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New record of *Acartia* (*Acartiella) faoensis* Khalaf, 1991 (Copepoda: Calanoida: Acartidae) from Iranian waters of NW Persian Gulf

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In our ecological study on Planktonic copepods of Bahrakan waters in August 2010, (Hendijan Harbor- NW Persian Gulf- Iran) a copepod species, *Acartia* (*Acartiella) faoensis* Khalaf, 1991 was collected. This current report is the first record of this species in Iranian waters of NW Persian Gulf. *A. faoensis* is a calanoid copepod which belongs to the family Acartidae. This species was first reported from Khor Al-Zubair and Khor Abdulla, Iraq (Khalaf, 1991) which after was found in coastal waters of Bubiyan Island in North of Kuwait (Ali et al., 2009; AL-Yamani et al., 2011). Therefore, this is the fourth report of *A. faoensis* in region. This finding can increase the probability of the idea that this species is endemic to NW Persian Gulf.

Copepods are the largest subclass of crustaceans and currently, more than 12000 live species have been identified (Brusca and Brusca, 2003). There are 10 orders of copepods. The orders with most planktonic species are Calanoida, Cyclopoida, Poecilostomatoida and Harpacticoida. These four orders are usually found in most aquatic ecosystems (Conway et al., 2003). Copepods have a key role in marine food web (Turner, 2004) and they play an important role in energy transfer in marine systems (Frangouils et al., 2005). Up to present, nearly 40 species of Calanoid Copepods have been identified in the Persian Gulf waters (Al-Khabbaz and Fahmi, 1994; Al-Yamani and Prosuva, 2003; Al-Yamani *et al.*2011). Subgenus *Acartiella* belongs to the family Acartidae and currently six species of this genus were identified from Indian's estuaries and brackish waters (Pillai, 1971).

Bahrakan waters (Hendijan Harbor-NW Persian Gulf) is one of the important areas for fisheries in Khozestan province, Iran. In August 2010, for identification and ecological investigation on Planktonic Copepods in Bahrakan waters (30º 15´ N, 49º 43´ E) 6 stations were selected and sampling was conducted by plankton net (100 μm mesh size). Salinity was 47.75 psu and surface temperature recorded 33.03ºC. After collecting and transferring samples to the laboratory, these were identified based on previous works (Khalaf, 1991; Khalaf *et al.*, 2007; Ali *et al.*, 2009; AL-Yamani et al., 2011). The color images were taken by digital camera. Total lengths of copepods were measured by optical microscope.Specimens were sexed using shape of fifth swimming legs (P_5) and number of urosome segments.

In this study, 16 species of Calanoid Copepods were identified. Among them *Acartia* (*Acartiella) faoensis* is reported for the first time from Iranian waters of NW Persian Gulf.

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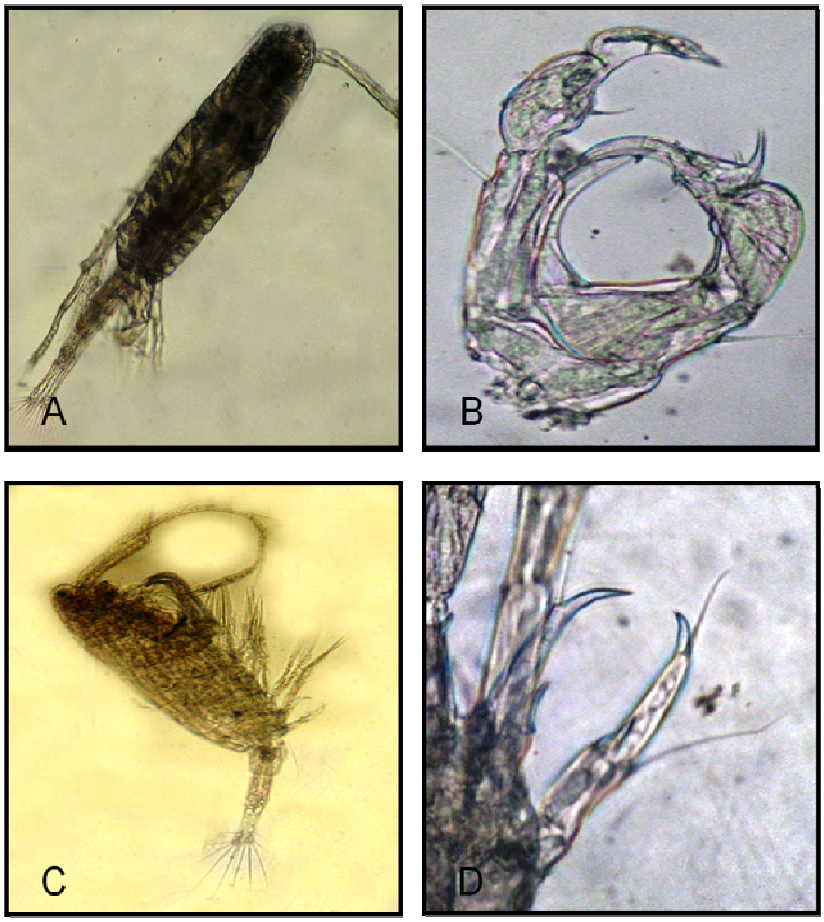

FIGURE 1. *Acartia (Acartiella) faoensis*. A, male (frontal view) (×10); B, male (preopod 5) (×40); C, female (lateral view) (×10); D, female (prepod 5) (×40).

Identification of this species was confirmed by Dr. David Conway from Marine Biological Association of the United Kingdom. Mean of *A.faoensis* males and females density in August 2010 were recorded 3360.19±1252.53 and 4332.42±1746.95 respectively. It is noteworthy that this species was a dominant species in August 2010 and contained 39% of total mature Planktonic copepods in this month.

In both sexes: anterior end of head rounded with no rostrum. Metasome composed of 4 somites with no spine in the end. Furca is asymmetrical. Caudal rami asymmetrical, each ramus bearing five long setae and a short lateral one.

Male: total length 0.78-0.83 mm. Urosome is five segmented. The P_5 is asymmetrical and modified. The left P_5 has three segments with two spines on the third segment. The right P_5 is 3-segmented with 4 spines and small hairs on the third segment (Figs.1A, B).

Female: total length 0.81-0.86. Urosome is tree segmented. Genital segment is longer than other urosome segments. The P_5 is asymmetrical and formed of two segments. Exopod is sharply pointed; endopod of one small segment carrying an apical small spine. Both exopodite and endopodite have single plumose setae on the lateral side (Figs. 1C, D).

This species was first recorded from brackish water of Khor Al-Zubair and Khor Abdulla, Iraq, in 1991 by Khalaf (1991). After this, *A. faoensis* for the second time was reported in coastal waters of Bubiyan Island (North of Kuwait) by Ali *et al* (2009) and Al-Yamani *et al* (2011). They suggested

this species may be an endemic species in this area (NW Persian Gulf). Therefore, this paper is the fourth report of *A. faoensis* in the region. Since this species has not been reported in any other region of world until now, this finding can increase the probability of this species being endemic in NW Persian Gulf which needs more investigation. Since this species, has a high density in the area and this can play an important role in marine food web and of use in Aquaculture (Khalaf, 2007). Therefore, biological study of this species is very important.

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