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On the distribution range of *Chaenostoma sinuspersici* (Naderloo & Türkay, 2011) (Decapoda: Brachyura: Macrophthalmidae) in Indian waters

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ABSTRACT

Chaenostoma sinuspersici (Naderloo & Türkay, 2011) (Macrophthalmidae) is recorded for the first time in Indian waters. The species has so far been only reported from the western Indian Ocean and Arabian Sea.

KEY WORDS

Range extension, species complex, rocky shore, Gujarat, first record.

The genus *Chaenostoma* (Stimpson, 1858) of family Macrophthalmidae is composed of small sized crabs which are common on the rocky shores of tropical and subtropical regions (Litulo, 2005; Davie, 2012). *Chaenostoma* currently contains six species: *Chaenostoma boscii* (Audouin, 1826), *Chaenostoma punctulatus* (Miers, 1884), *Chaenostoma sinuspersici* (Naderloo & Türkay, 2011), *Chaenostoma java* Naderloo, 2013, *Chaenostoma orientale* Stimpson, 1858 and *Chaenostoma crassimanus* Stimpson, 1858 (Stimpson, 1858; Ng *et al.* 2008; Naderloo and Türkay, 2011; Naderloo, 2013; Shih *et al.*, 2015, Teng *et al.*, 2016). Another species, *Chaenostoma lisae* (Poupin & Bouchard, 2010) is now considered as junior synonym of *C. crassimanus* (Shih *et al.*, 2015; Teng *et al.*, 2016). *Chaenostoma sinuspersici* was described from Persian Gulf and has a widespread distribution in Indo-West Pacific (Naderloo and Türkay, 2011; Teng *et al.*, 2016). In the present study, *C. sinuspersici* is reported first time from Indian waters. The following abbreviations are used throughout the text: G1 = male first gonopod, CL= carapace length, and CW = carapace width. All measurements are given in millimeters (mm).

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Infraorder Brachyura

Family Macrophthalmidae Dana, 1851

Genus *Chaenostoma* (Stimpson, 1858)

***Chaenostoma sinuspersici* (Naderloo & Türkay, 2011)**
(Fig. 1)

Macrophthalmus boscii–Crosnier, 1965: 134–136, figs. 244–248; Tirmizi and Ghani, 1996: 118–121, fig. 45.

Macrophthalmus sinuspersici Naderloo and Türkay, 2011: 509–513, fig. 3c–d, 4c–d, 5, 6, 7.

Chaenostoma sinuspersici–Naderloo, 2013: 2836; Teng *et al.*, 2016: 19. Fig. 1d–g.

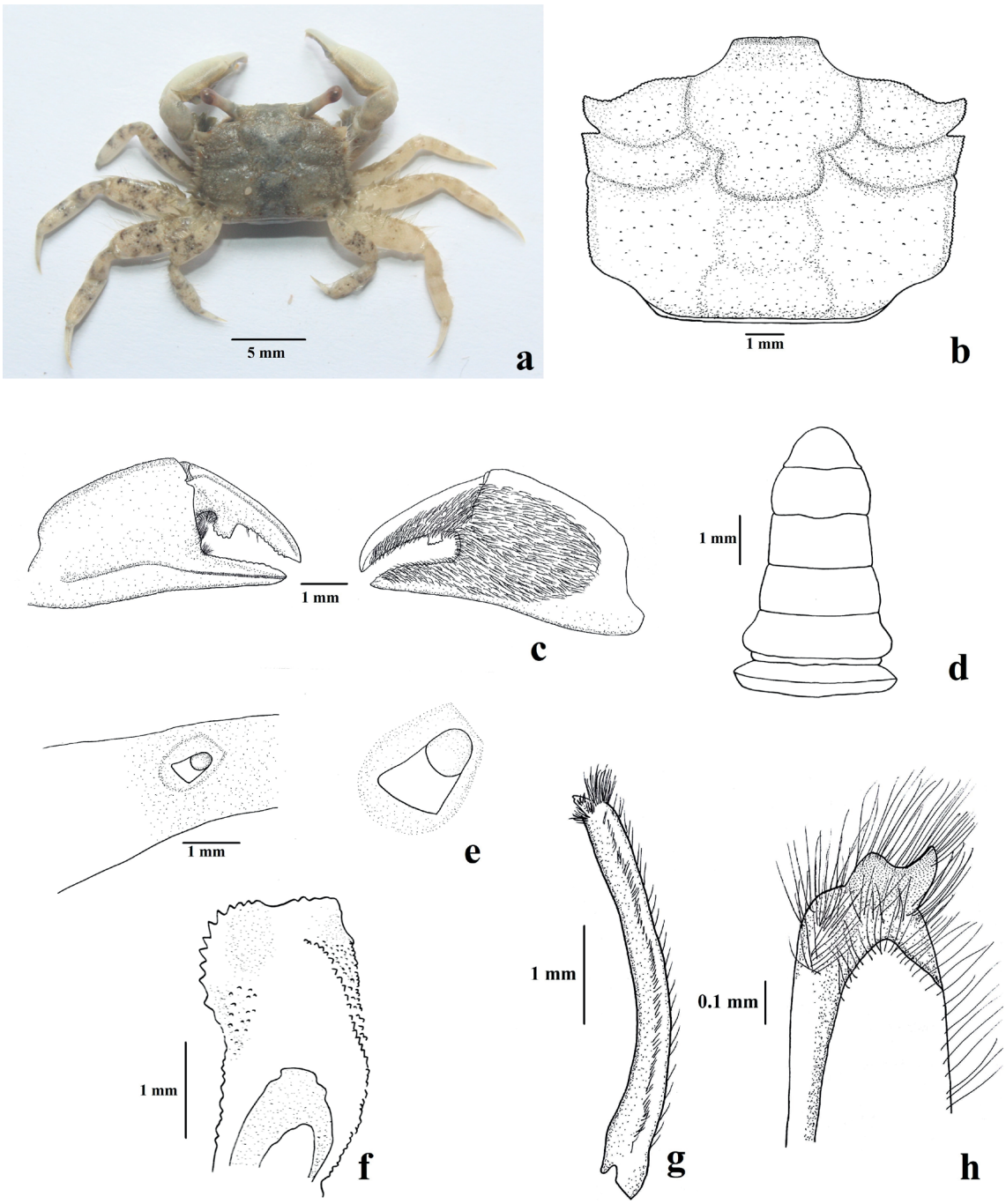

Figure 1. *Chaenostoma sinuspersici* (Naderloo & Türkay, 2011), adult male, CL: 7.84 mm, CW: 10.2 mm, Shivrajpur (22°19'58"N 68°57'01"E), Gulf of Kachchh, Gujarat, India, 03 September, 2015. (a) Dorsal view, fresh coloration (b) Carapace dorsal view; (c) chela outer and inner view; (d) male abdomen; (e) female gonopore (adult female, CL: 4.03 mm, CW: 7.45 mm); (f) stridulating ridge on merus of cheliped; (g) G1; (h) G1 apical lobe.

A total of 20 males and 19 females (CL: 3.2 mm–7.24 mm; CW: 4.5 mm–9.44 mm) were collected from rocky shores of Shivrajpur (22°19'58"N 68°57'01"E), located on the coastal area of Gulf of Kachchh, Gujarat state, India. The specimens are deposited in the Zoology Museum, Department of Zoology, Faculty of Science, The Maharaja Sayajirao University of Baroda, Vadodara (ZL-AR-CR-80).

Remarks. The morphology of the specimens (Fig. 1) examined herein matches the description and illustrations given by Naderloo and Türkay (2011) and Teng *et al.* (2016), but varied slightly in following characters: lateral margins of third somite of male abdomen are strongly curved (Fig. 1d) (*vs.* almost straight in holotype of *C. sinupersici*), operculum of female gonopore (Fig.1e) is larger in size reaching median part of gonopore opening (*vs.* smaller operculum not reaching median part of gonopore opening in paratype female of *C. sinupersici*). Teng *et al.* (2016) recently reviewed *C. boscii* species complex and identified six valid species using the following morphological characters: direction of first anterolateral tooth; depth and shape of incision present between first and second anterolateral tooth; shape of dactylar tooth of chela; presence and extent of setal patch on inner margin of cheliped palm; and shape of G1. *Chaenostoma sinupersici* shows similarity with *C. boscii* and *C. orientale* in having slender chela but varies from these two species in the following characters: The first and second anterolateral teeth are of same extent in *C. sinuspersici* (Fig. 1b) while the first anterolateral tooth is extending beyond the second anterolateral tooth in *C. orientale* and *C. boscii.* The posterolateral margin is running straight with the same position of the margin of anterolateral teeth in *C. sinuspersici* while in *C. orientale*, it is also running straight but it is positioned slightly on the inner side than the position of the margin of anterolateral teeth. In *C. boscii* it is slightly converging posteriorly. The stridulating ridge (Fig. 1f) is present on the inner margin of merus of cheliped in *C. sinuspersici* and *C. orientale* but it is absent in *C. boscii.* The length of depression present on mesial surface of apical lobe of male G1 (Fig. 1h) also varies between *C. sinuspersici* and *C. orientale. Chaenostoma sinuspersici* has widespread distribution in Indo-West Pacific and it is so far recorded from East Africa, Madagascar, Gulf of Aden, Persian Gulf, Pakistan, Indonesia, Australia (Naderloo and Türkay, 2011) and now from Gujarat, India. However, according to Rahayu and Nugroho (2012), the identity of species occurring in West Pacific needs to be checked. In Indian waters, only one species, *C. boscii*, is recorded from Andaman and Nicobar Islands by Dev Roy and Nandi (2005; 2012). However, according to Naderloo and Türkay (2011), the distribution *C. boscii* is limited to Red Sea, so the identity of species recorded by Dev Roy and Nandi (2005; 2012) is doubtful. Hence, currently *C. sinupersici* is the only species of genus *Chaenostoma* occurring in Indian waters.

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