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Short Communication

On the occurrence of an Euryplacid crab *Eucrate crenata* (De Haan, 1835), a first record from Odisha, India

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The occurrence of a brachyuran crab *Eucrate crenata* (De Haan, 1835) is reported from the coastal waters of Odisha, India. With uncertainties in the identity of the species recorded from the west coast, off Madras and Andaman and Nicobar Islands, the present communication is an endeavor in documenting and describing the first time occurrence of the species from Mahanadi estuary, Odisha indicative of its range extension from Korea and the Gulf of Thailand towards the east coast of India.

[Keywords: Brachyuran crabs, Biodiversity, Odisha, Range extension]

Introduction

Other than a single report on mud crab *Scylla serrata*¹ and compilation of brachyuran crabs from the Mahanadi estuary² there is no further information on this majorly commercial and ecological significant group of macrobenthic organisms. A benthic survey (11.02.17) along the estuarine stretches of the Mahanadi (20°17'40.81" N - 86°41'38.55" E) in Paradip, revealed a male specimen of *Eucrate crenata* (De Haan, 1835), an euryplacid crab from a dredge haul. The family Euryplacidae Stimpson, 1871 of infraorder Brachyura revised³ now comprises 16 genera and 52 species (WoRMS, 2018)⁴. The members are characterized by a transversely rectangular, quadrate or trapezoid, smooth carapace and relatively large chelipeds associated with usually narrow fingers⁵. Species distributional records from the Indian waters include those from Andaman and Nicobar Islands, off Madras⁶ and off the west coast⁷. However, citing from⁸, specimens reported as "*Eucrate crenata* var. *dentata*"⁵ and "*Eucrate crenata*

dentata"⁶ could be *E. alcocki* as proposed⁹ though *Heteroplax dentata* sensu stricto agrees well with Chhappargar⁷. In this context a description of the specimen obtained is attempted for future reference.

Materials and Methods

The specimen examined was a single male obtained from the dredge hauls (St. 5; 17.02.17), Mahanadi estuary (20°17'40.81" N - 86°41'38.55" E) on the east coast of India, Odisha (Fig. 1). In the laboratory, the specimen was carefully identified using appropriate taxonomic literature⁵, measured to the nearest 0.1 mm using Vernier callipers, and preserved in 10 % neutralized formaldehyde and deposited in the Environmental Science Laboratory museum, Department of Zoology, Ravenshaw University, Cuttack, Odisha, India (Reg. No. Ravenshaw Zoology Environmental Crab Brachyura Mahanadi 1 abbreviated as RZEV CBM-1).

Results

Identification

Systematics

Family: Euryplacidae Stimpson, 1871

Genus: *Eucrate* De Haan, 1835

Eucrate crenata (De Haan, 1835)

Synonym

Cancer (Eucrate) crenata De Haan, 1835

Pseudorhombila sulcatifrons Stimpson, 1858

(Figures 2A–E; Table 1)

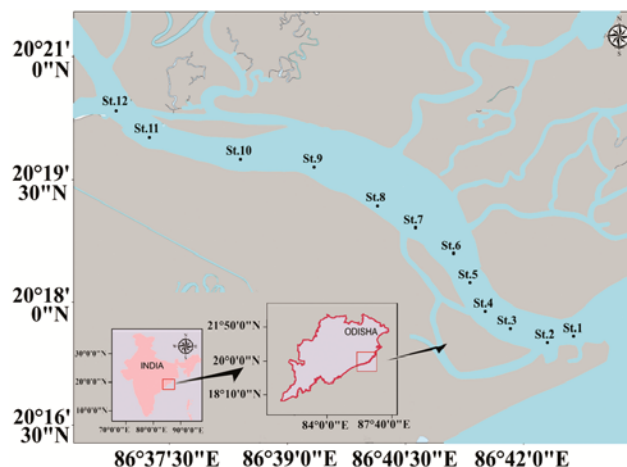


Fig. 1 — Map showing the Mahanadi estuary east coast of India

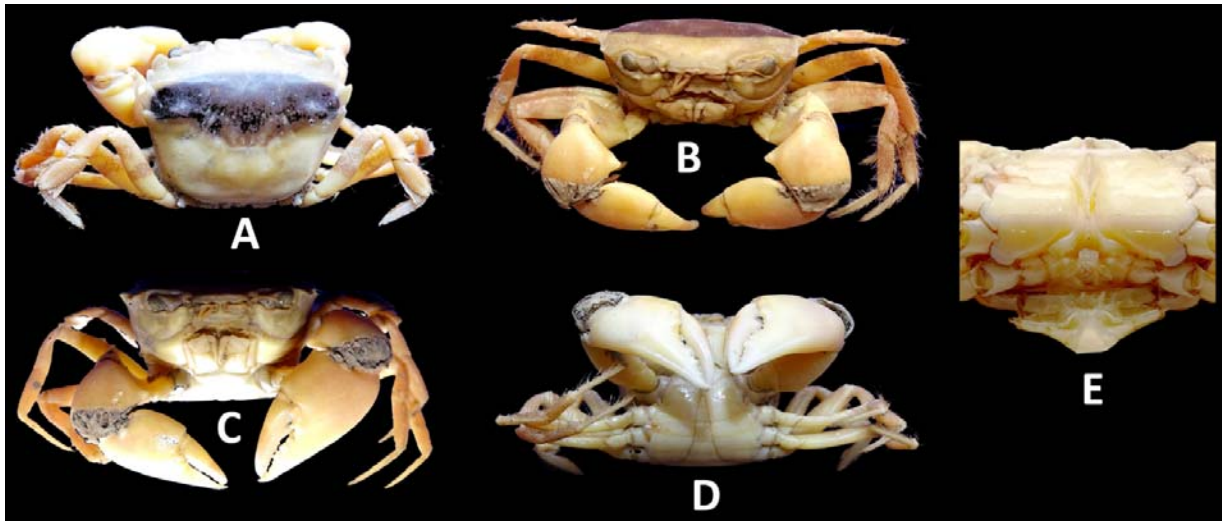


Fig. 2 — *Eucrate crenata* (De Haan, 1835) A: Dorsal view, B: Frontal view, C: Cheliped of male specimen, D: Ventral view, and E: Pleopod 1 of male

Table 1 — The morphometric measurements of *Eucrate crenata* (De Haan, 1835)

Characters	Length (mm)
Carapace length	18
Carapace width	21
Frontal length	07
Cheliped	
Merus	09
Carpus	10
Propodus	10
Dactylus	11

Diagnosis

Carapace cream coloured, purple flecks in the middle region with distinctly pale margins antero-laterally. Quadrilateral in outline, somewhat wider than long. Eyes and antennae discernible dorsally. Length/width ratio 0.86. Carapace to some extent outwardly distended, bearing minute pits. Four unequal sized teeth present antero-laterally on either side, of which the first appears rounded, second slightly curved, third very conspicuous, stout, pointed at an angle and the largest whereas the last tooth much smaller and almost indistinct. Narrow opening observed at the ventral margin of orbit towards inner angle, characterized by a protuberance blocking the antenna. Incurvated hollow furrow behind orbits noticed extending across to second anterolateral tooth, sunken antennal notches, transversely towards the post-frontal region. Median notch divides front into two distinct lobes marked with transverse furrowed margins. A single V like sinus with a broad base on a conspicuous median frontal longitudinal groove present in the gastric

region. Chelipeds of the right side larger than the left, chela robust, length much less than that of carapace. Inner margins of dactylus and pollex serrated, tips sharp not apposed distally. Inner side of palm spooned out, smoothed with elevated longitudinal ridge adjacent ventral portion of external surface covering a part of chela. Carpus characterized with a tuft of hairs extending onto base of chela. Inner carpal region with distinct tooth. Third maxilliped rectangular nearly covering the buccal cavern; inner margin of ischium, merus and palps with fine hairs. Walking legs hinged ventrally to the carapace except for 4th pair. Lengthwise $WL3 > WL2 > WL1 > WL4$; legs characterized by setae on both margins. Abdomen T-shaped consisting of 7 segments narrowing in a posterior-anterior direction. Telson triangular. Pleopod curved with tip acuminate.

Distribution

Indo-west Pacific and Mediterranean.

Ecology

The specimen was recorded from a depth of 10 m with a salinity of 19.21 psu; dissolved oxygen 3.2 mg/l; water temperature 29.3 °C; pH 8.1; sediment organic matter 2.68 % with silty sand texture (9.74 % Sand, silt 90.12 % and clay 0.14 %).

Conclusion

Eucrate crenata (De Haan, 1835) is reported from the waters of Mahanadi estuary, Odisha, India for the first time indicative of a range extension of the species from Korea and Gulf of Thailand towards the east coast of India.

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Conflict of Interest

Authors declare that they have no competing or conflict of interest.

Author Contributions

AN, BM, SSR and BD carried out the field study. MKD identified the specimen. DR, MKD, AVR and LP drafted the manuscript and AN photographed the specimen.

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