15. THE RECORD GIANT MORAY EEL, *THYRSOIDEA MACRURA* (BLEEKER)

While examining the landings of the trawler catches at Rameswaram on the south-east coast of India on 20 July 1971, we came across a female giant Moray Eel, *Thyrsoidea macrura* (Bleeker) which measured 3310 mm in total length in the fresh condition and weighed 8·76 kg. The eel was caught at a depth of 5 fathoms off Athankarai (9°21'N., 79°02'E.) by an otter trawl. Though small-sized moray eels are not uncommon on this coast, the larger forms of this species occur only very rarely. It is evident from the published reports that the eel grows to a very large size of about 3 metres in length (Günther 1870; Day 1878; Weber & de Beaufort 1916; Smith 1949). The largest size recorded earlier is 3048 mm in total length by Günther (1870) from Ceylon. The present record of 3310 mm in total length of *T. macrura* from the Indian waters is the longest length reported for this species. Hence a detailed description and body measurements of the specimen are given below.

Thyrsoidea macrura (Bleeker)

Muraena macrurus Bleeker, *Nat. Tijds. Ned.-Ind.*, VII, 1854, p. 324 ; Günther *Cat. Brit. Mus.*, VIII, 1870, p. 127 ; Max Weber, *Nova Guinea* V. Livr. 2, 1908, p. 227.

Thyrsoidea longissima Kaup, *Cat. Apodal Fish—Brit. Mus.*, 1856, p. 82.

Thyrsoidea macrurus Bleeker, *Atl. ichth.*, IV, 1864, p. 111 ; Kner, *Novara Exp. Fische* I, 1869, p. 386 ; Weber & de Beaufort, *Fishes Indo-Aust. Archi.*, III, 1916, p. 355 ; Bal & Mohamed, *J. Bombay nat. Hist. Soc.*, 1957, p. 735.

Muraena macrura Day, *Fishes of India*, 1878, p. 672.

Evenchelys macrurus Jordan & Evermann, *Proc. U.S. Nat. Mus.*, XXV, 1903, p. 327 ; Fowler, *Copeia*, No. 58, 1918, p. 62; Herre, *Philip. J. Sci.*, XXIII, 1923 p. 202 ; *Fishes* 1931 *Philippine Exped.*, 1934, p. 19 ; *Checklist of Philippine Fishes*, 1953, p. 106.

Rhabdura macrura Ogilby, *Proc. Royal Soc. Queensland*, XX, 1906, p. 13 ; Max Weber, *Fische, Sibogo-Expeditie*, 1913, p. 56.

Thyrsoidea macrura Smith, *The Sea Fishes of Southern Africa*, 1961, p. 396 James, *J. Mar. biol. Ass. India*, 1965, p. 401.

Material : One female specimen, 3310 mm in total length weighing 8·76 kg, caught off Athankarai at 5 fathoms and landed at Rameswaram. The specimen is deposited in the Reference collection Museum of the Central Marine Fisheries Research Institute. Reg. No. CMFRI—F. 38/920.

Description : The various body proportions of the preserved specimen are given below:

Head 13·6 in total length, 3·7 in trunk and 4·7 in distance from snout to anus. Height at orbit 102·5 and at anus 41·5 in total length.

Head and trunk 1·9 in tail. Tail 1·5 in total length. Snout 10·1 in head. Eye 30·1 in head and 2·75 in snout. Maxilla 3·2, interorbital 14·2 and gill opening 7·5 in head. Length of dorsal fin 1·05 and length of anal fin 1·55 in total length.

Body very much elongate with laterally compressed head and tail and thicker and rounded trunk. Behind the anus the body height and thickness decrease gradually. Eye much nearer to the tip of snout than to the angle of mouth. Cleft of the mouth wide Maxillary teeth biserial, with 24 teeth in the outer row and 12 in the inner row. Four large fang-like teeth mesially and vomer with a single median row of 8 small teeth. Mandibular teeth also biserial with 22 in the outer row and 10 in the inner row. Anterior tubular nostrils near to the tip of snout while the posterior ones situated just above the anterior margin of eyes. Gill opening oblique in shape, four times diameter of eye. Lateral line composed of interrupted horizontal white tubes extending from just above the gill opening to the end of tail. Dorsal fin originates far ahead of gill-opening. Dorsal and anal fins covered by a thick fold of skin. Pectoral and ventral fins absent.

The body measurements of the specimen are given in Table below.

TABLE

BODY MEASUREMENTS OF *Thyrsoidea macrura* (BLKR.) OBTAINED FROM RAMESWARAM (MEASUREMENTS IN MILLIMETRES)*

Total length (in fresh condition)	..	3310
Total length (in preserved condition)	..	3280
Head length (snout to gill-opening)	..	241
Snout length (tip of snout to front margin of eye)	..	22
Eye diameter (horizontal)	..	8
Eye diameter (vertical)	..	5
Inter-orbital length	..	17
Maxillary length (tip of snout to the end of mouth)	..	75
Length of gill-opening	..	32
Vent length	..	12
Snout to dorsal origin	..	151
Snout to anal origin	..	1163
Snout to anterior edge of vent	..	1133
Length of dorsal fin	..	3129
Length of anal fin	..	2117
Length of tail (posterior edge of vent to tip of tail)	..	2135
Height at orbit	..	27
Height at gill-opening	..	79
Height at anus	..	79
Height at one metre in front of tip of tail	..	69
Height at half metre in front of tip of tail	..	54
Thickness at gill-opening	..	63
Thickness midway between gill-opening and anus	..	66
Thickness at anus	..	60
Thickness at one metre in front of tip of tail	..	45
Thickness at half metre in front of tip of tail	..	26
Origin of lateral line from snout	..	225

* all measurements were taken in preserved condition.

Colour: Body dark brown, sides of head of lighter shade. Fins and tail blackish. About 3 cm wide pale white coloration in the midventral portion of the body.

Distribution: Widely distributed in the tropical and temperate regions of the Indo-Pacific (South Africa, Natal, Ceylon, west and east coasts of India including Andamans, Ceylon, Burma, Malaya, Java, Sumatra, New Guinea, Queensland, Formosa and Palew Islands).

Remarks: The family Muraenidae of the Order Apodes Linne. consists of five genera, of which, the genus *Thyrsoidea* (Kaup) Bleeker is represented by a single species, namely *T. macrura* (Bleeker). This species is easily distinguishable from all other species of the family Muraenidae by its exceedingly elongated form and the tail being twice as long as the trunk. The type specimen *Muraena macrurus* Bleeker collected from Java measures 2½ metres in total length. According to Weber & de Beaufort (1916) this species is 'probably the longest apodal fish in existence'. Smith (1949) is also of the opinion that this eel is 'the longest and possibly the largest known eel growing to over 10 ft. in length'. Recently James (1965) has reported the occurrence of a large specimen measuring 3038 mm in total length, giving some anatomical notes. Comparing the body measurements of our specimen with James's specimen we find the following differences: Eye is 40 in head instead of 30 in head in our specimen. Head and trunk is 1·9 in our specimen whereas it is 2·8 in James's specimen (probably this would have been a misprint for 1·8). In addition to four large fang-like teeth mesially, there is a single median row of 8 small teeth on the vomer in our specimen, whereas in James's specimen, there are only 3 teeth mesially and there is no mention about vomerine teeth. In conclusion it may be stated that the body proportions of our specimen are in full agreement with those of the specimen recorded by Weber & de Beaufort (1916).

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16. *DELIAS AGLAIA AGLAIA* (LINN.) FROM INDIAN MAINLAND (LEPIDOPTERA : PIERIDAE)[1]

Out of the 13 species comprising 24 subspecies of butterflies in the genus *Delias* Hübn. occurring in the Indian area (Talbot 1939), perhaps there is only one, *D. eucharis* (Drury), which occurs in the plains of India. Others are restricted to the hills and are mostly distributed in the Nepal-Burma Himalayan ranges and hills of Assam.

The Red-base Jezebel, *Delias aglaia aglaia* (Linn.), has so far been recorded from Nepal, Sikkim, Assam (Naga hills) and Burma, at 2000-7000 ft altitude and also from South-West China and Yunnan, according to Evans (1932), Talbot (1939) and Wynter-Blyth (1957). It is reported to be not rare.

One specimen of this butterfly was collected by one of us (R.K.V.) in late December 1968 at Valmikinagar, previously known as Bhainsalotan, in the Champaran Dist. of North Bihar. It undoubtedly belongs to *D. a. aglaia*, and has FW length as 38 mm. The red semi-circular band near the base in UNHW is very conspicuous. The greyish white submarginal stripes in number are as follows—UPFW: 7, UPHW: 5, UNFW: 7, and yellow stripes and spots on UNHW are in the order mentioned by Talbot (loc. cit.).

The specimen probably flew down from the Nepal side, since the mid-stream of the river Gandak forms the Indo-Nepal border in this region, and the towns on the opposite banks are Valmikinagar and Tribenighat. The collection of *D. a. aglaia* in the plains of northern India, is of interest as even in Nepal, this butterfly is not reported from Tribenighat or any other place nearby. Bailey (1951) reported

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