

**FIRST RECORD OF THE BENGAL FIDDLER CRAB *UCA (AUSTRUCA)*  
*BENGALI* CRANE, 1975 (BRAYCHURA: OCYPODIDAE) FROM  
KUAKATA NATIONAL PARK, BANGLADESH**

MUNTASIR AKASH\* AND GAWSIA WAHIDUNNESSA CHOWDHURY

*Department of Zoology, University of Dhaka, Dhaka-1000, Bangladesh*

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Fiddler crabs are small to medium-size, burrowing brachyuran decapods limited to inter-tidal zones and mangrove ecosystems of tropical and sub-tropical regions<sup>(1-2)</sup>. Though once considered under a single catch-all genus (*Uca* Leach 1814), since 1975, systematics of these cryptic crabs have undergone several revisions with frequent inclusion and exclusion, elevation and disintegration of taxa<sup>(3-7)</sup>. At present with three valid sub-genera, 13 genera and 104 species, fiddler crabs hold the highest diversity under the thoracotrematan family Ocypodidae; nonetheless, new species are being documented globally<sup>(2)</sup>.

Having cosmopolitan distribution, the Indo-West Pacific region (IWP) is represented by about 35 species constituted of both narrow-fronted (NF) and broad-fronted (BF) fiddler crabs<sup>(2,6)</sup>. Pertinent data in the Indian Sub-continent is scarcer, despite study attempt had been done on ecology of the group, last documented list for this region being dated back to the nineties, so far with mentioning of nine species<sup>(8-9)</sup>. Of which, Bangladesh possesses six species which are *U. annulipes* H. Milne-Edwards, 1837; *U. dussumieri* H. Milne-Edwards, 1852, *U. rosea* Tweedie, 1937; *U. triangularis* A. Milne-Edwards, 1873; *U. urvillei* H. Milne-Edwards, 1873 and *U. vocans* Linnaeus 1758. All of these six species have been assessed as Data Deficient (DD)<sup>(10)</sup>. There is no annotation of the Bengal fiddler crab *U. bengali* Crane, 1975 either from the Sundarbans or from the mangrove patches of south-central regions, even not when it was considered a sub-species of *U. triangularis*<sup>(10-11)</sup>.

In above circumstances, a uniquely-colored fiddler crab was encountered from a mangrove creek and offshore patch (21°51'15.48"N 90° 5'19.54"E) of a 16.13 sq km protected area, namely Kuakata National Park (KuNP) located on south-central Bangladesh under administrative district of Patuakhali of Barishal Division (Fig. 1). Specimens were first observed on February, 2013 and later again on November, 2015, thereafter, was analyzed and identified as the Bengal fiddler crab *Uca (Austruca) bengali* Crane 1975. Identification was made using available taxonomic keys for the Asian

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\*Author for correspondence: <akashmuntasir10@gmail.com>.

fiddler crabs (Crane 1975, Krisnan 1992, Shih *et al.* 2016) whereas Ahmed *et al.* (2008), IUCN Bangladesh (2015) were also considered for those reported from Bangladesh<sup>(1,7-8,10-11)</sup>. Professor Peter Ng Kee Lin of National University of Singapore, Singapore and Professor Hsi-Te Shih of National Chung Hsing University, Taiwan were consulted for expert confirmation on the identification.

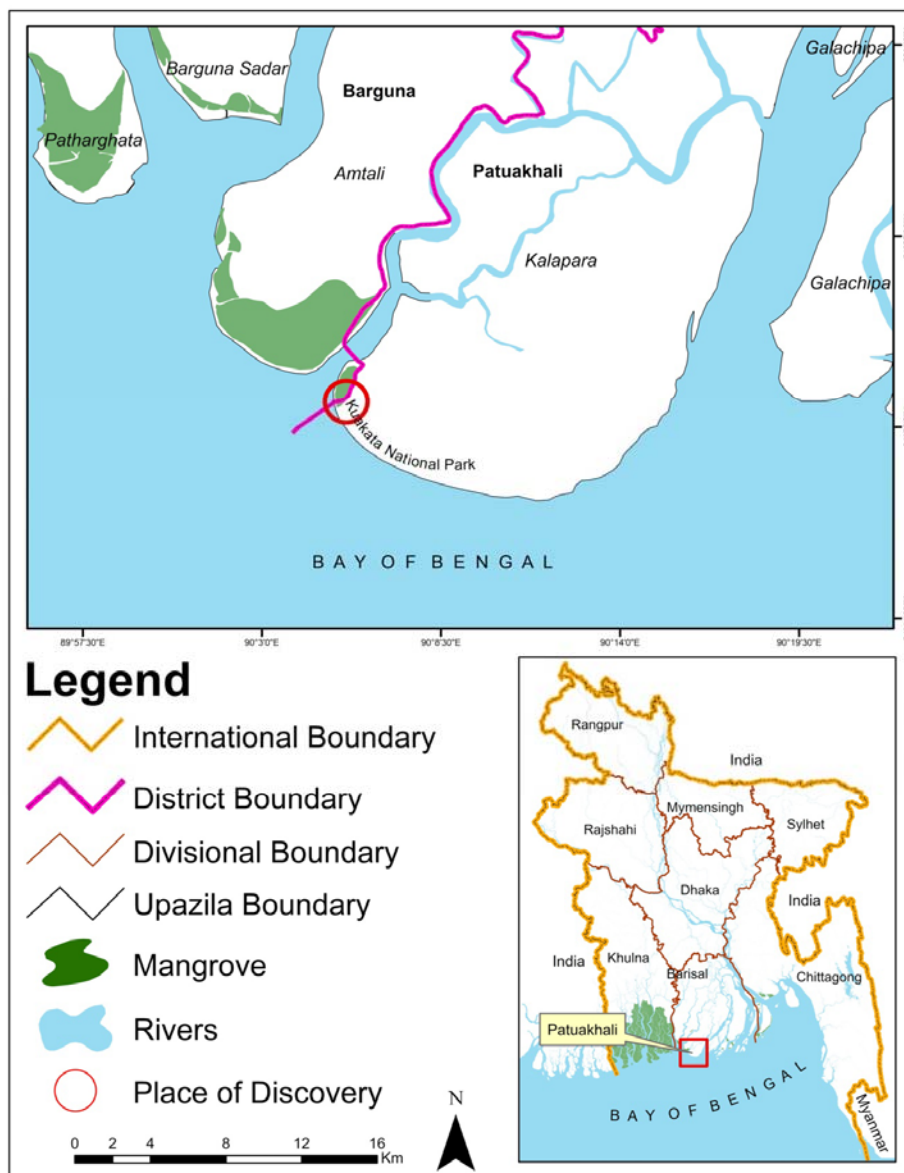


Fig. 1. Map depicting location where *Uca (Austruca) bengali* was collected.

**Classification**

Class Malacostraca Latreille, 1802

Order Decapoda Latreille, 1802

Family Ocypodidae Rafinesque, 1815

Genus *Uca* (*Austruca*) Bott, 1973

Species *Uca* (*Austruca*) *bengali* Crane, 1975

Common name: Bengal Fiddler Crab

Date of observation: 06 November, 2015

Material examined: Three individuals (Two males one female)

Location: Kuakata National Park, Bangladesh, 21°51'15.48"N and 90° 5'19.54"E.

Hexagonal carapace is distinctly broad at front without any sort of constriction. Eystalks simple; lacking ornamentation and cornification. Lateral tooth of carapace distinct. Outer base of pollex of major cheliped is without depression. *U. bengali*, as presence of prominent tuberculation on inner edge of dactylus of major cheliped in comparison to that of *U. triangularis*. Orbit greatly oblique with a smooth floor<sup>(1-2)</sup>. Pale phase is present in males as observed in dull yellow color with barred carapace and a relatively plain, speckle-less major cheliped (Fig. 2).



Fig. 2. *Uca* (*Austruca*) *bengali* in its natural habitat. (a) and (b) of pale phased males with plain manus, simple eye-stalk, tuberculated dactyli; with sinistral and dextral major cheliped, respectively and (c) female in full coloration.

The mangroves of the KuNP where the specimens were observed hold a sympatric population of several ghost crab, sub-family Ocypodinae and fiddler crab, sub-family Ucinae species including the Bengal fiddler crab. Crisscrossed by three tidal creeks and numerous creeklets, the KuNP is a long-term resultant of plantation effort along the coastal region<sup>(12)</sup>. *U. bengali*, as well as the whole ocypodid diversity, seemed to be congregated along the intertidal limits of the mangrove waterways under protection against direct exposure to the sun.

Interestingly, the Bengal fiddler crab is considered as a species of the Eastern Indian coast, yet, there is no documentation of the species from its highly potential habitats - the Sundarbans and the eastward chunks of mangroves<sup>(8,10-11)</sup>. In addition, its closest congener *U. triangularis*, despite possessing an east-oriented Australasian distribution, had been enlisted in Bangladesh<sup>(10-11)</sup>. In comparison to relevant researches in East Asia and elsewhere, distribution map of the fiddler crabs largely seems outdated and 'empty'<sup>(13-14)</sup>. Fiddler crabs are bio-indicators to the coast and mangrove<sup>(9,11)</sup>. This new record and the mentioning of *U. triangularis* in recent literature sum up the potential of crustacean and benthos diversity as well as ecosystem health of the region. This record of the Bengal fiddler crab increases the number of crustacean species recorded in Bangladesh to 142<sup>(10)</sup>. Present distribution of this species suggests that it may have a greater distribution and presence in this country than currently known. Additional surveys and documentation of the Bengal fiddler crab, and crustaceans in general, in Bangladesh are necessary to understand the distribution and status of this species. The mouth of the Bay of Bengal and subsequent northern part of the Indian Ocean, therefore, validate exigencies for in-depth revising of fiddler crabs taxonomy as well as updating of inventory for crustacean diversity.

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