

Range extension of the land crab *Cardisoma carnifex* (Herbst, 1796) to further north on the Pakistan coast (Arabian Sea)

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Abstract

Land crab (*Cardisoma carnifex*) was reported for the first time from the Korangi Creek. A description of the species with note on its distribution is given in the paper. The species was previously known from a number of places Indian and Pacific Oceans. Present paper extends the distribution of this species into northern Arabian Sea, along the coast of Pakistan.

Keywords: *Cardisoma carnifex*, land crab, Pakistan, Arabian Sea

Introduction

The land crabs (*Cardisoma*) inhabit, during non-breeding season, in such areas as bush and grass near the seashore. Sometimes it lives a few kilometers inland from the sea. In the non-breeding season it is primarily nocturnal. The land crabs are considered to be pests of rice fields. With the discontinuation of cultivation of red variety of rice as a result of desertification in the deltaic flood plains (Ahmed, 1994) the species of land crabs may now considered threatened. *Cardisoma* are consumed in the Seychelles (Haig, 1984) and in West Africa (Bruce-Chwatt and Fitz-John, 1951).

The Indo-west-Pacific land crabs of the family Gecarcinucidae MacLeay 1838 are currently represented by four genera (*Cardisoma*, *Discoplax*, *Gecarcoidea* and *Epigrapsus*) (Ng and Guinot, 2001). The Pakistani material belongs to the genus *Cardisoma* Latreille, 1828, and out of its four species worldwide, the Pakistani species are identified as *Cardisoma carnifex* (Herbst, 1796). The present record is the first report of the species from Pakistan.

Taxonomic Enumeration

Family Gecarcinidae
Subfamily Gecarcinucinae
Cardisoma carnifex (Herbst, 1796)
(Fig. 1-2)

Synonymy

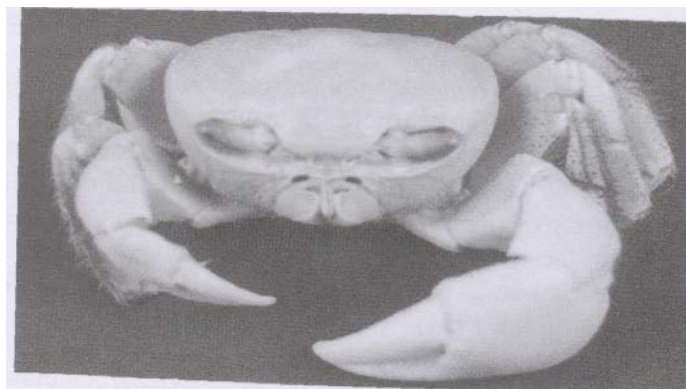
Cardisoma obesum Dws, 1851: 252.

Cancer urvillei H. Milne Edwards 1853- 204

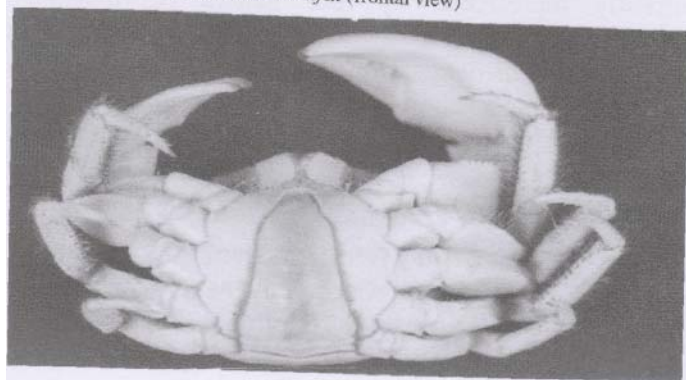
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Cardisoma carnifex (dorsal view)



Cardisoma carnifex (frontal view)



Cardisoma carnifex (ventral view)

Fig. 1. *Cardisoma carnifex* Male, 57 by 52 mm; A. Dorsal view; B. Front; C. Ventral view.

Material: Korangi Creek collected 7-6-1975, Zoological Survey of Pakistan Cat. No.C-417, 2 males, CL 42-50mm; CB 51-56mm; 4 females (all spent), CL 42-52mm; CB 50-59mm.

Description: The specimens closely resemble the descriptions given by Alcock (1900), Barnard (1950) and photographs by Ng and Guinot (2001). The species can be easily diagnosed in having the carapace strongly convex (Pl. 1) with the regions indistinct, the lateral margin of the carapace strongly and abruptly bulging behind the epibranchial tooth, which is present immediately behind outer orbital angles, the meri of legs having stiff setae only at the distal end.

The first gonopod (Fig. 1A) is almost straight, very stout, densely lined with long stiff setae, particularly in the subdistal region, so that the pectinated tip is not covered by setae, the subdistal part of sternal surface has a well developed subovate fleshy setose flap which is appressed tightly to the main structure; the inner surface has a deep median longitudinal depression; the pectinated tip abruptly bends, the extreme tip is nose-like, tapering to a spout-like structure. The second gonopod (Fig. 1B) has about half the length of the first gonopod, abruptly tapering apically, the apex is pointed, the basal part is setose and the distal part is pectinate.

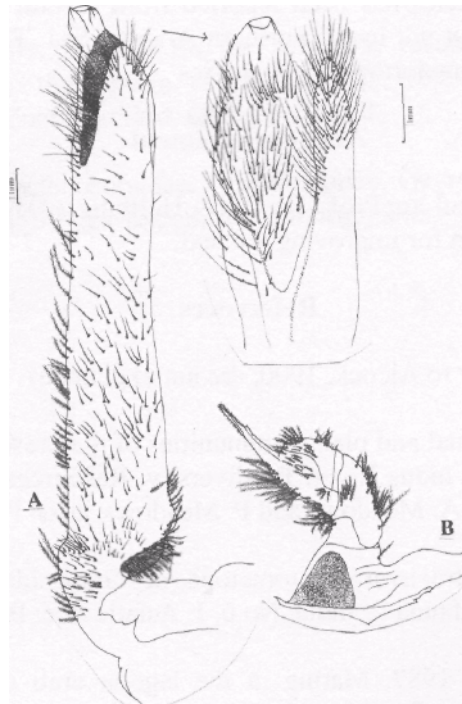


Fig. 2. *Cardisoma carnifex* Male, 57 by 52mm. A. Left first gonopod, dorsal view.
A.All setae denuded. B. Left second gonopod, dorsal view.

Habits and Habitat: This species, like other gecarcinids, is primarily nocturnal, omnivorous and gregarious, always found in the vicinity of fresh saline water or wet mud and sand like on tidal mudflats. In soft soils it digs well-defined burrows. The species occupies the landward fringe of the mangroves and are well adapted to terrestrial habitat (Jones, 1984). Only ovigerous females of *Cardisoma* migrate to the seashore to release zoeae within a few nights of highest high water during the breeding season (Okamoto, 1975). Mating occurs during daytime (Ameyaw-Akumfi, 1987).

Colour in life: According to Kemp (1915) the colour in life is striking. The dorsal surface of the carapace is purple with a close and fine reticulation of yellowish-green, which gradually disappears towards the sides and is densest in the central part of the cardiac region. The hepatic regions and the sides of the carapace are lilac. The ventral sternite is cream-coloured, the epistome tinged with purple. The chelipeds are cream-coloured, deepening to yellow on the palm and fixed finger and suffused on the dorsal surface of the merus and carpus with purple. The extreme tips of the fingers are brown. The basal joints of the walking legs are yellowish; the merus, carpus and propodus are deeply tinged with purple and bear dark brown hairs; the dactylus is orange yellow.

Distribution: The species has been reported from several places in the Indian and Pacific Oceans, but not in the northern Arabian Sea. This is the first report from coastal areas of the northern Arabian Sea

Acknowledgement

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(Old references, earlier to Alcock, 1900, are not explained)

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