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## Two new records of majid crabs (Crustacea: Decapoda: Majidae) from west coast of India

Intiyaz Belem, Paresh Poriya and Bharatsinh Gohil

### Abstract

Two species of majid crabs, *Micippa philyra* (Herbst, 1803) and *Micippa thalia* (Herbst, 1803) reported for the first time from the western coast of India. *M. philyra* is commonly distributed along the muddy sandy coast, while *M. thalia* sparsely distributed in Gulf of Kutch. Taxonomical description with illustrative figures, worldwide distribution and habitat of both the species are given here.

**Keywords:** Crustacea, Majidae, New records, *Micippa philyra*, *Micippa thalia*, India.

### Introduction

The crabs of the subfamily mithracinae have narrowed carapace anteriorly, tuberculate entirely with a broad depressed rostral plate. Rostral spines broad, flattened, depressed, fused for at least proximal two-thirds; intercalated spine present (sometimes fused to postorbital spine) [1]. They are also called masking crabs or seaweed crabs due to the presence of curled or hooked hairs on carapace [2]. Worldwide 10 species of the genus *Micippa* have been documented [3]. *Micippa* species have been described by various authors like Griffith *et al.* (1833) [4]; Adams and White (1850) [5], Miers (1885) [6]; Rathbun (1892) [7]; Nobili (1906) [8]; Stimpson (1907) [9]; Stebbing (1908) [10]; Sakai (1938) [11]; 1976 [12]; Barnard (1950) [13]; Griffin (1974) [14]; Tirmizi and Kazmi (1986) [15]; (Yeh *et al.* 2006) [16]; Komastu (2011) [17]. In the India *Micippa* species have been well documented and described by Alcock (1895) [18]; Lauri (1906) [19] and Jeyabaskaran *et al.* (2002) [20] while other listed Sankarankutty (1961 [21], 1965 [22]) and Roy (2008) [23]. Here we are reporting two new records of majid crabs for the first time from the western coast of India.

**Materials and Methods:** Gujarat is bestowed with longest coastline of India around 1650 km with two gulfs, Gulf of Kutch and Gulf of Khambhat. Study was carried out during June 2015 to April 2016. The majid crabs reported herein were collected from three sites of Gulf of Kutch viz. Sikka (22°27'34"N, 69°48'23"E), Narara (22°14'32.41"N, 68°57'20.81"E) and Dwarka (22°14'32.41"N, 68°57'20.81"E) (Figure 1). Specimens were collected from lowest intertidal zone, preserved in 70% ethanol and transferred to laboratory of the Department of Life Sciences, Maharaja Krishnakumarsinhji, Bhavnagar University, Bhavnagar. Identification were done using old and recent taxonomic literatures e.g., Alcock (1895) [18], Tirmizi and Kazmi (1986) [15] and Yeh *et al.* (2006) [16]. Specimens were measured through standard vernier calipers. Carapace length (CL); Carapace width (CW), First pleopod length (P1), Second pleopod (P2).

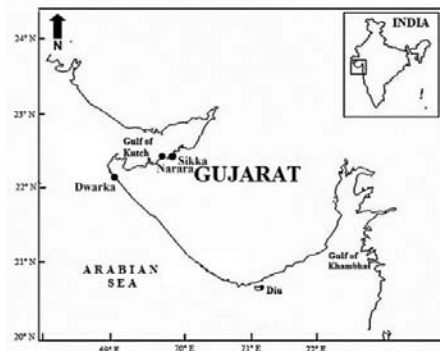


Fig 1: Map of Studied area.

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## Results and Discussion

### Systematics

Order Decapoda Latreille, 1802  
 Infraorder Brachyura Latreille, 1802  
 Superfamily Majoidea Samouelle, 1819  
 Family Mithracidae MacLeay, 1838  
 Genus *Micippa* Leach, 1817

#### *Micippa philyra* (Herbst, 1803) (Figure 2)

**Synonymy:** *Cancer philyra* Herbst, 1803, *Micippa mascarenica nodulifera* Baker, 1905, *Micippa philyra* var. *mascarenica* Kossmann, 1877, *Micippa superciliosa* Haswell, 1879; *Paramicippa asperimanus* Miers, 1884

**Material examined:** 2♂, (1) CL: 17.7 mm, CW: 14.5 mm; (2) CL: 20.9 mm, CW: 18.0 mm; 1♀, (1) CL: 33.7 mm, CW: 27.8 mm. 2♂, (1) P11: 5.0 mm; P12: 1.1 mm (2) P11: 6.3 mm; P12: 1.2 mm.

**Description:** Carapace longer than broad; sub-quadrate, dorsal surface unevenly granulated and covered with setae, hepatic region strongly sunken; pseudorostrum (Figure 2B) region vertically deflexed, divided in to four sharp lobes, median lobes are straight separated by “v” shaped notch, lateral two lobes curved downwards. Eyes retractable within the orbits. Mesogastric region knobby, Postorbital spines present at the base with intercalated spine, posterior region of postorbital spines consist two or three blunt spines. Lateral margin of hepatic region with two to three spines; branchial region with three to five blunt spines and intestinal region with five to six small blunt teeth. Antenna covered entirely at both the side with sparse long setae, basal segment of antenna broad. Chelipeds subequal in shape and equal armature, stouter and smooth entirely; merus twice longer than carpus; palm little longer than meri, a small gap seen when dactylus closed. Pterygostomial region highly granulated. Ambulatory legs sub-cylindrical covered with dense setae, first ambulatory leg longer and third, fourth and fifth decreasing gradually in length; merus with blunt tooth at anterodistal end; carpus depressed longitudinally;

dactylus in each with a strong curved spine. The first male pleopod (Figure 2C) curved, the tip pointing outwards; near the tip on the ventral side of the appendage are a few short setae, second pleopod (Figure 2D) is shorter, tip pointing inwards, divided in to two lobes, inner lobe is large and pointed.

**Habitat:** Found commonly in lower intertidal zone covered with mud and brown algae, under rock and big boulders, generally camouflage with mud and algae.

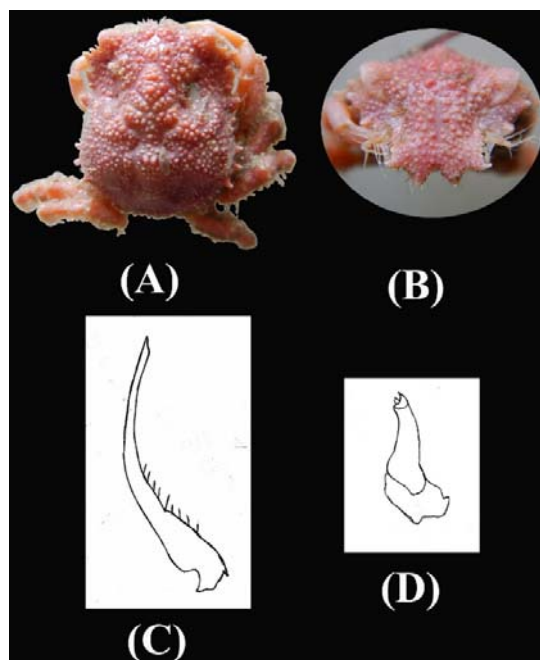
**Color:** Entire body brownish in fresh specimens and appear red in preserved specimens.

### Distribution

World: Philippine Islands [5], Japan [11, 12], Sulu Archipelago, Philippine Islands; Indo-west Pacific from East Africa to Japan and Australia [14], Eastern Asia, Philippines, Japan, Sulu Archipelago and Australia [23], Gulf of Oman, Persian-Arabian Gulf, Thailand, Indonesia, Philippines, Australia [24], Taiwan [16].

India: Andaman [18], Gulf of Mannar [19], East coast-Tamil Nadu, Laccadive Islands [21], Lakshadweep islands, Andaman and Nicobar Islands [20]. Now reported from west coast of India viz. Sikka, Narara and Dwarka coast.

**Remarks:** *Micippa philyra* closely resemble to *Micippa platipes* Rüppell, 1830, it can be easily distinguished by the shape of rostrolateral spines, granulation on dorsal surface of rostral area, and shape of basal antennal plates [25, 12]. The dorsal surface of the rostral area of *M. philyra* is densely covered with granules, which is not the case in *M. platipes* [15, 16]. *M. platipes* has blunt rostrolateral spines with tips directed laterally whereas in *M. philyra* has acute rostro-lateral spines whose tips are directed latero-posteriorly [16]. The distal part of male first pleopod being tapering like ‘c’ shaped in *M. philyra*, while in *M. platipes* pleopod is little bit straight in shape, distally not pointed, second pleopod closely resembled to the pleopod of *M. platipes* [25, 15]. This is the first record from west coast of India.



**Fig 2:** Morphology of *Micippa philyra* (A) Dorsal view (B) Pseudorostrum (C) First pleopod and (D) Second Pleopod

***Micippa thalia* (Herbst, 1803)** (Figure 3)

**Synonymy:** *Cancer thalia* Herbst, 1803; *Micippa aculeata* Bianconi, 1851; *Micippa haani* Stimpson, 1857; *Micippa inermis* Haswell, 1879; *Micippa miliaris* Gerstaecker, 1856; *Micippa pusilla* Bianconi, 1856; *Micippa thalia* var. *caledonica* Kossmann, 1877; *Micippa thalia* var. *indica* Kossmann, 1877.

**Material examined:** 1♂, CL: 49.9 mm, CW: 41.5 mm; P11: 10.5 mm; P12: 2.5 mm

**Description:** Carapace longer than broad; sub-quadrate, entire dorsal surface evenly granulated, regions well defined, the hepatic region depressed. Six vertical spines arise on the dorsal surface, two spines on mesogastric region, two spines on mesobranchial region, two spine at distal end of mesobranchial (posterior) region. The lateral margins are armed with an irregular series of spines or spinules and few minute spines on posterior border. Pseudorostrum (Figure 3B) deflexed vertically, distally curved downward into two spines. Eyes retractable within the orbits. Post-ocular tooth strongly spiniform; intermediate tooth present. Antenna covered entirely both the side with sparse long setae. Chelipeds equal in shape and armature, merus granulated with sharp spine at anterodistal end; carpus granulated; palm cylindrical granulated; a hiatus seen when dactylus closed, inner edge of dactyli with series of teeth. Pterygostomial region highly granulated. Ambulatory legs cylindrical with sparse setae, first ambulatory leg longer;

others decreasing gradually in length; merus with a sharp spine at anterodistal end; carpus depressed longitudinally; dactylus in each with a strong curved spine. The first male pleopod (Figure 3C) curved, the tip pointing outwards; near the tip on the ventral side of appendages with few short setae, second pleopod (Figure 3D) is shorter than first, tip blunt 'u' shaped.

**Habitat:** Found commonly in lower intertidal zone covered with mud and brown algae, under rock and big boulders, generally camouflage with mud and algae.

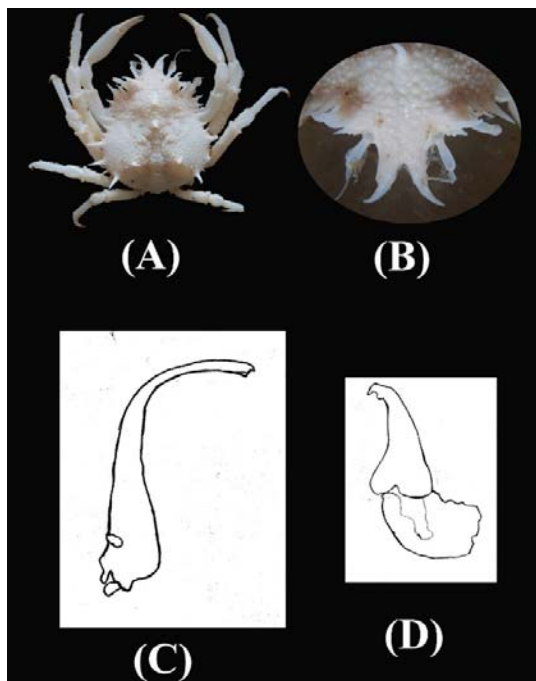
**Color:** Carapace entirely brown in fresh specimens and milky-white in preserved one.

**Distribution**

World: Japan [5]; Indo-Pacific, from the Red Sea coast of Natal to New Caledonia [6]; Chinese Seas and Indian Ocean [7], Off Mutwal Island, Sri Lanka [19], Red Sea; throughout the Indo-West Pacific from East Africa to Japan and Australia [26], Indopacific to Japan [13], Pakistan [15], Yemen, Socotra, north coast at Hawlaf [24], Turkey [27].

India: Gulf of Mannar [19], Ernakulam [22], Orissa, Tamil Nadu, Malabar coast, Lakshadweep Islands [23]. Now it is reported from west coast of India- Sikka coast.

**Remarks:** This species shows cosmopolitan distribution in the world. This is the first record from west coast of India.



**Fig. 3.** Morphology of *Micippa thalia* (A) Dorsal view (B) Pseudorostrum (C) First pleopod and (D) Second Pleopod

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