INTERNATIONAL JOURNAL OF PLANT, ANIMAL AND ENVIRONMENTAL SCIENCES

Volume-1, Issue-2 June-Aug :2011 *www.ijpaes.com* *ISSN 2231-4490*

NEW RECORD OF TWO SCLERACTINIAN CORALS FROM NEIL ISLAND, RITCHIE'S ARCHIPELAGO

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ABSTRACT: Diversified natural organisms of various species are the keystone representative of Andaman & Nicobar Islands. These Islands are the most diverse areas with enriched marine organisms of various attributes. Scleractinia is the one of the most diverse order of anthozoas showing various species of corals have owing marine biodiversity of these islands. The survey was made in Neil Island of Ritchies Archipelago, revealed out the corals *Galaxea cryptoramosa* (Fenner and Veron,2000) and *Pocillopora ligualata* (Dana,1846), belongs to the family Oculinidae and Pocilloporidae respectively, were identified as new record to Indian Water. This paper deals with their morphological and taxonomical features.

Key words : New Record, Scleractinian, Biodiversity, Ritchie's Archipelago

INTRODUCTION

The Andaman & Nicobar group of Islands is located in the south-eastern of Bay of Bengal, between 6°-14° N latitude and 91°-94° E longitude. They are the part of the mountain chain and lie on a ridge that extends southward from Irrawaddy delta of Burma, containing the trend of the Arakan Yoma range (Venkataraman *et al.*, 2003)[1]. There are 106 protected areas in these islands, 96 designated as wildlife sanctuaries, 9 national parks and one biosphere reserve. Among 9 national parks, 2 are marine national parks which have not yet inventoried thoroughly. The coral reefs of Andaman and Nicobar Islands are the biodiversity hot spot of India (Jeyabaskaran, 1999)[2]. Coral reefs are the largest structures made by living things and exist as extremely productive ecosystems in tropical and sub-tropical areas of the world. Coral reefs are one of the world's most spectacular ecosystems. They straddle the tropics and cut a broad swath around the globe. They are clearly visible, even from space, as patterns of dazzling colors tracing the edges of coastlines and scattering far out into the oceans. Up close, the magic of coral reefs is magnified. These ecosystems are packed with the highest densities of animals to be found anywhere on the planet. Thronging with life, they rival even the tropical rainforests in terms of diversity (Mark *et al.,* 2003)[3]. Coral reefs, in particular, are critical habitat that supports diversity of both residential and migratory fauna species especially for those are considered to be endangered and vulnerable. The structure of a reef provides homes and food for many types of plants, fishes and invertebrates. Coral and rocky reefs constitute one of the most important ecosystems in our planet, being their astonishing diversity, productivity, abundance and beauty some of their main characteristics (Goldman & Talbot, 1976)[4]. According to recent studies, coral reefs constitute one of the country's main marine assets (Schleyer *et al*., 1999; Rodrigues *et al*., 1999)[5,6]. This paper deals with the morphologic as well as the taxonomic characters of two newly recorded species, from Neil Island, Ritchie's Archipelago of Andaman & Nicobar.

MATERIAL AND METHODS

The survey was made in January, 2010 at different sites of the Neil Island, of Ritchie's Archipelago by employing Self –Contained Underwater Breathing Apparatus (SCUBA) diving and snorkeling. During SCUBA diving, species recording was made by underwater digital photography (Sony - Cyber shot, Model-DSC-T900, marine pack, 12.1 megapixels) for detailed identification. Identification was done *in situ* observation as well as photographs in conjunction with Veron (2000)[7], Wallace (1999)[8] (Sheppard,1987)[9]. Specimens were also collected to study their morphological and taxonomic characters. On completion of the examination of taxonomic features, all the specimens were registered and deposited in the National Zoological Collection of Z.S.I, Port Blair.

RESULTS

Figure-1: Galaxea cryptoramosa (Fenner & Veron, 2000)

IUCN Red List Category & Criteria: Vulnerable

Material Examined.

One example; (Length- 5.6 cm, Width- 4.7 cm and Height- 2.5 cm) (Reg. No.-ZSI/ANRC-4673) collected from Neil Island, South Andaman (Lat.-N-11°48.400'& Long.-E-093°01.440', Depth-11 m), Ritchie's Archipelago on 23.01.2010.

Description

Colonies are upto 30 cm across and consist of irregular branches composed of irregularly fused corallites which vary in size. Larger corallites have three cycles of septa. Primary septa almost reach the corallites centre where they plunge vertically, third cycle septa are short. Septa are not as exsert as in other *Galaxea* species. There is no columella. Two subequal cycle of costae extend down the outer wall of the corallites, becoming submerged in the coenosteum. The surface of main branches is composed of smooth coenosteum. Tentacles are extended day and night.

Key Characters

Septa> 2 mm exsert……..…....Genus *Galaxea*
Colonies branching, branches lobed or truncated, septa not very exsert……...*Galaxea cryptoramosa.*

Distribution: Australia, Indonesia, Malaysia, Philippines, Singapore and Thailand.

Figure 2-*Pocillopora ligulata* (Dana, 1846)

IUCN Red List Category & Criteria: Least Concern

Material Examined.

One example; (Length- 7.6 cm, Width- 4.2 cm and Height- 3.1 cm) (Reg. No.-ZSI/ANRC-4674) collected from Neil Island, South Andaman (Lat.11°48.400'& Long.093°01.440', Depth-11 m), Ritchie's Archipelago on 23.01.2010.

Description

Colonies are upto 0.5 meters across, compact with irregularly radiating branches which have flattened ends and truncated tips. Varrucae are widely spaced and irregular.

Key Characters

Colonies have varrucae ……Genus *Pocillopora*

Varrucae do not intergrade with branches, colony consists of upright branches, colony with short compact branches, varrucae distributed irregularly on branches…..*Pocillopora ligulata.*

Distribution: American Samoa, Chile, Colombia, Cook Islands, Ecuador, Fiji, French Polynesia, Kiribati, Niue, Northern Mariana Islands, Palau, Panama, Samoa, Tokelau, Tonga, Tuvalu, United States Minor Outlying Islands and Wallis and Futuna.

DISCUSSION

The ability of coral reef ecosystems to exist in balanced harmony with other naturally occurring competing/limiting physico-chemical and biological agents has been severely challenged in the last several decades by the dramatically increased negative and synergistic impacts from poorly managed anthropogenic activities (Maragos *et al*., 1996)[10]. The Government of India and UNDP GEF field mission (2001 diving studies) reported a total 198 species of scleractinian coral from Andaman groups of island of which 111 are supposed to be new records to India (on verification with other studies only 94 species are found to be new records and this also include some non-scleractinian corals) (Turner, *et al.* 2001)[11]. Present findings of newly recorded scleractinian coral species in Andaman & Nicobar Islands is the addition of total biodiversity index of these islands records. Several intensive studies are required in future for getting adequate data on scleractinian corals and their associates.

ACKNOWLEDGEMENT

Authors are grateful to the Ministry of Environment and Forests, Govt. of India for providing financial assistance to undertake the study through the projects of National Coral Reef Research Institute, Zoological Survey of India, Port Blair.

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