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Note

New distribution record of the rock shrimp, *Sicyonia parajaponica* Crosnier, 2003 from Indian waters

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ABSTRACT

The present study reports the first record of rock shrimp, *Sicyonia parajaponica* Crosnier, 2003 from Indian waters. The diagnosis of the new record was based on the examination of two male and one female specimens, collected from a commercial trawler operating in the Arabian Sea off the south-west coast of India during December 2010. Present report of *S. parajaponica* from the Arabian Sea fills the gap in its known distribution range from South China Sea to Gulf of Aden at 10 to 200 m depths.

Keywords: Arabian Sea, Sicyoniidae, *Sicyonia parajaponica*

Rock shrimps of the family Sicyoniidae Ortmann, 1898 are benthic penaeoids comprising of monotypic genus, *Sicyonia* H. Milne Edwards1830 with more than 52 species globally (Perez Farfante and Kensly, 1997; Crosnier, 2003). The rock shrimps are distributed predominantly in tropical and subtropical waters in the depths of few meters to nearly 1000 m deep. Sicyoniids can be easily distinguished from all other penaeoids by their thick, rigid and stony exoskeleton, shorter legs and absence of endopodite of the last three pairs of pleopods. Sicyoniid shrimps show diverse morphological variations and wide range in size among the species (Perez Farfante, 1985).

Sicyonia parajaponica was described by Crosnier (2003), collected from Philippines waters (Western Luzon) at depth range of 185-200 m. Crosnier (2003) divided the Indo-West Pacific Sicyoniid shrimps into eight groups and placed *S. parajaponica* under the "*lancifer*" group. Other members in the group are *S. lancifer, S. japonica, S. furcata* and *S. ocellata.*

The specimens of S. *parajaponica* (Fig. 1) described here were collected in December 2010 from a commercial trawler operated in the Arabian Sea, off the south-west coast of India. This is the first report of the species from Indian waters. The shrimps were deposited in the National Marine Biodiversity Museum at Central Marine Fisheries Research Institute (CMFRI), Cochin (Accession number: ED. 1.4.1.2)

Material examined

Three specimens, one female (TL 65 mm, CL 16.9 mm) and two males (TL 59-64 mm; CL 15.6-16.8 mm) collected from a commercial trawler, operated in the Arabian Sea which landed at Sakthikulangara Fisheries Harbour, Kollam, south-west coast of India, in December 2010, were used for the diagnostic studies for the species identification.

Diagnosis

Rostrum not overarching scaphocerite, with its tip bidentate. The dorsal carina of the carapace bears 5-8 teeth, with posterior 4 or 5, large and strong. One tooth is present on the ventral side of the rostrum. The hepatic spine is strong and well developed. Infraorbital lobe is rounded or slightly biangular. A blunt spine like out-growth is present behind the hepatic spine. The scaphocerite is triangular and with the disto-lateral tooth overreaching the lamella. The third maxillipeds are strong and reach beyond the tip of the scaphocerite. Process of distal ventrolateral lobes of petasma stretched transversely. Thelycum with rear part considerably enlarged. The dorsal tooth of first abdominal segment well developed, tip pointing upwards. The tooth of the second abdominal segment well developed, strong and acute. The anterior three abdominal segments are usually with single spine on the postero-ventral margin, whereas the fourth has three spines and fifth with two spines.

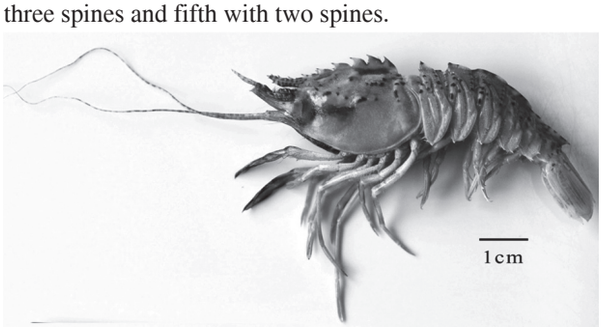

Fig. 1. *Sicyonia parajaponica* Crosnier 2003 from Arabian Sea, south-west coast of India

Present report of *S. parajaponica* from the Arabian Sea fills the gap in its known distribution range; from South China Sea to Gulf of Aden (north-west coast of Australia, Taiwan, Philippines and Andaman Sea in Thailand) at 10 to 200 m depths.

Sicyonia parajaponica is closely similar to *Sicyonia japonica* Balss, 1914, another rock shrimp species known from Indo-West Pacific, in colour pattern and few morphometric characters. The most distinctive marking of *S. parajaponica* is a large red spot encircled by a white band on the posterior dorsum of the carapace stretching across three posterior dorsal teeth where as in *S. japonica* red spot on carapace partially covers the first two teeth. The dorsal margin of the second abdominal segment is much pronounced forming a tooth like structure (Fig. 2A) in *S. parajaponica*, where as in *S. japonica* the structure is not prominent. The petasma structure of *S. parajaponica* is different from related species, with the process of distal ventrolateral lobes stretched transversely (Fig. 3A), which is subcircular in *S. japonica*. Rear part of thelycum is enlarged in *S. parajaponica* (Fig. 3B) compared to *S. japonica,* but age related changes can occur in these character. The carinae on the third to the fifth segments are curved convexly and look somewhat like a continuous wave, while that of the sixth segment is produced into a sharp spine posteriorly (Fig. 2B). This species is one of the largest sicyoniid shrimps and reaches a maximum total length of 77 mm, with maximum carapace length of 20.9 mm.

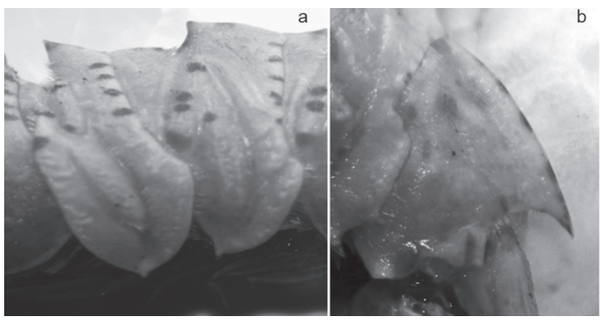

Fig. 2A. 1st and 2nd abdominal segments, B. 6th abdominal segment

Rock shrimps have no commercial fishery importance in Indian waters and occasionally form a portion of the bycatch of commercial fishery. This species is an addition to list of rock shrimps of Indian waters, adding to the previously reported *Sicyonia lancifer* Olivier, 1811 recorded from both Arabian Sea (Kurien, 1953; George, 1966) and Bay of Bengal (Muthu, 1968). The continuity of the distributional range of *S. parajaponica* can be ascertained only by evaluating their presence along the coastal waters of western India to Gulf of Aden. The diversity of shellfishes of Indian waters is largely unexplored and detailed studies on this group are required to unravel their richness.

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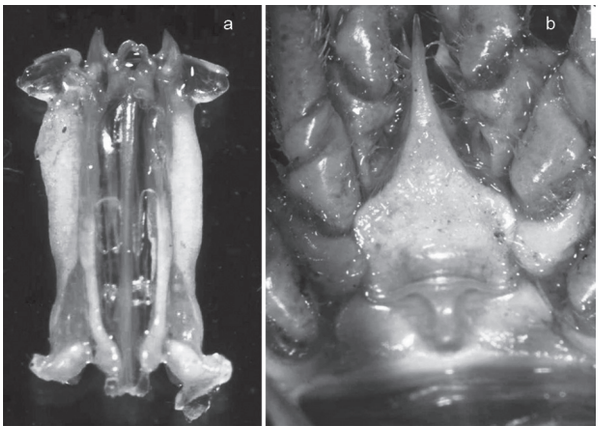

Fig. 3. A. Petasma (Dorsal view), B. Thelycum

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