First Records of Leucosiid Crabs: *Hiplyra sagitta* (Galil, 2009) from Iraqi Coast, NW-Arabian Gulf

Khaled K.S. Al-Khafaji, Ibtisam M. Abdul-Sahib, Shaker G. Ajeel

Marine Biology Department, Marine Science Centre, University of Basrah, Basrah, Iraq

Corresponding author Email: khaledalkhafaji70@gmail.com

International Journal of Aquaculture, 2017, Vol. 7, No. 22, doi: 10.5376/ija.2017.07.0022

Received: 13 Nov., 2017
Accepted: 05 Dec., 2017
Published: 15 Dec., 2017

Copyright © 2017 Al-Khafaji et al., This is an open access article published under the terms of the Creative Commons Attribution License, which permits unrestricted use, distribution, and reproduction in any medium, provided the original work is properly cited.

Preferred citation for this article:
Al-Khafaji K.K.S., Abdul-Sahib I.M., and Ajeel S.G., 2017, First records of Leucosiid crabs: *Hiplyra sagitta* (Galil, 2009) from Iraqi coast, NW-Arabian Gulf, International Journal of Aquaculture, 7(22): 139-142 (doi: 10.5376/ija.2017.07.0022)

Abstract In the present study, a Leucosiid crab *Hiplyra sagitta* (Galil, 2009), was found for the first time in the Iraqi coast, from the lower reaches of Shatt Al-Arab at Fao city, Basrah, Iraq, during November 2016. Diagnostic characters of the species are figured and its world geographical distribution, especially in the Persian Gulf region is considered.

Keywords New records; *Hiplyra sagitta*; Decapoda

1 Background
Leucosiiidae is common family in the Arabian-Persian Gulf, Gulf of Oman and red sea. This is most diverse and distribution of all brachyuran families (Stephensen, 1946; Titgen, 1982; Apel, 2001 Naderloo and Türkay, 2012). Leucosiidae family formed about 16.6% of all brachyuran crab species of the Persian Gulf (Apel, 2001).

Previous studies on the Persian Gulf brachyuran crabs are confined to Stephensen (1945), Basson et al. (1977), Titgen (1982), Jones (1986), Apel (1994), Cooper (1995), Al-Ghais and Cooper (1996), Bahmani (1997), Apel (2001), Naderloo and Sari (2007), Galil (2009), Gilil et al. (2012), Naderloo and Apel (2012) and Naderloo and Türkay (2012) have increased the number of reported leucosiid species to 37. The aim of the present paper deals with first record for Iraqi coast of Leucosiid crabs *H. sagitta* from fresh specimens collected from NW of the Arabian Gulf at Fao region and to add this species to the brachyuran crabs list of Iraqi waters.

2 Materials and Methods
The specimens of Leucosiid crabs *H. sagitta* were collected from intertidal and shallow subtidal zones of Iraqi coast at the Rass Al-Beshaa area from the lower reaches of the Shatt Al-Arab in Fao city, north-western Arabian Gulf (Figure 1) by hand and trawl net. Some physico-chemical parameters recorded from the study area during the collections made in November 2016 are: water temperature, 22.5°C; pH, 7.68; salinity, 34.5 psu; dissolved oxygen, 6.94 mg/L. The specimens of Leucosiid crabs *H. sagitta* were preserved in 70-80% alcohol and shipped to the laboratory of Marine biology Dep., Marine science Center, University of Basrah and deposited in the (MSC, 54).

The specimens of this species were identified following: Galil (2009) and Naderloo and Apel (2012)

Abbreviations used: CL. = Carapace length; CB. = Carapace breadth

3 Results
3.1 Systematics
Order: Decapoda Latreille, 1802

Superfamily: Leucosioidea Samouelle, 1819

Family: Leucosiidae Samouelle, 1819

*Hiplyra sagitta*: Galil, 2009 (Figure 2)
3.2 Material examined (MSC)
Two males (CL = 17.42, 12.7 mm, CB = 16.26, 10.2 mm) and one female (CL = 16.9 mm, CB = 15.1 mm) were collected from Al-Fao city, Rass-Al-Beshaa area, 29°69’N, 48°55’E, 5.5-25 m, catch by trawl net, at Nov. 10th, 2016.

3.3 Diagnosis
Carapace (Figure 2A) discoidal, convex; dorsal surface finely punctate on branchial, cardial and intestinal regions, along branchio-cardiac grooves, and medially on gastric region.

Anterolateral and posterolateral border covered with larger to smaller granules; front crescentic shaped nearly smooth; shallow anterior margin of efferent channel nearly straight, separated from lateral granulated margin by narrow U-shaped incision, lower margin bearing line of prominent granules. Abdominal segments 3-6, Male abdomen (Figure 2B) elongate-triangular; telson completely smooth.

Ischium of 3rd maxilliped slightly longer than merus, about 1.22 times merus length. Margins of fused male abdominal segments 2-6 distally carinate. Margins of fused abdominal segments in female minutely granulate (Figure 2C).

Chelipeds equal in size and shape; merus longer than total length of carapace, Male chelipeds (Figure 2A) moderately long than female and long than carapace length about 2.5 times the carapace length, its surface minutely granulate, anteriorly granulate.

Ambulatory legs are slender; merus longer than carpus and propodus; dactylus sharp tipped at distal end. First male pleopod (Figure 2B) slender filamentous, tip setose, apical brush like plumose setae, setae on lateral sides; distal end of base setose, bulge formed.

3.4 Remarks
*Hiplyla sagitta* was described from the Persian Gulf by Galil (2009). The specimens in current study agree closely with the specimens description in Galil (2009), with the anterior margin of efferent channel separated from lateral margin by triangular incision. *H. sagitta* with largest size in the genus *Hiplyla* and the largest male recorded from the Persian Gulf (CL = 16.04 mm, CB = 14.56 mm) and the largest female found in Kuwait from coast of the Persian Gulf (CL = 19.07 mm, CB = 17.66 mm).
Holotype and paratypes from Danish Expedition material collected in 1937 from south Iran shores were described by Galil (2009) and published by Stephensen (1946) under the name of Philyra variegata. Apel (2001) had re-examined material of Philyra variegata of Stephensen (1946) from Jask and mentioned that there are two new species within the material. Philyra n. sp.1 of Apel (2001) has been later described by Galil (2009) as Hiplyra sagitta. The second new species distinguished by Apel (2001) within the P. variegata has been assigned to H. elegans (Gravier, 1920) by Naderloo and Apel (2012).

Figure 2  Hiplyra sagitta (Galil, 2009) Male: CL = 17.42 mm, CB = 16.26 mm, (A) dorsal surface; (B) ventral surface. Female: CL = 16.92 mm, CB = 15.16 mm, (C) ventral surface (MSC, 54)

3.5 Distribution
Arabian Gulf (Persian Gulf): Qatar (Galil et al., 2012), Kuwait (Galil, 2009; Naderloo and Apel, 2012), Iran (Galil 2009; Naderloo and Apel, 2012), Iraq (current study)

General distribution: Indian Ocean: Persian Gulf, Pakistan, India, Andaman Sea, Hong Kong, Philippines, Timor, Australia

3.6 Habitat
Muddy and Sandy shallow intertidal and subtidal zones, 5.5-25 m.

Authors’ contributions
All authors have contributed equally toward the publication of this paper.

Acknowledgements
We would like to express to thanks Dr. Ghazi Maleh Al-Maliki, Marine Biology Dep., Marine Sciences Center, Basrah University, for reading the manuscript and for their valuable advice and suggestions.

References
Al-Ghais S.M., and Cooper R.T., 1996, Brachyura (grapsidae, ocypodidae, portunidae, xanthidae and leucosoiidae) of Umm Al Quwain mangal, United Arab Emirates, Tropical Zoology, 9: 409–430. https://doi.org/10.1080/03946975.1996.10539320

APEL M. 1994. Biology, ecology and taxonomy of Brachyuran and Paguridean Crustacea. In: Establishment of a Marine Habitat and Wildlife Sanctuary for the Persian Gulf Region. Final Report for Phase II, 406-437.

Apel M., 2001, Taxonomic and Zoogeography of Brachyuran, Paguridae and Porcellanidae (Crustacea: Decapoda) of Persian Gulf. Master thesis, Frankfurt University, Germany

Bahmani M. 1997, A systematic study of crabs in the intertidal zone of Hormozgan province. Iranian Fisheries Scientific Journal: 6(1), 1-6.

Basson P.W., Burchard J.E., Hardy J.T., and Price A.R., 1977, Biotopes of the Western Arabian Gulf: marine life and environments of Saudi Arabia, Dhahran: ARAMCO, Dept. of Loss Prevention and environmental affairs, pp. 289. http://agris.fao.org/agris-search/search.do?recordID=XF2015008785

Cooper R.T., 1995, Mangal-associated Brachyura (Ocypodidae, Grapsidae, Portunidae, Majidae and Leucosoiidae) from the north-eastern coastal Islands of Abu Dhabi, United Arab Emirates, Crustaceana, 70 (2): 155-179.

Galil B.S., 2009, An examination of the genus Philyra Leach, 1817 (Crustacea, Decapoda, Leucosoiidae) with description of seven new genera and six new species. Zoosystema, 31(2): 279-320. https://doi.org/10.5252/z309n2a4
Galil B.S., Ashelby C.W., and Clark P.F., 2012, New records of four leucosiid species (Crustacea: Decapoda: Brachyura: Leucosiidae) from Qatar, Persian Gulf. Marine Biodiversity Records, 5: 1-4
https://doi.org/10.1017/S1755267212000498

Jones D.A., 1986, A field guide to the sea shores of Kuwait and the Arabian Gulf, University of Kuwait Blandford Press, Kuwait: Poole, pp. 192

Naderloo R., and Türkay M., 2012, Decapod crustaceans of littoral and shallow sublittoral habitats along the eastern (Iranian) coast of the Persian Gulf: faunistics, biodiversity and zoogeography, Zootaxa, 3374: 1-67
http://mapress.com/j/zt/article/view/13762

Naderloo R., and Apel M., 2012, Leucosiid crabs of the genus Hiplyra Galil, 2009 (Crustacea; Brachyura; Leucosiidae) from the Persian Gulf and the Gulf of Oman with describing a new species, Zoological studies, 52(2): 248-258
http://zoolstud.sinica.edu.tw/Journals/51.2/248.pdf

Naderloo R., and Sari A., 2007, Subtidal crabs of the Iranian coast of the Persian Gulf: new collections and biogeographic consideration. School of biology, University College of science, university of Tehran, Iran, Aquatic ecosystem health and management, 10: 3341-3349
https://doi.org/10.1080/14634980701514620

Stephensen K., 1946, The Brachyura of the Iranian Gulf, Danish Scientific Investigations in Iran, Part IV. E. Munksgaard, Copenhagen, 57-237

Titgen R.H., 1983, The Systematics and ecology of the Decapods of Dubai, and their zoogeographic relationships to the Persian Gulf and the western Indian Ocean, Dissertation, Texas A & M University, USA
https://elibrary.ru/item.asp?id=7379328