



Occurrence of three red listed species of *Epinephelus* (Perciformes: Serranidae) on Digha coast, India

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Serranidae is one of the widely distributed marine fish families in Indian waters. This family has 137 species available throughout the world out of which 110 species are known in the Indo-Pacific region (Fishbase 2010) and around 70 species under 15 Genera in Indian waters. In this family, *Epinephelus* is the major genus contributing 38 species out of 77 species in the Indo-Pacific and 97 species world over. Digha coast, being one of the major marine fish landing stations on the eastern coast of India, several efforts were made for inventorying marine and estuarine fishes in the area (Manna & Goswami 1985; Goswami 1992; Talwar et al. 1992). The recent updated information about fish fauna of Digha coast was given by Chatterjee et al. (2000) and updated by (Yennawar & Tudu 2010). During routine efforts to maintain diversity in the public

aquarium at Marine Aquarium & Regional Centre, ZSI, Digha. The authors encountered three more species of *Epinephelus*, which after thorough literature survey were found to be unreported from this area though listed in the IUCN Red list of threatened fauna. Three new site records of occurrences of the genus *Epinephelus* are *Epinephelus coioides* Orange Spotted Grouper (Hamilton, 1822), Brindle Grouper *Epinephelus lanceolatus* (Bloch, 1790) and Striped Grouper *Epinephelus latifasciatus* (Temminck & Schlegel, 1842).

The specimens were collected between August 2009 and November 2010 by the local fishers from the Digha coast in live condition for display in the marine aquarium of the Zoological Survey of India. The specimens were identified following (Heemstra & Randall 1993).

Epinephelus coioides (Hamilton, 1822)

Synonyms: 1822. *Serranus coioides* Hamilton, *Fishes of Ganges* : 82.

1993. *Epinephelus coioides* Heemstra and Randall, FAO. *Fish. Synop.*, (125) 16: 130.

Common names: Orange-spotted Grouper, Estuary Cod or Brown-spotted Grouper. This fish is known as M erou taches oranges in French and Mero de pintas naranjas in Spanish.

Material examined: 1 ex., 20.viii.2009, TL 415mm, HL145, CL 75, Hospital Ghat, Digha, coll. Prasanna Yennawar & P.C. Tudu, (MARC, ZSI, Digha. Reg. No.677). The fish was displayed in the aquarium tank

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Image 1. Orange-spotted Grouper *Epinephelus coioides*

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at MARC, Digha.

Diagnostic characters: D XI, 15; AIII, 8; C 18; P 19; V I,5; Body elongated; head length 2.34 times in standard length; head and body tanned dorsally, shading to whitish ventrally; numerous small brownish-orange spots on head, body and median fins; five irregular, oblique bars on the body that bifurcate ventrally; rounded caudal fin.

Distribution: Continental shores and large islands from the Red Sea to South Africa and from the east to the western Pacific, where it ranges from the Ryukyu Islands of Japan to Australia and out to the islands of Palau and Fiji, Indo-West Pacific (Russell & Houston 1989). Recently reported from the Mediterranean coast of Israel (Heemstra & Randall 1993).

From Indian coastal waters the species was reported from Andhra Pradesh coast (Barman et al. 2004), Andaman and Nicobar Islands (Rajan 2003), Chennai coast (Krishnan et al. 2007), Orissa coast (Barman et al. 2007) and Gujarat coast (Barman et al. 2000). The species is presently classified as Threatened in the IUCN Red List of Threatened Species (IUCN 2010).

***Epinephelus lanceolatus* (Bloch, 1790)**

Synonyms: 1790. *Holocentrus lanceolatus* Bloch, *Nat. Ausland Fische*. 4. 94

1993. *Epinephelus lanceolatus* Heemstra and Randall, *FAO. Fish. Synop.*, (125) 16: 174

Common names: Brindle Grouper, Queensland Grouper, Brindle Bass, Giant Grouper, Banded Rockcod in English, Wekhali in Gujarati, Kalava in Tamil, Bontoo in Telugu.

Material examined: 1ex., 06.v.2010, TL 277mm, HL 89mm, CL 51mm, Hospital Ghat, Digha, coll. Prasanna Yennawar & P.C. Tudu, (MARC, ZSI, Digha. Reg. No. 702). The fish is on display, in the aquarium tank at MARC, Digha.

Diagnostic characters: D: XI, 15; A: III, 8; P: 19; V: I,5; Body robust, eyes small, lower jaw somewhat projecting, mouth oblique, maxillary reaching beyond posterior border of the eye. Pre-operculum obtusely rounded, its hind border finely serrated; small scales on maxilla and snout; Dorsal fin originating above the base of pectorals, spines short and first two spines almost equal in length. Rays of the dorsal fin are more or less curved in shape; caudal fin rounded; Yellowish-brown colour, vaguely mottled; all fins with black



Image 2. Giant Grouper *Epinephelus lanceolatus*

spots and blotches.

Distribution: This is the most widely distributed grouper occurring throughout the Indo-pacific region from the Red Sea to Algoa Bay, South Africa and eastward to the Hawaiian and Pitcairn Islands. In the western Pacific its distribution ranges from the north to southern Japan and southward to Australia (from north western Australia to northern New South Wales).

From Indian waters this species is reported from Andaman and Nicobar Islands (Rao 2003; Rajan 2003), Andhra Pradesh coast (Barman et al. 2004), Orissa coast (Barman et al. 2007) and Gujarat coast (Barman et al. 2000).

The species is presently under Vulnerable category (IUCN 2010). The species is also known to be a traumatogenic species (Halstead et al. 1990).

***Epinephelus latifasciatus* (Temminck & Schlegel, 1842)**

Synonyms: 1842. *Serranus latifasciatus* Temminck & Schlegel, *Fauna of Japonica, poissons*: 6.

1993. *Epinephelus latifasciatus* Heemstra and Randall, *FAO. Fish. Synop.*, (125) 16: 176.

Common names: Laterally Banded Grouper, Banded Grouper, Striped Grouper.

Material examined: 1ex., 30.xi.2010, SL 318mm, HL 123mm, CL 50mm, Location: Digha Mohana, coll. Anil Mohapatra & P.C. Tudu. (Reg. No. 748).

Diagnostic characters: D: XI, 14; A: III, 8; P: 17; V: I,5; Three dark brown lines on the body; fourth line from border of upper jaw below anterior 1/3 of eye through upper edge of base of pectoral fin to caudal base; in caudal peduncle, the lines on either side meet and run along its ventral edge. Body is oblong and



Image 3. Striped Grouper *Epinephelus latifasciatus*

laterally compressed. Its depth is 2.9 times in standard length. Preopercular border produced at angle, armed with several enlarged serrae.

Distribution: Indo-West Pacific: Red Sea, Persian Gulf, Gulf of Oman, Pakistan, India, Viet Nam, Hong Kong, China, Korea, southern Japan, Taiwan, and northwest Australia. Unknown from the east coast of Africa, islands of the Indian Ocean, Indonesia, Philippines, New Guinea.

From Indian waters the species was reported from Andhra Pradesh coast (Barman et al. 2004), Chennai coast (Krishnan et al. 2007), Orissa coast (Barman et al. 2007) and Gujarat coast (Barman et al. 2000).

The species is presently Data Deficient (IUCN 2010).

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