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NEW RECORD OF OCCURRENCE OF INDIAN YELLOW BOXFISH : *OSTRACION CUBICUS* (LINNAEUS, 1758) FROM DIGHA, NORTHERN EAST COAST OF INDIA

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INTRODUCTION

Digha, apart from a famous tourist destination being beautiful beaches, also known for one of the important marine fish landing station in West Bengal as well as along east coast of India. First ever effort of listing of marine and estuarine fishes of Digha was made by Manna & Goswami (1985), who listed 168 species. Later Goswami (1992) elaborated faunal list from this coast with 239 species of fishes including freshwater species. Talwar *et al.* (1994) also described the marine and estuarine fishes of West Bengal and reported around 170 species. The last updated report of marine fauna of Digha was published by Chatterjee *et al.* (2000) who reported 212 species from 145 genera and 88 families. All these literatures did not have report about Indian Yellow Boxfish *Ostracion cubicus* (Linneaus, 1758) in this area.

Recently, during routine collection of live fishes for display in Marine Aquarium at this Centre, the authors encountered *Ostracion cubicus* (Linnaeus, 1758), the Indian Yellow Boxfish from Digha which was caught by drag net on 11.03.2009. The close observation of distinguishing morphometric features was leaded us to this identification. It was single juvenile live example, not common to the fishermen in the area, was known locally as *'Rangin Beng'*. The fish was displayed in the aquarium gallery after its proper identification which was also proven major attraction among the visitors.

SYSTEMATICS

Ostracion cubicus (Linnaeus, 1758), Linn. 1. c. p. 410; Bloch, t. 137; Gmel. Linn. p. 1443; Lacep. i. p. 461, t. xxii, f. 1; Bonn, p. 22; Rupp. Atl. Fische, p. 3; Cuv, Regn. Anim.; Bleeker, Balist. p. 35, t. vii, f. 14; Lifebv. Voy. Poiss. P. 238, pi. viii; Swainson, Fishes, ii, p. 323; Peters, Fische Moss. p. 275; Hollard, Ann. Sc. Nat. 1857, vii, p. 162; Gunther, Catal. Viii, p. 260; Klunz. Fische Roth. Meer. 1871, p. 634. *Abu senduk,* Forsk. Desc. Anim. p. 17, No. 48.

COMMON NAMES

Ostracion cubicus (Linnaeus, 1758) is commonly known as Yellow Boxfish, Cube Trunk fish, Trunk Fish and Cow Fish.

CLASSIFICATION

Class ACTINOPTERIGII

Order TETRAODONTIFORMES (Puffers and filefishes)

Family OSTRACIIDAE (Box fishes)

SYNONYMS

Ostracion tetragonous, Linn. Mus. Ad. Fred. p. 59; Bleeker, Atl. Ich. V, p. 39, tcci, f.2, and t.ccii, f. 2; Day, Fish. Malabar, p. 254; Guthur, Fish, Zanc. p. 129.

Ostracion tuberculatus, Linn. Syst. Nat. I, p. 409; Gmel. Linn. p. 1443.

Ostracion deux-tubercles, Lacep. i. p. 495.

Ostracion bituberculatus, Bl. Schneider, p. 501.

Ostracion argus, Ruppell, Atl. Fische, p. 4, f. 1 (variety); Klunz, 1. C. p. 636.

Ostracion immaculatus, Temm. And Schleg. Fauna Japon. Poiss. p. 296; Japan, p. 55; Brevoort, Fish. Japan, p. 284.

Ostracion cubicus, Smith, in Smith and Heemstra, Smith's Sea Fishes, p. 982, pi. 141.

Ostracion tesserula, Bleeker, Mol. p. 305 (not cantor).

MATERIAL EXAMINED

1 ex., location: Digha Hospital Ghat; Date : 11.03.2009. Coll. : Dr. Prasanna Yennawar & P.C. Tudu, MARC, ZSI, Digha. The fish was displayed in aquarium tank in MARC, ZSI, Digha.

DISTINGUISHING FEATURES

The major key of the species for identification were the body enclosed in bony box-shaped carapace where pelvic skeleton was absent and fins consisted of soft rays where spines were absent (Fig. 1). The present sample of specimen was juvenile due to its bright yellow colouration with black spots and small size (-10 cm). The fin details of the species were D.9, P.9, A.9, C, 10. Carapace 4-ridged and spine less; ridges blunt, but the ventral more prominent than dorsal ones. Body above as wide as high; back convex, but without any distinctly raised ridge along the median line. The carapace formed a broad bridge across the back of the tail. Inter-orbital space was concave. Teeth were conical, minute and about 10 in either jaw, and of reddish-brown colour. Dorsal and anal fins were highest anteriorly; caudal truncated and equal to about 1/5 of the total length. Scutes very minute, about 10 between the gill-opening and the tail, 5 or 6 transversely and 5 or 6 across the ventral surface. Colouration-brightly yellow coloured with black spots. The fins were yellowish and covered with black spots or immaculate. As its ages, the brightness fades and very old specimens have blue-grey colouration with the faded yellow. These may be the most characteristic of fishes with their bodies encased in a bony carapace. The family is also notable

Fig. 1. Indian Yellow Boxfish–*Ostracion cubicus* (Linnaeus, 1758)

for some members possession of 'ostracotoxin' a toxic discharge substance of some trunk-fishes. It attains maximum size of 50 cm.

HABIT AND HABITAT

This fish commonly inhabit the lagoon and semi-sheltered seaward reef (Myers, 1999). Juveniles often found among branching coral (Lieske & Myers, 1994). They are benthopelagic (Mundy, 2005) and solitary (Cornie, 1987). Juveniles expatriating to subtropical zone from the pelagic larval stage and secretive in narrow crevices (Kuiter & Tonozuka, 2001). It feed primarily on algae with a compliment of microorganisms, invertebrates, molluscs, sponges, sand dwelling polychaetes, crustaceans, foraminiferans and fishes (Myers, 1999).

DISTRIBUTION

Ostraciidae are contributed by fourteen genera with about thirty three species worldwide (FAO, 2009). The Yellow Boxfish found in reefs throughout the Pacific Ocean and Indian Ocean as well as the south eastern

Atlantic Ocean. Out of these 33 species under Ostraciidae family, five species are reported in Indian waters (FAO, 2009). This particular species is widely distributed in Indo-Pacific: Red Sea and East Africa to the Hawaiin and Tuamoto islands, north to Ryukyu islands, south to Lord Howe Island, Maldives, Andaman islands, Sri Lanka and Australian coast (Smith, 1986). But, in India it has very restricted records of distribution. Francis Day (1967) reported the presence of this species in the Indian sea, no coastal region was mentioned. The extensive literature survey for occurrences records of this species on Indian coasts shows that this species is earlier reported in Lakshadweep islands, Andaman & Nicobar islands as well as Chennai coast. Rao *et al.,* (2000), Kamala Devi & Rao (2003) & Rao (2003) reported *Ostracion cubicus* in Andaman islands, Anderson & Hafiz (1987) in Maldives as well as Kumaran & Jones (1980) and Kapoor *et al.,* (2002) reported this species on Chennai coast but location of occurrences was not mentioned in his report. The other ichthyology reports on east coast viz., Barman *et al.,* (2004; 2007) & Mishra & Krishnan (2003) do not cover occurrence of this species in Orissa & Andhra Pradesh and Pondichery & Karaikal, respectively.

All the existing literature in the northern east coast of India does not cover this species. Hence, this is the first ever site record *of Ostracion cubicus* (Linnaeus, 1758) on Digha coast in Northern east coast of India. The occurrence of this species in the area also highlights the need of extensive field studies to update the existing list of ichthyofauna in the region.

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