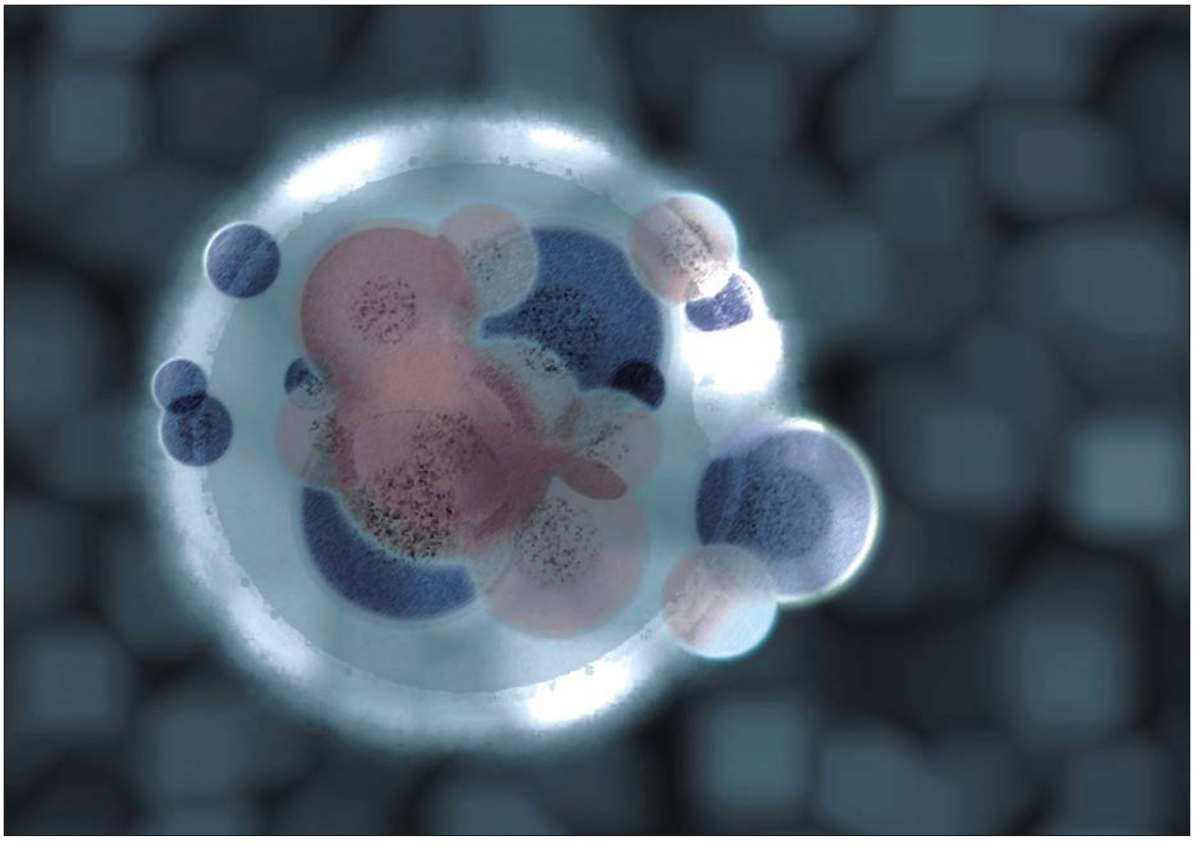

Journal of Biological Sciences

ISSN 1727-3048

science alert

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Journal of Biological Sciences 9 (8): 837-840, 2009
ISSN 1727-3048

New Observation of Three Species of Hard Coral from Chabahar Bay (Oman Sea), Iran

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Abstract: The present study could be the first contribution to the hard corals at Chabahar Bay in the Northern part of Oman Sea. Coral samples were collected during the period of March throughout June 2008. Coral specimens were photographed and identified using a stereo microscope. Species identification was carried out using size and morphological characters. Only three hard coral species were clearly identified; *Fvaia favus* (Forskal) and *Cyphastrea microphthalma* (Lamarck) from family Favidae and *Acropora valida* (Dana) from family Acroporidae. The East areas of the bay had a good coral cover and were more diversified than the Southeast part, which is subjected to increased human impact due to constructions.

Key words: Chabahar Bay, hard coral, Oman Sea, species

INTRODUCTION

The Indo-Pacific coral region is also the largest contiguous marine habitat, stretching as it does from the Red Sea to the Eastern Pacific Ocean (Sheppard, 1998). Coral communities in the Gulf of Oman and Arabian Sea remain in good condition, due in part to the mitigating effects of the summer monsoon upwelling that cools summer seawater temperatures (Rezai *et al*., 2004). Approximately 30% of the coral reefs of the world are in southeast of Asia, the global centre of biodiversity for hard corals and many other reef animals and plants (Wilkinson, 1998). The investigation of corals in the Indian Ocean started with Forskal in 1775 (Coles, 1996). The knowledge was enlarged during many expeditions particularly the John Murray (1933-34) and HOE (1963-64) and in 1971 Rosen compiled a table showing the distribution of hermatypic coral genera for the Indian Ocean (Sheppard, 1998). There is belt of high diversity in the Indian Ocean with total 53 genera and 11 endemic genera (Scheer and Pillai, 1983). Coral diversity and reef building potential in the south Persian Gulf is low (less than 40 species) as a result of the extremes in water temperature and salinity that are close to the physiological tolerance limits of many species (Rezai *et al*., 2004). Recent work has identified 107 reef-building coral species in the Gulf of Oman, while the species count for the Arabian Sea sector of ROPME is likely to be slightly higher as the influence of the wider Indian Ocean becomes increasingly important along the gradient towards East Africa (Rezai *et al*., 2004).

Of over 700 coral species identified for the Indo-Pacific region, over 200 for the Red Sea, about 107 species for the Oman waters and about 37 coral species for south of Persian Gulf (Maghsoudlou, 2008; Rezai *et al*., 2004).

In this study we collected and identified some of the hard corals to 2-10 m depth from several localities in Chabahar Bay. This is first report of Chabahar Bay hard corals.

MATERIALS AND METHODS

Chabahar Bay waters were investigated during March throughout June 2008. Chabahr Bay located at 25°21' 47" N and 60°30' 49" E of the north of Oman Sea.

The mainly method consisted of underwater observations during two, 60 min dives at each site. Specimens were collected by scuba diving from 3-10 m in depth, at different localities in the Cahabahar Bay (Fig. 1). Samples of colonies were air dried. In identification, there is ployp in each an individual coral that have soft-bodies and lives inside a hard skeleton (cup-shaped) that called a corallite. Types and formation of corallites (immersed, tubular, irregular,..) and growth forms (digitate hispidose, corymbose,...) are important. Samples of tiles were removed at various times and examined under a stereo-dissection microscope. Live specimens were circled with a pencil. To reveal the skeleton, recruits were bleached in a 10% NaOH solution, then rinsed in freshwater and dried. Specimens were then examined under a stereo-dissection microscope at 40X and the maximum diameters

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Fig. 1: Map of Chabahar Bay showing relevant details and localities sampled position

of both the corallum and the primary corallite were measured to the nearest unit with a graticule eyepiece. Representative specimens were photographed under a stereo-dissection microscope. Species identification was carried out using size and morphological characters as described by Babcock *et al*. (2003).

RESULTS

General systematic

- **Kingdom:** Animalia
- **Phylum:** Cnidaria
- **Class:** Anthozoa
  - **Subclass:** Hexacorallia
- **Order:** Scleractinia
  - **Family:** Favidae
- **Scientific name:** *Favia favus* (Forskal, 1775) (Fig. 2)
- **Common name:** Head coral or knop coral

Description: The head coral is one of the conspicuous species because of their rounded massive shape (Fig. 2). It is similar to a human head. Corallites are evenly distributed, placoid, exsert, circular or slightly oval, 1 to 2 cm in diameter and usually separated from each other by a few millimeters. Colonies grow to about 1 m diameter and are found at all depths (Hodgson, 1998). This species have a suitable status and is not recorded in IUCN red list of threaten species (IUCN, 2008). In the Chabahar Bay, it is a common species that observed in all stations. Colonies are found at from 3 to 10 m depth in around Bay.

Fig. 2: Living colony of *Favia favus*, photographed at 4 m deep in Chabahar Bay

Fig. 3: Living colony of *Acropora valida*, photographed at 4 m deep in Chabahar Bay

Fig. 4: Living colony of *Cyphastrea microphthalma*, photographed at 4 m deep in Chabahar Bay

- **Family:** Acroporidae
- **Scientific name:** *Acropora valida* (Dana, 1846) (Fig. 3)
- **Common name:** Bush coral

Description: This is the second most abundant species present in Chabahar Bay. Colonies are small bushes when small, but develop into compact branched plates usually when fully developed. Rarely reach a diameter of one meter. Corallites are tubular or appressed. They are diverse in size. Those that are on the undersides of the main branches are smaller and thin. The main branches of older colonies may grow horizontally, in which case branchlets curve up vertically from them (Sheppard, 1998). This is also a common coral found in Chabahar Bay. It was distributed from 5 to 10 m depth in Bay. In Chabahar Bay, it is one of the most abundant corals. The specimens colour was to medium brown, sometimes with overtones of green.

- **Family:** Favidae
- **Scientific name:** *Cyphastrea microphthalma* (Lamarck, 1816) (Fig. 4)
- **Common name:** Lesser knob coral

Description: This species is distinguished from the other members of the genus by the fact that it has only 10 primary septa. In Arabian Sea a common variant has only 8 primary septa, but these calices occur on the same corals as calices with 10 septa and thus are unlikely to be a different species (Veron, 1986). It was observed in over 5 m depth and corallites mostly have white 10 primary septa. The colonies are rarely massive and small size. This species is not recorded in IUCN red list (IUCN, 2008). The samples colour was brown, reddish and gray.

DISCUSSION

Coral reefs are one of the most biologically diverse habitats in the world (Spalding *et al*., 2001). For this reason, identification of corals species is a primary step for other scientific studies about them. The most important aim of this study was identification of hard corals species in Chabahar Bay. The beach in Chabahar Bay is sandy to 80% of total area. Rocky shore area is in the east and southeast of the Bay. Chabahar Bay is subjected to monsoon wind during June throughout September, making the seawater more turbid in this period, but corals remain lived and have a good diversity in this condition. Turbulent currents prevent much sedimentation in the bay, causing some parts of the Gulf situation Chabahar corals in good status. Biggest threat to corals southeast Bay is human constructions, in particular foreshore constructions in this point that will diminish currents and to the high sedimentation, also increased temperature that leading to bleaching and increased susceptibility to diseases. *Favia favus* (Forskal, 1775) has previously reported from Oman and in Iran reported form Persian Gulf in Iran (Kish, Khark and Kharku, Hengam and Qeshm Islands) (Maghsoudlou and Eghtesadi, 2005). *Acropora valida* (Dana, 1846) was also found in Oman from Oman Sea, Kish and Larak Islands from Persian Gulf (Maghsoudlou, 2008). This species is also a common coral found in Chabahar Bay. *Cyphastrea microphthalma* (Lamarck, 1816) is rare in the Persian Gulf and reported from Kish, in Oman Sea also recorded from Oman waters (Maghsoudlou, 2008). In conclusion, present study is new observation of hard corals in Chabahar Bay. We identify three species of hard corals in Chabahar Bay. *Favia favus*, *Acropora valida*, *Cyphastrea microphthalma* were hard corals species. We hope to identify another species in next studies.

ACKNOWLEDGMENT

We are grateful of Marine Department, Iran Environment Organization for funding this study. We thank Kabir Zomorodi for photography and Ali Daneshmand for diving activity.

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