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Kiran Vasudevamurthy

KUPG Centre, Kodibag,
Karwar, Uttara Kannada,
Karnataka, India

Pradnya D Bandekar

KUPG Centre, Kodibag,
Karwar, Uttara Kannada,
Karnataka, India

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Range extension of buckler crab, *Cryptopodia angulata* (Decapoda: Brachyura: Parthenopidae) from Karwar coast (Arabian Sea), Karnataka, India

Kiran Vasudevamurthy and Pradnya D Bandekar

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Abstract

In this study, a buckler crab, *Cryptopodia angulata*, reported for the first time from Majali, Karwar, West coast of India. This species rarely occurs in the Indian coastal waters and this is the first report from the Karwar coast. External characters have been photographed and examined.

Keywords: Karwar coast, *Cryptopodia angulata*, Majali, regional new record

Introduction

The genus *Cryptopodia* Milne-Edwards H., 1834^[7] (Parthenopidae) comprises 15 species and sub-species in the world (Chen and Xu 1991; Davie and Turner 1995)^[1, 4]. *Cryptopodia* (Milne-Edwards H. 1834)^[7] is distributed in the Indo-West Pacific, Atlantic and Pacific coasts, and includes 13 valid species (Chiong and Ng 1998, Ng *et al.* 2008, Worms 2018)^[2, 3]. These crabs have expanded margins of the carapace that completely hide the walking legs, when they are folded (Chiong and Ng 1998)^[2]. Tirmizi and Kazmi (1983) have recorded the species from Karachi, Pakistan, Penang and Malasia. *Cryptopodia angulata* rarely occurs in the Indian coastal waters. They are found in deep bottoms of the sea bed at the depth of 25-30 m. The species was first recorded by Alcock (1895) from the Malabar and Orissa coasts of India. Then in West Bengal, Sandheds by Chopra (1935). Gulf of Kutch, Gujarat (Chhapgar 1957). During the survey of the brachyuran fauna of Saurashtra coast of Gujarat state, one adult female specimen (CL 52.76 mm, CW 32.30 mm) of *Cryptopodia angulata* Milne-Edwards H. and Lucas, 1841^[9], was collected from trawl catch of depth 25-27 m by Trivedi and Vachhrajani (2013)^[10]. Recently, again got reported for the first time from Kasimedu fishing harbour, Chennai, Southeast Coast of India (Krishnan Silambarasam *et al.* 2015)^[6], but no species of *Cryptopodia* has so far been observed from Karwar, Karnataka coast.

Materials and Methods

The two specimens of *Cryptopodia angulata* were collected during the survey on 22nd February 2021, on the Majali coast, Karwar (14° 15' N 74° 06' E). It was handpicked and measured using calipers, preserved in 90% ethanol, identified using taxonomic keys. Further measurements were made in the laboratory.

Systematics accounts

Order: Decapoda (Latreille 1806)

Family: Parthenopidae (Macleay 1838)

Genus: *Cryptopodia* (H. Milne Edwards 1834)

Species: *Cryptopodia angulata* (H. Milne Edwards and Lucas 1841)

Description: *Cryptopodia angulata* grows to a carapace width of about 4 to 5 cms and the carapace length is one and half times larger than the width. The shape of the carapace is convex and pentagonal, with two spines on the posterior margin at the center of the carapace.

Corresponding Author:

Kiran Vasudevamurthy

KUPG Centre, Kodibag,
Karwar, Uttara Kannada,
Karnataka, India

The edges are dentate and curved at all angles, donate margins which completely covers the abdomen and ambulatory legs beneath it. The teeth of the margins are simple and bifurcated. The dorsal surface of the carapace is granular and has smooth ventral surface. The color of the carapace is pale pink to pinkish brown. A triangular depression is seen in the middle of the carapace with granular ridges, eyes are small and round. The rostrum is pointed and triangular. The abdomen is comparatively narrow and tapered towards the anterior region. Chelipeds are granular and robust with dentate margins on the anterior and posterior region, merus is flat, and carpus is somewhat globular. The first pair

of walking legs is the longest, legs are slim and smooth, dentate margins only at the upper surface of the merus. The two female specimens of buckler crabs (*Cryptopodia angulata*) were collected from the west coast of Karwar, Karnataka on 22nd February 2021. One female was damaged and mutilated, whereas the second one was intact. The crabs were examined morphologically and identified as *Cryptopodia angulata* (Milne-Edwards H. and Lucas 1841)^[9]. Besides this, another species, *Cryptopodia fornicate* is reported to have its presence on the Mandapam coast, Gulf of Mannar, Tamil Nadu (Kakati, Personal communication).



Fig 1: Map showing the location of the area in Karwar coast (* -Majali coast).



Fig 2: *Cryptopodia angulata*: dorsal view



Fig 3: *Cryptopodia angulata*: ventral view

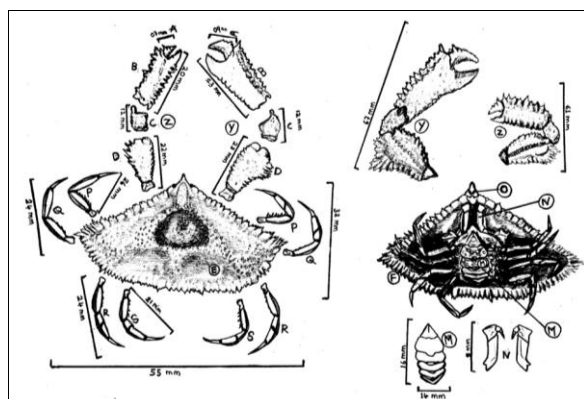


Fig 4: *Cryptopodia angulata*, sp: A, dactylus; B, propodus; C, carpus; D, merus; E, carapace: dorsal surface; F, carapace: ventral surface; M, female abdomen; N, 3rd maxillipedes; O, rostrum; P, Q, R, S, walking legs; Y, right chelate leg; Z, left chelate leg.s

Table 1: The morphometric data of *Cryptopodia angulata*

Specimen (Length/Width: mm; Weight: g)	
Carapace width	55mm
Carapace length	32mm
Frontal width	08mm
Abdomen width	14mm
Abdomen length	16mm
Sternum width	08mm
No of marginal spines on carapace	92
Weight	6.72

Chelate and Walking legs:	Merus	Carpus	Propodus	Dactylus	Total length
Right chelate leg	23	12	23	09	67
Left chelate leg	22	12	20	07	61
2 nd Walking leg	10	05	06	05	26
3 rd Walking leg	10	04	05	05	24
4 th Walking leg	10	04	05	05	24
5 th Walking leg	09	03	04	05	21

Conclusion

In this paper, a brachyuran crab *Cryptopodia angulata* is reported for the first time from the Majali beach of Karwar coastal waters and it has not been previously recorded from this part of the coast. Thus, it extends its distributional range along the Indian coasts from Gujarat to Majali on the west coast and Chennai on the east coast.

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