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New record of an irregular sea urchin, *Brissus latecarinatus* (Leske, 1778) (Echinoidea Brissidae) from the Andaman Islands

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ABSTRACT An irregular sea urchin, *Brissus latecarinatus* (Leske, 1778) Echinoidea Brissidae, is reported herein for the first time from Andaman Islands. A brief description along with a note on its distribution are provided.

KEY WORDS Andaman Islands; *Brissus*; Brissidae; Irregular; Echinoidea; Spatangoida.

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INTRODUCTION

Sea urchins are exclusively marine animals which are found in the sandy and coral reefs areas of the intertidal to the subtidal zones. Sea urchins fall under the Class Echinoidea which is divided in two categories based on their shapes, regular sea urchins and irregular sea urchins. The regular sea urchins possess almost a spherical symmetry and irregular sea urchins are bilaterally symmetrical (Chao, 2000).

In recent times, very few authors contributed to the echinoids in Andaman and Nicobar Islands (Mortensen, 1951; James, 1966; Sastry 2005, 2007; Raghunathan et al., 2013). At present a total of 125 echinoid species are reported from India of which 83 species from Andaman and Nicobar Islands (Clark & Rowe, 1971; Hegde & Rivonker, 2013; Murugan et al., 2016). Till date, only one species of *Brissus* Gray, 1825 (Brissidae) has been described from the Indian waters. *Brissus latecarinatus* (Leske, 1778) is known from the East coast, Lakshadweep and Gulf of Mannar (Bell, 1888; Clark & Rowe, 1971; James, 1983, Sastry, 1991). There has been no collection and description of the irregular sea urchins from Andaman and Nicobar Islands so far. The present paper allows to extend the range of *B. latecarinatus* to Andaman and Nicobar Islands.

MATERIAL AND METHODS

Marine exploratory studies with special reference to Echinodermata have been carried out in two districts viz., North and Middle Andaman and South Andaman (Fig. 1) of the Andaman and Nicobar Islands by employing Self Contained Under water Breathing Apparatus (SCUBA) in depths ranging from 10–30 m. Specimens were collected by hand picking and preserved in dry condition. The preserved specimens were examined under stereo-zoom microscope (Leica M 205 A) and measurements were taken using a Vernier caliper (Aerospace 150 mm). The identification was based on morphological characters given in Clark & Rowe (1971) and Chao (2000). All the identified

specimens are deposited in the National Zoological Collection at the Zoological Survey of India, Andaman and Nicobar Islands.

ABBREVIATIONS. t.l.= total length; t.w. = total width; t.h.= total height.

RESULTS

Systematics

Classis ECHINOIDEA Leske, 1778
Ordo SPATANGOIDA L. Agassiz, 1840
Familia BRISSIDAE Gray, 1855
Genus *Brissus* Gray, 1825

Brissus latecarinatus (Leske, 1778) Figs. 2–7

EXAMINED MATERIAL. One specimen, Casurina Bay (Lat: 13°14.262'N, Long: 92°50.491'E), North and Middle Andaman, depth 10 meter, 23.V.2016, (Reg. No. ZSI/ANRC-16124); one specimen, Laxmanpur (Lat: 11°50.712'N, Long: 93°00.855'E), Neil Island, South Andaman, depth 15 meter, 6.X.2016, (Reg. No. ZSI/ANRC-16125); one specimen, Sunset Point (Lat: 11°50.470'N, Long: 93°01.159'E), Neil Island, South Andaman, depth 15 meter, 7.X.2016, (Reg. No. ZSI/ANRC-16126).

DESCRIPTION. Test oval and white in color. Test medium in size t.l./t.w./t.h.= 34/29/18 mm, outline from above curved, without distinct frontal notch, posterior side narrow and posterior end pointed. The pore series of frontal ambulacrum is not petaloid. Posterior interambulacrum distinctly raised and keeled like. Posterior end obliquely truncate, sloping toward dorsal side. The apical disc well developed with 4 genital pores, posterior petals longer than anterior petals. Petals suken, narrowing proximally and anterior to pore series of anterior petals, series of posterior petals slightly billowy, anterior petals pore pair narrower than posterior pore. Phyllodes long and well developed. Sternal system broad, labrum longer thickened and impenetrable, peripetalous fasciole well developed. Subanal fasciole bean shaped. Periproct longitudinally oval denuded.

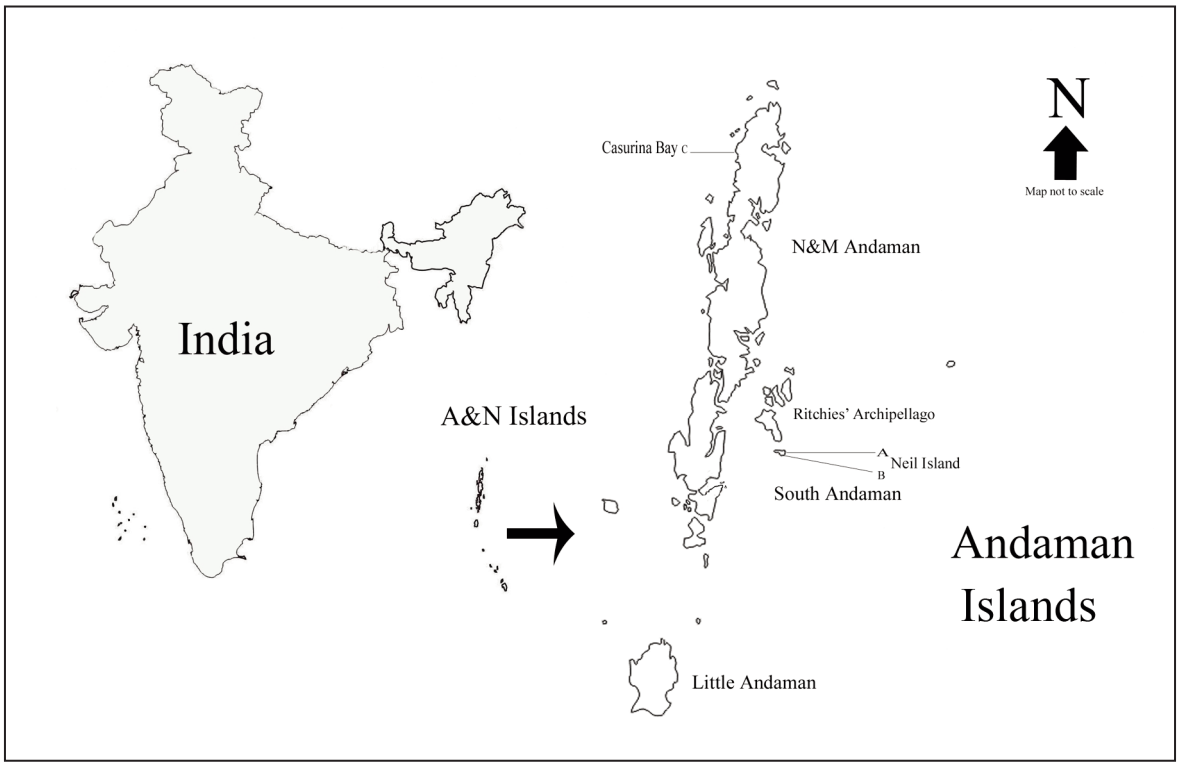
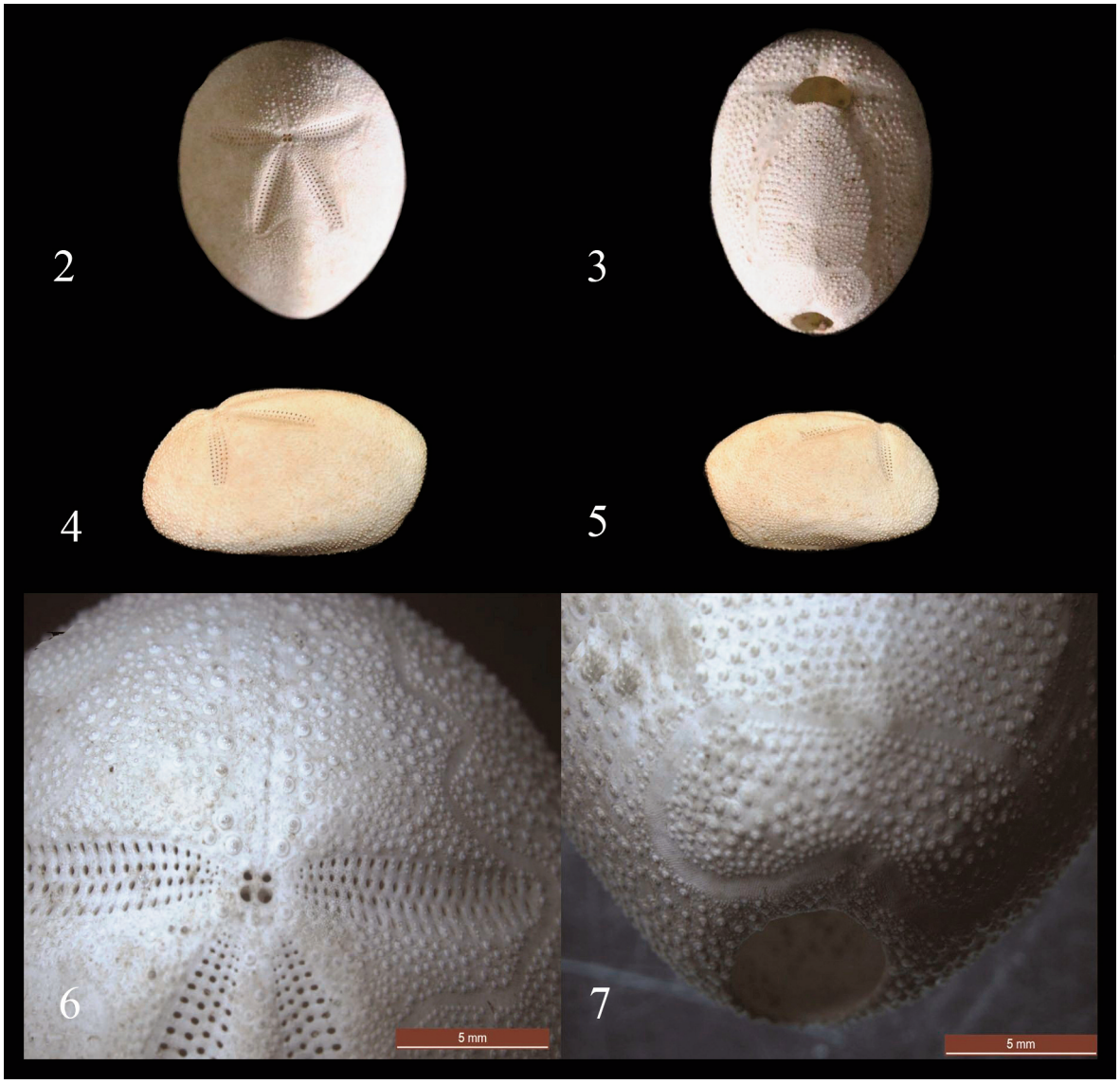


Figure1. Map showing localities of *Brissus latecarinatus* in Andaman Islands. A: Laxmanpur, Neil Island, South Andaman. B: Sunset Point, Neil Island, South Andaman. C: Casurina Bay, North and Middle Andaman.



Figures 2–7. *Brissus latecarinatus* from the Andaman Islands. Fig. 2: aboral view. Fig. 3: oral view. Fig. 4: lateral views (left side). Fig. 5: lateral views (right side). Fig. 6: pore-series of frontal ambulacrum, petals. Fig. 7: view of subanal region and periproct.

Distribution and Biology. *Brissus latecarinatus* has been reported from the West Indian Ocean, Mascarence Island, East Africa and Madagascar; Maldive; Ceylon; East Indies; North Australia; Philippine Island; China; Japan; South Pacific Island; Red Sea (Clark & Rowe, 1971) Kenya (Humphreys, 1981), Aldabra (Clark, 1984), Northwestern Australian (Marsh & Marshall, 1983), Australia (Rowe & Gates, 1995), East Coast of Africa to Hawaiian Islands (Sastry, 1991), Hawaii Islands (Edmondson, 1946; Clark & Rowe, 1971), Easter Island (Fell, 1974), Gulf of Thailand (Latypov, 2013), Mexico (Martínez-Melo et al., 2016).

This species is exclusively available in subtidal zone, sandy substrates, and corals reefs areas.

Remarks. New record to Andaman and Nicobar Islands. *Brissus latecarinatus* was previously known from the mainland India (East coast, Lakshadweep and Gulf of Mannar) and hitherto not known from these Islands so far. From Lakshadweep, Bell (1888) reported *B. unicolor* (Leske,

1778) but James (1983) identified *B. unicolor* as a *B. latecarinatus* however, the reasons behind such a change were not mentioned by James. In 1989, James collected a test of sea urchin and identified it as a *B. latecarinatus* from Lakshadweep (Agatti Island) but without poviding a formal description. The present report of *B. latecarinatus* from the Andaman Islands stresses the significance of intensive studies for precise documentation of the echinoid diversity and distribution in the Islands.

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