the search in the Web of Science and Google Scholar sites were performed with the keywords \*Brachyura, \*Iraq, \*Persian Gulf. A search in the Marine Science Centre (MSC) in Basrah, Iraq, was also carried out and the Library of the Basrah University, Iraq, was consulted.

Two specimens of *Phalangipus persicus* were collected from the northwestern Persian-Arabian Gulf, Fao region (Fig. 1) in July 2019. The specimens were cleaned, as they were covered with silt mud, photographed, preserved in 70% alcohol, and deposited in the Marine Science Centre (MSC), University of Basrah, Iraq. Sizes were recorded in millimetres (mm). Classification of the species was adopted from Naderloo (2017) and Griffin (1973). The following abbreviations were used: CW: carapace width; CL: carapace length.



**Figure 1.** Sampling site (red dot)

## RESULTS AND DISCUSSION

The first checklist of the brachyuran marine crabs of the Persian-Arabian Gulf, with particular attention to the Iraqi coast, is given in Table 1, where 29 valid species belonging to 14 families are listed. The most diverse family is Pilumnidae which is composed of 4 genera and 5 species (18%), followed by Leucosiidae (4 genera; 4 species 14%), and Camptandriidae (4 genera; 4 species 14%), Macrophthalmidae (3 genera; 3 species 11%). With 2 genera and 2 species (7%) the following families: Epialtidae, Varunidae, and Sesarmidae are present (Table 1).

The investigated area, the 105 km of Iraqi coast, seems to have a consistent Brachyuran fauna, even if the preliminary purpose of this paper, corroborating the fact that this territory is considered a productive region in the Gulf.

However, there are still limitations or insufficient samplings of Brachyura from the Arabian side of the Persian-Arabian Gulf, including many parts of UAE, Qatar, and Bahrain (Al-Kandari et al., 2020). A quite exhaustive sampling has been taken on the Iranian side of the Persian-Arabian Gulf and Gulf of Oman, which is particularly rich in decapod fauna (Naderloo, 2017).

*Phalangipus persicus* Griffin, 1973 (Fig. 2)

Examined material: 2 females (CL = 20.22 mm, CW = 16.50 mm, CL = 18.30 mm, CW = 14.90 mm) (MSC 98).

Description - Carapace broad pyriform; rostrum very short, usually longer than broad. Carapace with blunt spines. Branchial region has 4 small tubercles. Posterolateral region with 1-3 small spines or tubercles, while epibranchial region smooth. The rostrum is markedly short. Supraorbital hiatus with an intercalated spine. First walking legs longer than others, meri of all legs with a strong spine anteriorly on distal margin (Fig. 2). The abdomen of females with seven free moving somites.

Along the Iraqi coast, *P. persicus* lives subtidal up to 32 m on sandy and muddy substrates. The species is widely distributed in north western Indian Ocean, Red Sea, Gulf of Aden, and Persian-Arabian Gulf. Although the species was recorded from Iran as *P. longipes* (Stephensen 1946), from Saudi Arabia as *P. longipes* (Basson et al., 1977) and from UAE as *P. arachnoides* (Nobili, 1905), it is the first record from the Iraqi coast. Griffin (1973: 188-190) described the species from the Iranian Gulf, 10-49 m depth.



**Figure 2.** *Phalangipus persicus* Griffin, 1973. Female, CL = 20.22 mm, CW = 16.50 mm (MSC 98).

**Table 1.** Families and species list of marine Brachyura of the northwestern Persian-Arabian Gulf, Iraqi coast

Family	Species	Locality	References
Dorippidae	<i>Dorippe quadridens</i> (Fabricius, 1793)	North west of the Persian-Arabian Gulf, Fao region, Iraq	Yasser and Naser, 2019b
Matutidae	<i>Matuta planipes</i> (Fabricius, 1798)	North west of the Persian-Arabian Gulf, Fao region, Iraq	Al-Khafaji et al., 2017e
Leucosiidae	<i>Arcania erinacea</i> (Fabricius, 1787)	North west of the Persian-Arabian Gulf, Fao region, Iraq	Yasser and Naser 2019a
	<i>Ixa holthuisi</i> (Tirmizi, 1970)	North west of the Persian-Arabian Gulf, Fao region, Iraq	Yasser and Naser 2019a
	<i>Seulocia anahita</i> (Galil, 2005)	North west of the Persian-Arabian Gulf, Fao region, Iraq	Yasser and Naser 2019a
	<i>Hiplyra sagitta</i> (Galil, 2009)	Rass Al-Beshaa area from the lower reaches of the Shatt Al-Arab in Fao city, Iraq	Al-Khafaji et al., 2017a
Hymenosomatidae	<i>Neorhynchoplax kempfi</i> (Chopra & Das, 1930)	Shatt Al-Arab, Basra, Iraq	Chopra and Das, 1930
Pilumnidae	<i>Eurycarcinus integrifrons</i> (de Man, 1879)	North west of the Persian-Arabian Gulf, Fao region, Iraq	Naser, 2018
	<i>Eurycarcinus orientalis</i> (A. Milne Edwards, 1867)	North west of the Persian-Arabian Gulf, Fao region, Iraq	Naser, 2019
	<i>Pilumnus savignyi</i> (Heller, 1861)	North west of the Persian-Arabian Gulf, Fao region, Iraq	Yasser et al., 2020
	<i>Halimede tyche</i> (Herbst, 1801)	Khor Abudallah south Fao city, Iraq	Al-Khafaji et al., 2017d
	<i>Pilumnopus convexus</i> (Maccagno, 1936)	Khor Al-Zubair, Basra, Iraq	Al-Khafaji, et al., 2017f
Epiplatidae	<i>Hyastenus hilgendorfi</i> (de Man, 1887)	Rass Al-Beshaa area from the lower reaches of the Shatt Al-Arab in Fao city, Iraq	Al-Khafaji, et al., 2017b
	<i>Phalangipus persicus</i> (Griffin, 1973)	North west of the Persian-Arabian Gulf, Fao region, Iraq	<b>Present study</b>

Xanthidae	<i>Atergatis laevigatus</i> (A. Milne-Edwards, 1865)	Fao region, Basra, Iraq	Al-Khafaji, et al., 2017c quoted as <i>Atergatis roseus</i> — Heller 1861-
Portunidae	<i>Portunus (Portunus) segnis</i> (Forskål, 1775)	Fao region, Basra, Iraq	unpublished record
Varunidae	<i>Eriocheir hepuensis</i> (Dai, 1991)	Shatt Al-Basra Canal, Basra, Iraq	Naser et al. 2012
	<i>Metaplex indica</i> (H. Milne Edwards, 1852)	Fao region, Basra, Iraq	Al Maliky et al., 2016
Camptandriidae	<i>Leptochryseus kuwaitensis</i> (Jones and Clayton, 1983)	Fao region, Basra, Iraq	Ng et al., 2009
	<i>Manningis arabicum</i> (Jones and Clayton, 1983)	Shatt Al-Basrah, Basra, Iraq	Ng et al., 2009
	<i>Nasima dotilliformis</i> (Alcock, 1900)	Fao region, Basra, Iraq	Ng et al., 2009
	<i>Opusia indica</i> (Alcock, 1900)	Fao region, Basra, Iraq	Ng et al., 2009
Macrophthalmidae	<i>Ilyograpsus rhizophorae</i> (Barnard, 1955)	Khor Al-Zubair, Basra, Iraq	Yasser et al., 2020
	<i>Venitus dentipes</i> (Lucas, 1836)	Fao region, Basra, Iraq	Yasser et al., 2013
	<i>Macrophthalmus (Mareotis) laevis</i> (A. Milne-Edwards, 1867)	Fao region, Basra, Iraq	Yasser et al., 2013
Sesarmidae	<i>Nanosesarma sarii</i> (Naderloo & Türkay, 2009)	Khor Al-Zubair, Basra, Iraq	Naser et al., 2013
	<i>Parasesarma persicum</i> (Naderloo & Schubart, 2010)	Khor Al-Zubair, Basra, Iraq	Naser, 2011
Ocypodidae	<i>Austruca sindensis</i> (Alcock, 1900)	Khor Al-Zubair, Basra, Iraq	Naser et al., 2010
Dotillidae	<i>Ilyoplax stvensi</i> (Kemp, 1919)	Shatt Al-Basrah, Basra, Iraq	Yasser et al., 2021

## CONFLICTS of INTEREST

There are no conflicts of interest between the Authors.

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