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First record of *Porpita porpita* (Linnaeus, 1758) (Cnidaria: Hydrozoa, Porpitidae) from the Red Sea of Egypt

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ABSTRACT

Although Porpita porpita is native to tropical and sub-tropical waters and widely occurred in the Atlantic and Indo-Pacific oceans and Mediterranean Sea, its occurrence has not been reported from Red Sea. Three specimens of P. porpita were collected in the middle littoral zone of the Egyptian Red Sea coast off Hurghada in December 2014. Specimens were fixed in 4% formaldehyde, and photographed under stereomicroscope for identification. The present study documented for the first time the occurrence of P. porpita in the Red Sea, and thus extends the geographical distribution of this genus.

Keywords: *Porpita porpita, Red Sea, Hydrozoa.*

INTRODUCTION

Porpita porpita is a colony of hydrozoan polyps belonging to the family Porpitidae [1] and popularly known as blue button. Porpitids are now known to be anthoathecate hydrozoans or a distinct hydrozoan group, the "chondrophores" instead of siphonophores [1]. The family Porpitidae comprises two well-known genera, *Porpita* Lamarck, 1801 and *Velella* Lamarck, 1801. *Porpema* Haeckel, 1888, is accepted as a valid genus by some authors [2, 3] and as a congener of *Porpita* by others [4-6]. *Porpita* was first identified as *Medusa porpita* [7], and then as a genus *Porpita* [8]. However, all proposed nominal species under the genus *Porpita* Lamarck, 1801 are now considered synonyms of a single species, *Porpita porpita* [9]. *Porpita* is known to produce toxic substances which cause skin irritation [10, 11] and also contain bioactive compounds having antimicrobial effect [12]. Although *P. porpita* is native to tropical and sub-tropical waters of the Pacific, Indian and Atlantic oceans and Mediterranean Sea [1, 13-20], its occurrence has not been reported from Red Sea. In general, the interest in documenting diversity of gelatinous zooplankton has not yet received proper attention in the Red Sea, and therefore, little is known about these important aquatic life forms. The earliest works on this group in the Red Sea started in the beginning of 20th century [21] and were reviewed in 1969 [22]. The review listed 15 schyphomedusans, 25 siphonophores and only one species of chondrophores [22]. This was followed by a study in 1973 that recorded 76 species of Hydromedusae from investigating 500 plankton samples covered the entire Red Sea and Gulf of Aden during 1956-1969 [23]. From 72 species were found in the Red Sea, only five species (*Zanclea costata*, *Aequorea aequorea*, *Liriope tetraphylla*, *Aglaura hemistoma* and *Rhopalonema funerarium*) had been found there by former investigators [23]. In the Egyptian coast of the Red Sea, a survey was carried out in February 1999 and reported the occurrence of 16 Hydromedusae, 11 Siphonophorae, two species of Schyphomedusae and one species of Ctenophora from Gulf of Aqaba and the northern Red Sea [24]. Recently, new momentum was provided to this group and a hydrozoan species, *Corymorpha bigelowi* was recorded for the first time in the northern Red Sea [25]. In the present study, an anthoathecate hydroid *P. porpita* was recorded from the Red Sea for the first time.

MATERIALS AND METHODS

Three specimens of *P. porpita* were collected in December 2014 from the Egyptian Red Sea coast off Hurghada, (27°14′43′′ N, 33°51′09′′ E) (Fig.1). Specimens were fixed in 4% formaldehyde, and then analyzed under stereo microscope for identification and description. After that, Specimen was photographed by

Olympus camera. A specimen was deposited at Zoology Department Museum, Faculty of Science, and Al-Azhar University, Egypt.

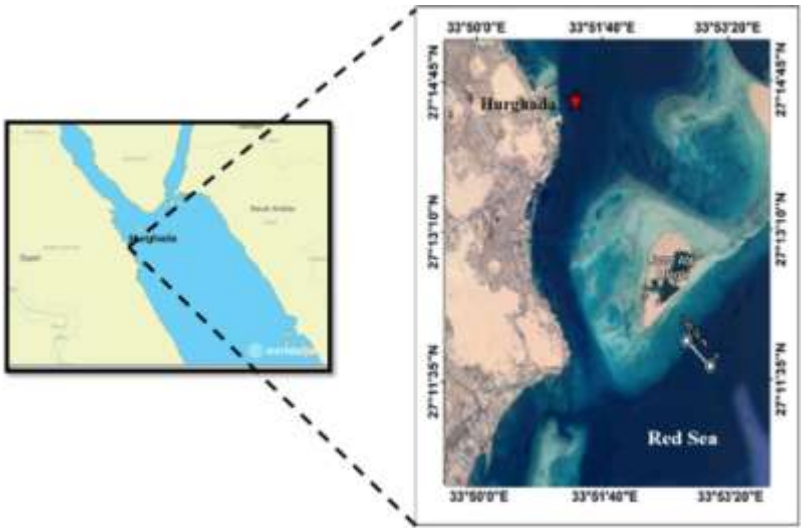

Figure1. *Location of collected specimens of Porpita porpita in the Red Sea of Hurghada coast, Egypt (red star).*

Results and Discussion

Systematics

Class HYDROZOA Owen, 1843

Order ANTHOATHECATA Cornelius, 1992

Suborder CAPITATA Ku¨hn, 1913

Family PORPITIDAE Gold fuss, 1818

Genus *Porpita* Lamarck, 1801

Porpita porpita (Linnaeus, 1758)

The photograph of *P. porpita* collected from littoral area at Hurghada in the Egyptian Red Sea is shown in Figure 2. It shows the presence of a golden brown disc in the middle of *P. porpita*; measuring around 1.3 cm width. The disc helps the organism to float in the water "pleustonic" with aboral surface floats on the surface of water and the mouth remains submersed to engulf prey. The lower surface is known as hydroid colony and bears numerous bright blue colour tentacles and polyps, resembling finger-like projections, with variable lengths and nematocyst knobs at distal end. A more detailed description of the species was provided [1, 6].

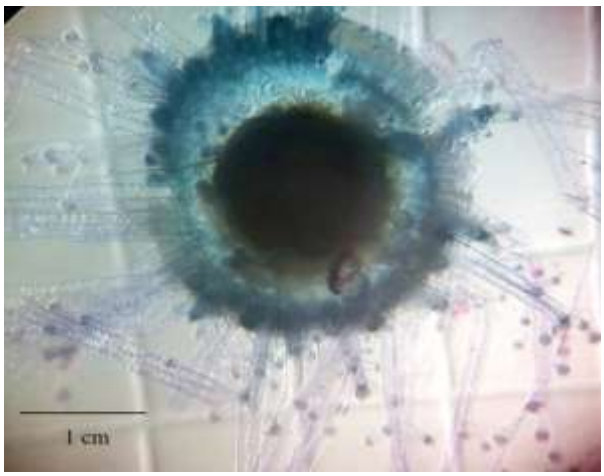

Figure2. *Porpita porpita from the Red Sea of Hurghada coast, colony in oral view (photographed in Petri dish).*

Since the first identification of *Porpita* from Indian Ocean (Linnaeus, 1758), its occurrence was continuously reported from various localities in the Indo-Pacific Oceans [4, 13, 16, 20, 26-31], Atlantic Ocean and the Mediterranean Sea [15, 17, 18, 32-38]. Globally, there are 64 documented occurrences for *Porpita* (Global Biodiversity Information Facility, GBIF). Nevertheless, the present study documented for the first time the occurrence of *P. porpita* in the Red Sea, and thus extends the geographical distribution of this genus.

P. porpita usually occur in the littoral zone or stranded on the shore either alone or sometimes associated with other pelagic forms. For instance, it was usually carried by strong winds to the east coast of Guam (west Pacific) in association with *Janthina*, *Physalia* and *Glaucus* [14]. However, *Physalia* is the most species usually co-occurred with *P. porpita*. This was documented in many records such as, in Brazil, at Ceará [39] and at the shore of Pernambuco [17], in North Arabian Sea at Pakistan coast [20]. Although most researches recorded *P. porpita* as few individuals, swarms of the species have been occasionally observed in different areas such as in northeast Brazil [39], in Sea of Japan [16], in Pulicat lagoon (southern-east India) [30], and in south east coast of Bangladesh [31].

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