

## A NOTE ON SEXUAL DIMORPHISM IN CARANGID FISHES

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### ABSTRACT

Dimorphic adults are reported in eight species from six carangid genera: *Decapterus*, *Atropus*, *Selar*, *Alepes*, *Atule* and *Carangoides*. The adult males have darker body and dorsal and anal fins, and elongated middle rays in dorsal and anal fins. The adult females, like juveniles, have paler body, and the middle rays of dorsal and anal fins are normal.

**Key-words:** Sexual dimorphism, carangids, East Coast.

Sexual colour differences and occurrence of dimorphic forms in fishes have been reported by many authors. The occurrence of such dimorphic forms has been reported also in carangid fishes. Weber and de Beaufort (1931) and Wakia (1924) both recorded and figured male and female of *Atropus atropus* to show that the adult male is darker in colour and that the middle rays of its soft dorsal and anal fins are elongated. The adult female is paler in colour and all the rays of soft dorsal and anal fins are normal. Williams and Talbot (1956) reported such colour difference in *Caranx ignobilis* also (from east coast of Africa), the adult males of total length above 700 mm have dusky to black head, body and fins while the adult females of the same length being distinctly paler. He also observed that the dark colour of males fade after death. Williams, Heemstra and Shameem (1980) recorded the elongation of the middle rays of soft dorsal and anal fins in adult males of *Carangoides armatus* and *C. hedlandensis* as a secondary sexual character.

In the course of the present study on carangid fishes represented in the trawl catches from the east coast of India, altogether 36 species of carangids were recorded. Among them, the following eight species had dimorphic adults: *Decapterus kiliche*, *Atropus atropus*, *Selar crumenophthalmus*, *Alepes macrurus*, *Atule mate*, *Carangoides praeustus*, *C. malabaricus* and *C. hedlandensis*. Of these, dimorphic forms in *D. kiliche*, *S. crumenophthalmus*, *A. macrurus*, *A. mate*, *C. praeustus* and *C. malabaricus* are being reported for the first time to our knowledge.

The adult males of *D. kiliche* measuring 181 mm (TL) and above have fine black pigment spots on the pelvics. Such pigmentation is absent in juveniles and in adult females, in which the pelvics are hyaline.

In adult males of *A. atropus* measuring 190 mm (TL) and above (Fig. 1), 5-6 middle rays of the soft dorsal fins are elongated and filamentous, and the head, breast, both dorsals and the caudal fin are dusky. In adult females the dorsal rays are normal and body is not pigmented; both dorsals and caudal

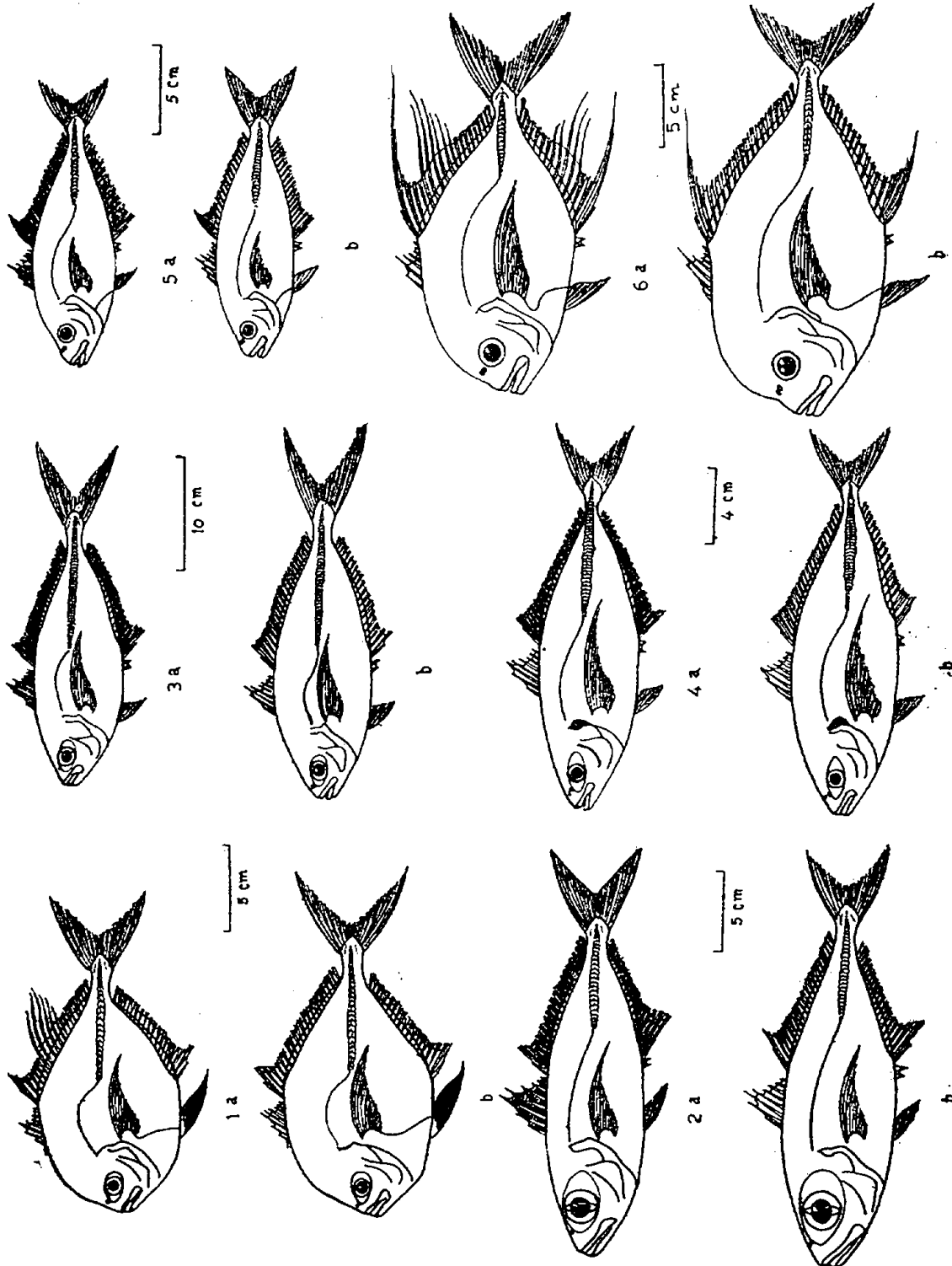


Fig. 1. *Atropus atropus*, (a) male (200 mm TL) and (b) female (215 mm).  
 Fig. 2. *Selar crumenophthalmus*, (a) male (254 mm) and (b) female (263 mm).  
 Fig. 3. *Alepes macrurus*, (a) male (319 mm) and (b) female (240 mm).  
 Fig. 4. *Alepes mate*, (a) male (242 mm) and (b) female (240 mm).  
 Fig. 5. *Carangoides praeustus*, (a) male (180 mm) and (b) female (178 mm).  
 Fig. 6. *Carangoides hedlandensis*, (a) male (225 mm) and (b) female (255 mm).

fins are sparsely pigmented and the anal fin is hyaline. Pelvics are black in both sexes, in juveniles as well as in adults.

In the single adult male of *S. crumenophthalmus* measuring 254 mm (TL) (Fig. 2) in the collection, both dorsals and the anal fins, especially their falcate lobes, are black. In adult females of the same length group, all fins are dusky.

Adult males of *A. macrurus* measuring 319 mm (TL) and above (Fig. 3) have black pigmentation in spinous dorsal, anal and pelvics. In adult females the soft dorsal and anal are uniformly dusky but not black.

The adult males of *A. mate* measuring 240 mm (TL) and above (Fig. 4) have black pigmentation in the soft dorsal and anal fin, the first dorsal, pectorals and caudal fins being hyaline. In the adult females all fins are hyaline.

In the maturing and mature males of *C. praeustus* measuring 170 mm (TL) and above (Fig. 5), the head and entire soft dorsal and anal fins are dark; a black patch in the falcate lobe of soft dorsal is however present in both sexes. In the immature adults of both sexes and in maturing and mature females the head, and most of the dorsal and anal fins are hyaline.

Adult males of *C. malabaricus* measuring 195 mm (TL) and above develop black pigmentation in the distal half of the spinous dorsal and soft dorsal, and the rays of the soft dorsal and anal fin rays are slightly longer than in adult females. There is no difference between the sexes in the pigmentation of the anal rays.

In the adult males of *C. hedlandensis* measuring 190 mm (TL) and above (Fig. 6), 5-7 middle rays of soft dorsal and anal rays are elongated unlike in adult females.

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