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Cover: *Euphaea pseudodispar* shot at Kalindi River, Thirunelly, Wayanad district, Kerala. © Muneer P.K.



Reappearance of stomatopod *Gonodactylus platysoma* (Wood-Mason, 1895) after an era from the intertidal region of Chota Balu, South Andaman, India

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Abstract: Mantis shrimp *Gonodactylus platysoma* was observed during a survey for seaweed-related macrofauna from the intertidal region of Andamans after a century. The specimen was collected using a scoop net, identified based on Kemp (1913) and Ah Yong (2001). The detailed description, images and illustrations are given in this article. The reappearance of *G. platysoma* after a century highlights the potential of revealing the rich biodiversity in Andaman and the need to monitor stomatopods for a better overview of their ecological interactions and diversity.

Keywords: Andaman, blue spot smasher, Crustacea, Mantis shrimp, shallow water, thumb splitter.

The Andaman & Nicobar group of islands are one of the richest repositories of biodiversity in southeastern Asia (Balakrishnan et al. 2008) with remarkable speciation and endemism because of their geographical isolation (Nair et al. 2008). Mantis shrimps are members of the marine crustacean order Stomatopoda inhabiting waters (Manning 1977; Cheroske et al. 2009). The members of the Bathysquilloids, living on greater depths (Caldwell 1991; Schram et al. 2013). The demographic composition of mantis shrimps varies spatially and seasonally with the habitat and environmental conditions (Abello & Martin 1993; Lui 2005). Stomatopods have unique feeding

habits (Dingle & Caldwell 1978). The prey capture method utilised by stomatopods is often considered as one of the fastest animal movements, which involves smashing (smashers) or spearing (spearers), depending on whether the dactyl is held folded or extended (Dingle & Caldwell 1969; Caldwell & Dingle 1976). Smashers have well-built raptorial appendages which move with great pace and extreme force (Patek et al. 2004). Their ability to create strikes of extreme forces corresponds to their particular diet of crustaceans, molluscs and a variety of marine organisms, viz., fishes, squids and other benthic invertebrates (Caldwell & Dingle 1976; Dingle & Caldwell 1978; Hamano & Matsuura 1986; Caldwell et al. 1989; Hamano et al. 1996). Stomatopods are known to play a crucial role in the food web of the marine benthic community (Dingle & Caldwell 1978; Hamano & Matsuura 1986; Hamano et al. 1996).

There are 500 extant Stomatopoda species globally under seven superfamilies and 20 families (van Der Wal et al. 2019). Recently, Trivedi et al. (2020) listed 72 species, 35 genera, 10 families and five superfamilies from various parts of Indian coastal waters. The maximum species diversity was reported from the family Squillidae (43

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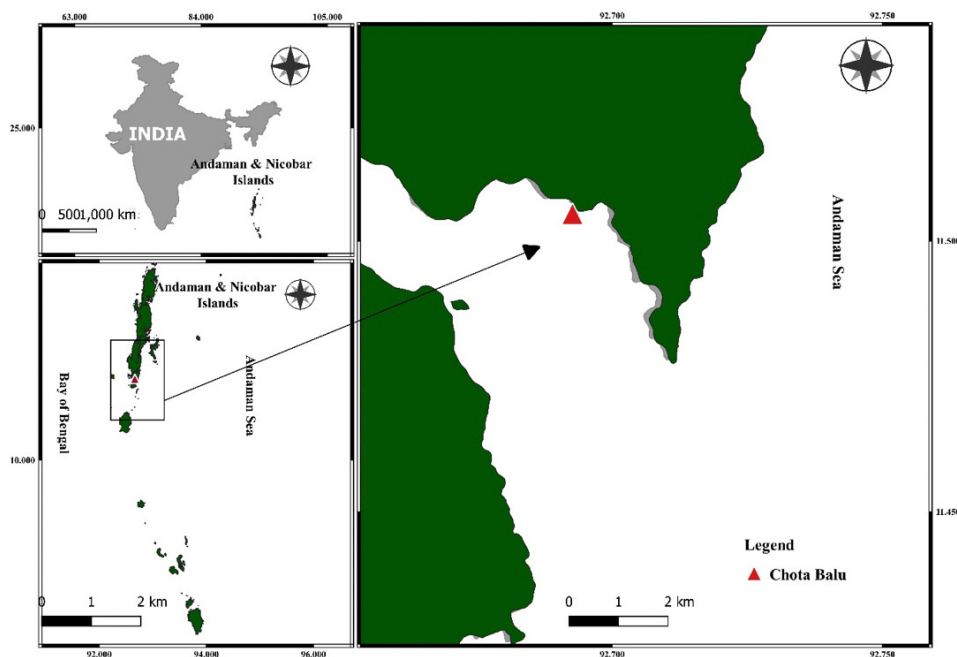


Figure 1. Map of the present sampling site.

species), followed by Gonodactylidae (seven species). The pioneering work on stomatopods from India was initiated by Wood-Mason (1875, 1876, 1895) with the description of several new species. After that, Kemp (1913) contributed to the first significant work on the stomatopods from the Indo-West Pacific region, which recognised 139 species globally and 98 species from the Indo-Pacific region. From Andaman & Nicobar Islands, 35 species of stomatopods were recorded (Trivedi et al. 2020). However, limited studies have been reported on the family Gonodactylidae from these islands (Jayabarathi et al. 2013; Kumaralingam & Raghunathan 2016; Kumaralingam et al. 2017; Niveditha et al. 2019; Trivedi et al. 2020). *Gonodactylus platysoma* was initially described from the Mauritius islands (Wood-Mason 1895). After that, Kemp (1913) recorded it from the Andaman Islands. In this study, *Gonodactylus platysoma* (Wood-Mason, 1895) has been recorded after 100 years from the Andaman Islands. During our ecological survey for seaweed (*Halimeda* sp.) macrofauna collection at Chota Balu (11.514°N, 92.495°E) in South Andaman, six mantis shrimps were observed to be in association within the seaweed habitat. A specimen was collected using a scoop net (net mouth: 30 x 30 cm; mesh size: 4 mm) and carried to the laboratory in a covered bucket. In the laboratory, the specimen was narcotised using five drops of eugenol (4-allyl-2-methoxy phenol) in 5 ml of ethanol dissolved in 1 L of seawater (Ahyong et al. 2017) and later photographed without delay (Canon

PowerShot G1 X Mark II). Ocular scales were analysed under a Magnus zoom stereo trinocular microscope, and the specimen was identified from the literature by Kemp (1913) and Ahyong (2001). The specimen was preserved in 5% formaldehyde solution and deposited in the repository of the Zoological Survey of India (ZSI/ANRC/M/24202), Port Blair, A&N Islands.

Phylum: Arthropoda

Class: Malacostraca Latreille, 1802

Order: Stomatopoda Latreille, 1817

Suborder: Unipeltata Latreille, 1825

Family: Gonodactylidae Giesbrecht, 1910

Genus: *Gonodactylus* Berthold, 1827

Gonodactylus platysoma Wood-Mason, 1895 (Blue Spot Mantis Shrimp, Blue Spot Smasher)

Material examined: ZSI/ANRC/M/24202, 1 Female (TL 76 mm), Chota Balu, 11.637°N; 92.798°E, South Andaman Island, January 2020.

Diagnosis: The body is broader compared to other members of this family and live body is covered with green, white, and brown blotches. Presence of dorsal carinae in the sixth abdominal somite (AS6) and telson region. White meral spot is present in the raptorial claw. The ocular scales are separated, wide and flat (Image 1A) are about as large as the rostral plate. Telson (Image 1C) without lateral tooth, the margin of telson continuous between anterolateral angle and apex of intermediate tooth. Uropodal exopod at the distal segment of the

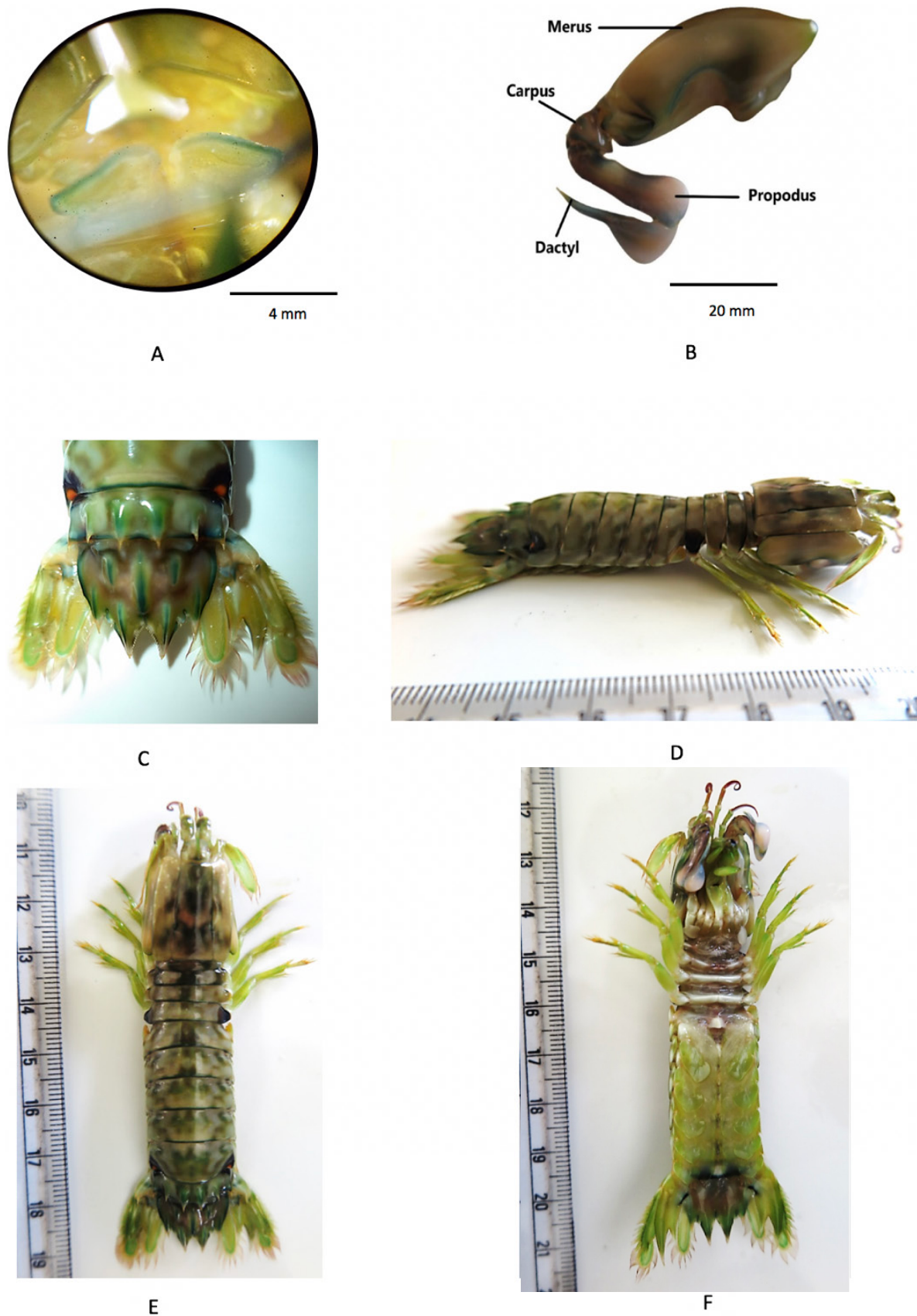


Image 1. *Gonodactylus platysoma* Wood-Mason, 1895 (female 76 mm): A—Ocular scales | B—Raptorial claw | C—AS5–6, telson & uropod | D—*G. platysoma* lateral view | E—*G. platysoma* dorsal view (female 76 mm) | F—*G. platysoma* ventral view. © Naha 2020.

outer margin with 9–13 movable spines. Previously, *G. platysoma* was reported before a century from the coarse collection of the Indian museum by Late Woods Mason in 1895 without any description or reference of the species but solely on the figures. However, Kemp (1913) distinguished it separately from the variant form of *G. chiragra* and described the species and added observation of two conspicuous black spots in the middle of AS1 based on the preserved specimen from the Indian museum. Live specimen description by Ah Yong (2001) does not mention the presence of these conspicuous black spots in the AS1 of *G. platysoma* which are clearly observed in the specimen from the present study.

Distribution: French Polynesia to Okinawa, Australia, Indo-Malayan region to the western Indian Ocean (Ah Yong 2001).

Gonodactylus have smashing raptorial appendages and are associated with the burrows and cavities of the sedimentary structures (living or dead coral/ inorganic rock) in the intertidal region, and their presence in the present sampling site directs its preference towards a particular type of habitat (Caldwell 1975; Silva et al. 2013). In view of the reappearance of *G. platysoma* after a century, it highlights the potential of revealing the rich biodiversity in Andaman and the need to monitor stomatopods for a better overview of their ecological interactions and diversity.

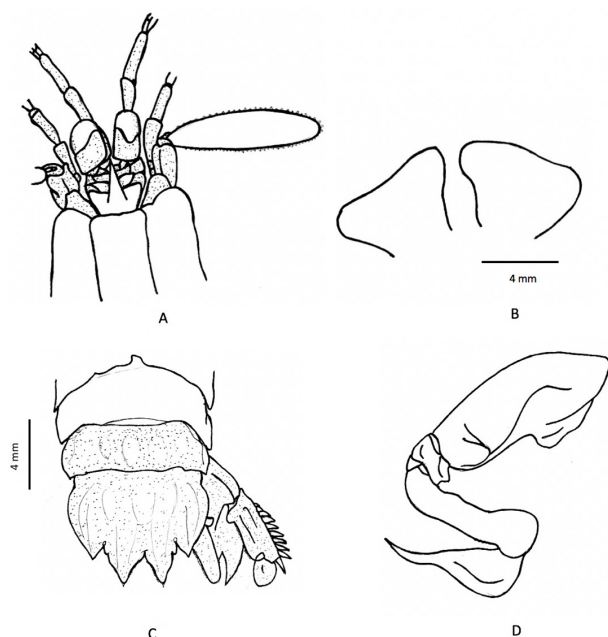


Figure 2. *Gonodactylus platysoma* Wood-Mason, 1895 (female 76 mm): A—Cephalic region | B—Ocular scale | C—Telson & uropod | D—Raptorial claw. © Naha 2020.

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