

Short Communication

First occurrence report of the brachyuran crab *Eucrate indica* Castro & Ng, 2010 (Decapoda: Euryplacidae) from Odisha coast

S Maharana^a & S Patro^{*a}

Department of Marine Sciences, Berhampur University, Bhanja Bihar, Odisha – 760 007, India

*[E-mail: shesdevpatro@yahoo.com]

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The present article reports the first occurrence record of the brachyuran crab *Eucrate indica* Castro & Ng, 2010 of the family Euryplacidae from the Odisha coast. Four individuals of the species were collected from Dhabaleswar beach during August 2023. Previously, the species was recorded only in Tamil Nadu, Gujarat and Andhra Pradesh along the Indian coast. Earlier, the genus *Eucrate* De Haan, 1835 was represented by a single species along the Odisha coast. With the present report, the species count in Odisha under this genus has risen to two, enhancing the state's marine faunal diversity.

[Keywords: Brachyuran crab, Euryplacidae, Marine, Odisha]

Introduction

The infraorder Brachyura Latreille, 1802 is the most diverse group of the order Decapoda Latreille, 1802, currently containing 93 families and about 7,000 species¹. Their distribution ranges from a depth of 6000 meters in the oceanic environment to a height of 4000 meters above the sea level^{2,3}.

The family Euryplacidae Stimpson, 1871 was previously included as a subfamily under the family Goneplacidae MacLeay, 1838. Later, it was described as a separate family^{4,5}. Presently, the family includes 15 genera and 32 species distributed throughout the world⁶. *Eucrate* De Haan, 1835 is the most speciose genus of the family Euryplacidae, with eight species restricted to the Indo-west Pacific region⁵. The occurrence of the genus has been reported from India, Madagascar, Seychelles, Red Sea, Arabian Sea, Persian Gulf, Gulf of Thailand, Korea, Japan, Indonesia, Australia and Mediterranean⁷⁻¹². Out of the eight species, only three, *Eucrate sexdentata* Haswell, 1881; *Eucrate crenata* (De Haan, 1835); and *Eucrate indica* Castro and Ng, 2010 have been reported from the Indian waters^{1,5,13}. The present article reports the occurrence of *Eucrate indica* for the first time from the Odisha coast.

Materials and Methods

Four specimens (three male and one female) were collected during August 2023 from Dhabaleswar fish landing centre (19°13'20.3" N; 84°52'07.7" E), Odisha. As per the information received from the fishermen, the fishing in the region is usually done nearly 15 km from the Dhabaleswar beach towards the east, from a depth of about 30 – 40 m. The specimens were left out on the beach as trash. Post collection, the specimens were cleaned with water to remove the sediments, photographed, and measurements were taken using a digital vernier calliper to the nearest 0.01 mm. The specimens were then preserved in 90 % ethanol for further identification. Specimens were identified up to a species level using the standard identification keys^{5,14-17}. The identified specimens are deposited in the Estuarine Biology Regional Centre, Zoological Survey of India, Gopalpur-on-Sea.

Results

Systematic position

Phylum: Arthropoda von Siebold, 1848
Sub-phylum: Crustacea Brünnich, 1772
Class: Malacostraca Latreille, 1802
Order: Decapoda Latreille, 1802
Infraorder: Brachyura Latreille, 1802
Family: Euryplacidae Stimpson, 1871
Genus: *Eucrate* De Haan, 1835
Eucrate indica Castro & Ng, 2010

Material examined

ZSI/EBRC/Cr-16183, 01 male, carapace length: 18.81 mm, carapace width: 22.71 mm. ZSI/EBRC/Cr-16184, 01 female, carapace length: 16.32 mm, carapace width: 19.96 mm, Dhabaleswar beach, east coast of India. Collected by Mr. Sagar Maharana.

Other material collected include: 01 male, carapace length: 20.47 mm, carapace width: 24.70 mm; 01 male, carapace length: 13.17 mm, carapace width: 16.29 mm.

Diagnosis

Carapace hexagonal, wider than long. Front with a small notch dividing it into two lobes. Anterolateral border armed with three teeth, excluding the external orbital tooth (2nd sharp and largest, and third

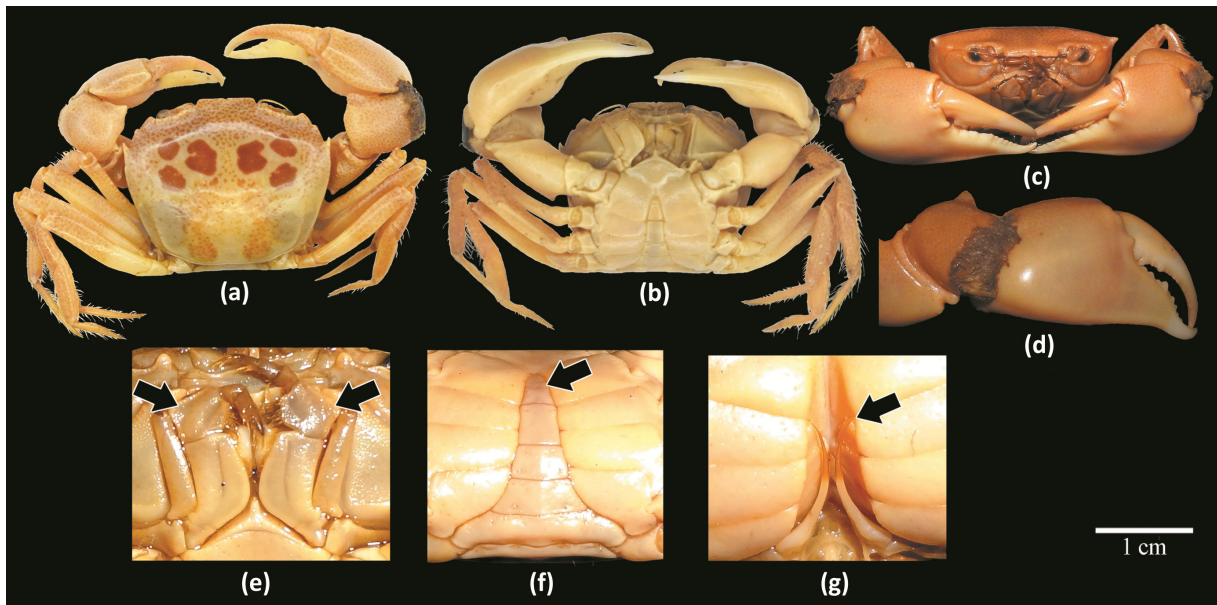


Fig. 1 — Male *Eucrante indica* Castro & Ng, 2010: a) dorsal view, b) ventral view, c) front view, d) right cheliped, e) 3rd maxillipeds, f) T-shaped male abdomen, and g) gonopod (G1). Scale size applicable only for a & b

rudimentary). Posterolateral border larger than anterolateral border. Carapace width to length ratio (CW/CL) is about 1.2. Entire body covered with red-brown colour spots. Anterior middle of the carapace with 6 large irregular red-brown spots (Fig. 1a). Merus of 3rd maxillipeds quadrilateral in shape, and ischium rectangular with a dip line at the middle (Fig. 1e). Chelipeds inequal with larger right chela. Propodus swollen in both chelipeds (Fig. 1a, c, d). Inner margin of carpus bear large blunt tooth, and the outer margin covered with thick hair mass (Fig. 1d). Long simple setae cover the ambulatory legs, except the merus (Fig. 1b). Male abdomen narrow, slender and T-shaped. Telson triangular (Fig. 1f). Female abdomen wide, triangular and V-shaped. Male gonopod (G1) long, slender, and curved outwards with a pointed tip (Fig. 1g). Rest of the characters match with the description by Castro and Ng⁵. Morphometric measurements are provided in Table 1.

Remarks

The above-mentioned characteristics make the species distinguishable from the other two species reported from the Indian peninsula. Its wider hexagonal carapace, sharp and longer 2nd anterolateral tooth and its unique colour pattern make it different from *E. crenata* and *E. sexdentata*.

Discussion and Conclusion

The global and Indian distribution of *Eucrante indica* is provided in Figure 2. Globally, the species

Table 1 — Morphometric measurements of the collected four individuals (Male = 03 specimens and Female = 01 specimen) of *Eucrante indica* Castro & Ng, 2010

Morphometric data	Male (Range in mm)	Female (in mm)
Carapace length (CL)	13.17–20.47	16.32
Carapace width (CW)	16.29–24.70	19.96
CW/CL	1.21–1.24	1.22
Orbit width	3.46–4.23	3.60
Frontal width	4.77–6.98	5.94
Propodus length	13.11–25.30	15.77
Propodus Width	7.84–13.32	7.91
Dactylus length	7.54–15.42	9.32
Merus length	7.75–12.33	9.72

was recorded from the Persian Gulf, India, Andaman Sea coast of Thailand and Peninsular Malaysia⁵. In India, the genus *Eucrante* is represented by three species, viz. *E. sexdentata* reported from Tamil Nadu¹, Andaman and Nicobar islands¹; *E. crenata* from Gujarat¹, Maharashtra¹, Tamil Nadu¹, Andaman and Nicobar Islands¹ and Odisha¹³; and *E. indica* from Tamil Nadu⁵, Gujarat¹ and Andhra Pradesh¹⁸. Hitherto, the genus was represented by only one species, *E. crenata*, along the Odisha coast¹³. *Eucrante indica* majorly inhabit shallow subtidal sandy substrate. As the genus is represented by very few species, it is essential to understand their ecology and ecosystem role. The present report of *E. indica* from the Odisha coast provides baseline data for future studies on the population structure of brachyuran crabs and also holds a significant contribution to the

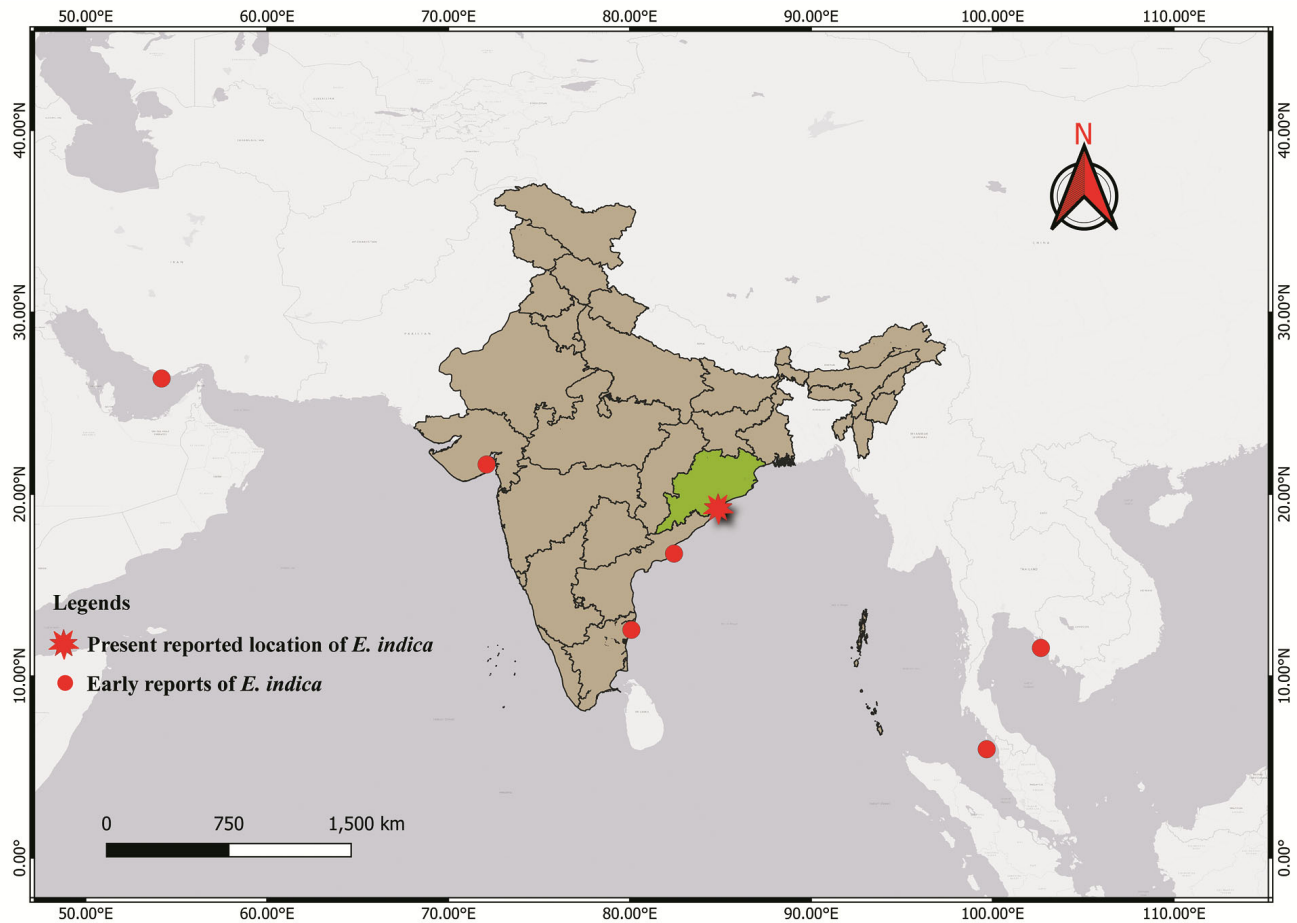


Fig. 2 — Present and early global and Indian distribution of *Eucrate Indica* Castro & Ng, 2010

documentation of biodiversity along the coastline of Odisha.

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Conflict of Interest

The authors confirm no conflict of interest.

Ethical Statement

As the corresponding author, on behalf of my co-author, I confirm that this manuscript adheres to the highest ethical standards in research and publication as required by the *Indian Journal of Geo-Marine Sciences (IJMS)*.

Author Contributions

SM: Field sampling and manuscript preparation.
SP: Study design and manuscript preparation.

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