

Report on the occurrence of the xanthid crab, *Demania armadillus* (Herbst, 1790) in Kalpakkam coastal waters, southeast India

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This report is a record of the occurrence of the xanthid crab *Demania armadillus* (Herbst, 1790) in Kalpakkam coastal waters, southeast India and the morphological features of two female specimens.

[**Keywords:** rare occurrence, xanthid crab, *Demania armadillus*, Kalpakkam]

Introduction

Of the 17 valid species listed by Ng *et al.*¹ under the genus *Demania* Laurie, 1906 of the family Xanthidae, 5 species have been reported from India: *Demania scaberrima* (Walker, 1887) from Odisha², Manoli Island in Gulf of Mannar³, mouth of River Mahanadi, Odisha⁴ and Chennai⁵; *D. baccalipes* (Alcock, 1898) from Mumbai⁶, Parangipettai⁷, Gulf of Mannar⁸ and Chennai^{5,9}; *D. alcocki* Deb, 1987 from mouth of River Mahanadi, Odisha¹⁰; *D. armadillus* from Tranquebar¹¹, mouth of River Mahanadi, Odisha¹⁰, Sand head¹⁰ and Chennai⁹; and *D. splendida* Laurie, 1906 from Gulf of Mannar⁸, Andhra Pradesh¹² and Chennai⁵. According to Ng¹³, two new species, namely, *D. bangladeshensis* described by Ng *et al.*¹⁴ and *D. indiana* described by Deb¹⁰ are junior synonyms of *D. armadillus*. Recently Pillai and Thirumilu⁹ reported about *D. baccalipes* (Alcock, 1898) and *D. indiana* Deb, 1986 from the Chennai coast. Although there have been several investigations of Indian brachyuran crabs, the occurrence and reporting of *Demania* spp. appear to be rare. This report is a record of *D. armadillus* at Kalpakkam coastal waters, 80 km south of Chennai.

Materials and Methods

Specimens were collected from Kalpakkam (12°33'N and 80°11'E), located along the southeast coast of India (Fig. 1). A nuclear power plant (Madras Atomic Power Station, MAPS) and a desalination plant are located near the coast. Edaiyur and Sadras

backwater systems are two important features of this coast. These backwaters are connected to the Buckingham Canal, which runs parallel to the Marakkanam coast¹⁵. Two large female crabs (Figs. 2 and 3) were collected from Kalpakkam coastal waters on 12 September 2013. Crabs were measured to the nearest 0.1 mm using a Vernier caliper. The collected material were identified and preserved in 10% formalin and its taxonomy was confirmed to the species level using various keys^{9,10,16}. The specimens were deposited in the Department of Zoology, Sir Theagaraya College, Chennai, Tamil Nadu, India.

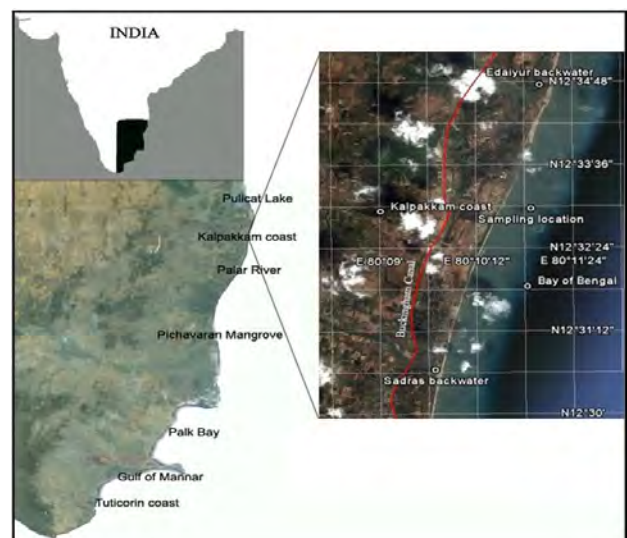


Fig. 1 — Kalpakkam coast

Fig. 2 — Dorsal view of *Demania armadillus*Fig. 3 — Ventral view of *Demania armadillus*

Systematics

Order	Decapoda
Sub-order	Pleocymata
Infra-order	Brachyura
Family	Xanthidae
Genus	<i>Demania</i>
Species	<i>Demania armadillus</i> (Herbst, 1790)
Synonyms	<i>Demania bangladeshensis</i> Ng, Huda & Banu, 1987 <i>Demania indiana</i> Deb, 1987

Results and Discussion

Carapace pentagonal in shape; very convex fore and aft and moderately so from side to side; dorsal surface of carapace with numerous uniform-size granules; regional areoles covered with squamiform tubercles, most apparent and pointed along the anterolateral sides; five anterolateral blunt teeth,

Table 1 — Morphometry of *Demania armadillus*.

Morphometry	Female 1 (mm)	Female 2 (mm)
Carapace width	56	52
Carapace length	45	44
Frontal width	18	17
Posterior width of carapace	19	19
Abdominal width	25	21
Sternum width	20	18
Merus length	19	17
Propodus length	18	16
Propodus width	10	11
Dactyl length	17	18

bordered by round tubercles; first two teeth with straight border and the rest with triangular projection; postero-lateral border granulate; posterior margin of carapace straight; front angularly produced medially and bilobed; chelipeds equal; upper, outer and lower surfaces of arm, wrist and palm covered by smooth, flat-topped, wart-like tubercles; round tubercles on outer surface of palm arranged in longitudinal rows; fingers grooved, tips pointed, cutting edges dentate; leg joints, except dactylus, sharply crusted; upper distal corner of merii with a prominent, triangular and sharp spine; dactylus of all legs long and covered with thick brownish hairs on upper and lower borders.

The colour of *Demania armadillus* was orange red and the middle portion of carapace between the anterior and the posterior border dark red.

Distribution Indian waters are Tranquebar¹¹, mouth of River Mahanadi, Odisha^{4,10}, Balasore Bay, Odisha coast¹⁷, Chennai coast 30-60 m⁹; Chennai and Vishakapatnam⁴; now Kalpakkam, south of Chennai.

Distribution in outside Indian waters are at Bangladesh¹⁴.

A comparison of the morphological characteristics of *Demania armadillus* with those of *D. toxica* reveals many similarities; a prominent blunt spine on the upper distal corners of the merii of the walking legs of *D. armadillus* distinguishes it from *D. toxica*. However, the features of the specimens collected in this study agree in all aspects with those described by Herbst¹¹ in *D. armadillus*, especially the wrist of cheliped and the dorsal margin of the merus of the ambulatory legs which is crested.

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