ON A RECORD OF INCIDENTAL CAPTURE OF RISSO'S DOLPHIN *GRAMPUS GRISEUS* (CUVIER) OFF MADRAS

ABSTRACT

The capture of a male Risso's dolphin *Grampus griseus* (Cuvier) measuring 2,450 mm in length is reported from Madras which is the first instance for its occurrence along the Coromandal coast. Its morphometric data and other details are presented.

OCCASIONAL strandings and capture of dolphins have been reported along the Indian Coasts by Lydekkar (1905), Pillay (1926), Jones (1976), James (1985), Lal Mohan (1985) and Natarajan *et al.* (1985). A Risso's dolphin (Plate I) was captured on 25-2-1986 off Triplicane beach Madras. The dolphin appears to have been hit by a vessel off Madras at a distance of 4 km from the shore. The fishermen left for fishing early at 0400 hrs noticed the dolphin at 0800 hrs hit by the vessel. They brought it to shore at 1000 hrs. The dolphin died after few hours of landing at the shore.

The dolphin was identified as Risso's dolphin or Grey dolphin *Grampus griseus* (Cuvier). *Grampus* is derived from the Latin word which means 'large fish' (gran 'large'; Piscis: 'fish') and *griseus* is Latin for 'grey'. The species is also popularly known as Risso's dolphin or more accurately 'dolphin de Risso' after the French naturalist Giovanni Antonio Risso.

The diagnostic characters of the dolphin are the vertical crease on the forehead, unique feature for this species, the body is robust in front of the fin and tapers rapidly to a narrow tailstock. Beak is absent and head is not as high or round as that of the pilot whale. The body shape is quite similar to pilot whale, but the dorsal fin is situated more or less at the middle whereas in pilot whale the dorsal fin is closer to the head and sharply curved than that of Risso's dolphin.

The colouration is characteristic, body dark black with white reticulate pattern predominantly on the frontal region, on the lower jaw and below flippers; a white blotch of 7 cm size behind the posterior margin of flipper. The peculiar white reticulate streaks was noticed on the belly, between the flippers on the ventral side. Kellogg (1940) is of the opinion that the 'whitish streaks and blotches often seen on the bodies of the Grey dolphin probably are the scars made by the circular suckers armed with claws on the arms of giant squid' and Norman and Fraser (1938) opined that the white scratches may be due to the healed scars of wounds caused by the teeth of individuals of the same species. The former explanation appears to be correct, as these dolphins generally known to feed on squids.

There are no teeth on the upper jaw and only small oval teeth just erupting from the gums on lower jaw on each side noticed. The dolphin was found to be a male measuring about 2,450 mm and the detailed measurements are given in Table 1.

Since the dolphin appears to be a first record the specimen was taken to Muttukadu Mariculture Centre of CMFRI and it was cut open and examined. The stomach was found to be empty except for some light yellowish matter. The intestine contained small quantities of digested pulp like yellowish mass. The flesh from the dolphin was removed and the skeleton buried in the sand for a detailed study at a later date.

These dolphins are also known to move in large shoals and to strand in large numbers.

Distribution

The Risso's dolphin is distributed throughout the tropical and temperate waters of the world and does not seem to occur in high polar

TABLE 1. *Measurements (in cm) of the Risso's dolphin* Grampus griseus *captured at Madras*

Character	Measurements (cm)	Percentage of total length
Total length (snout to notch of caudal fluke)	245.0	–
Snout to angle of mouth	27.0	11.02
Snout to eye (anterior margin)	34.0	13.87
Snout to middle of eye	35.0	14.28
Snout to blow hole		
a. front margin	32.5	13.26
b. centre	35.2	14.36
c. hind margin	35.0	14.28
Snout to insertion of flipper	54.7	22.32
Snout to origin of dorsal fin	121.0	49.38
Snout to origin of genital opening	177.0	72.24
Snout to origin of anus	158.0	64.48
Length of blow hole	50.0	20.40
Width of blow hole	30.0	12.24
Length of flipper	52.5	21.42
Width of base of flipper	23.5	9.59
Maximum width of flipper	15.5	6.32
Width of base of dorsal	41.2	16.81
Height of dorsal fin	31.0	12.65
Length of upper jaw	26.1	10.65
Length of lower jaw	25.6	10.44
Width of lower jaw	41.0	16.73
Tooth gum width	2.4	0.97
Interspace between exposed teeth	3.2	1.30
Interspace between tooth gums	3.0	1.22
Diameter (horizontal of eye)	3.0	1.22
Width of eye	1.9	0.77
Distance between dorsal fin to origin of tail fluke	148.0	60.40
Distance between angle of mouth and eye	7.8	3.18
Width of genital opening	12.1	4.93
Width of anus	9.7	3.95
Tail's notch to tip of fluke	19.9	8.12
Tail's notch to anus	107.0	43.67
Tail's notch to genital opening	87.1	35.55
Height of body immediately behind the flipper	37.5	15.30
Height at the origin of dorsal fin	52.4	21.38
Height at the front end of genital opening	32.7	13.34
Height at anus	31.5	12.85
Height at tail fluke	11.4	4.65
Girth immediately behind the flipper	148.0	60.40
Girth at the base of dorsal fin	135.0	55.10
Girth at genital opening	72.2	29.46
Girth at anus	96.4	39.34
Girth at caudal peduncle	30.2	12.32
Dentition $\frac{0 + 0}{2 + 2}$		

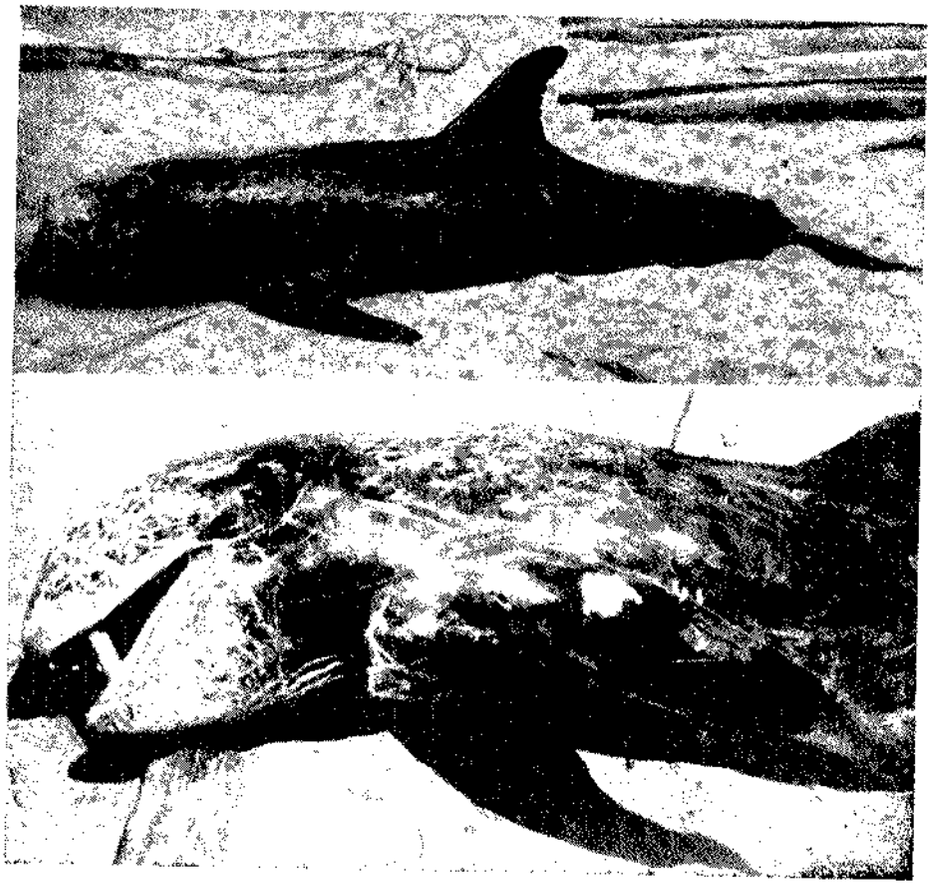

PLATE I. A Risso's dolphin captured off Triplicane Beach, Madras.

TABLE 2. *Distinct field characters for Risso's dolphin, False killer whale and Pilot whale*

Character	Risso's dolphin	False killer whale	Pilot whale
Colouration	Pale grey back and white extensive scarring on body	Dark back and never scarred	Dark back and never scarred
Dorsal fin	Situated more or less at the middle of the body	Situated more or less at the middle of the body	Situated at 1/3 distance from head
Head	Slightly bulbous	Slender and tapering head	Distinctly bulbous
Dentition			
a. Average total number of teeth	10	38	36
b. Range on one side of upper jaw	0	7–11	7–11
c. Range on one side of lower jaw	2–7	8–12	8–12

latitudes. A report of the species in the Bering Sea is considered of doubtful accuracy. It has been recorded from Newfoundland, south to Cape Horn in the Western Atlantic and from the Hebrides and Shetland Islands to the Cape of Good Hope in the east. The species is known from the Mediterranean, the Red Sea and the Indian Ocean and in the Western Pacific from the Commander Islands, south to New Zealand.

Remarks

There is a possibility of confusing the Risso's dolphin with pilot whale and false-killer whale due to similarity in body shape. The distinct characters for each species is given in Table 2 to facilitate easy field identification.

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Central Marine Fisheries Research Institute, Cochin - 682 031.

M. RAJAGOPALAN
D. B. JAMES
P. DEVADOSS
S. SRINIVASARENGAN
V. SELVARAJ
P. THIRUMILU

* Present address of all authors : 29 Commander-in-Chief Road, Madras - 600 105.

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DEVELOPMENTAL STUDIES THROUGH LABORATORY REARING OF THE SLENDER LIZARD FISH *SAURIDA GRACILIS* (QUOY AND GAIMARD, 1824) (PISCES : SYNODONTIDAE)

ABSTRACT

The egg, prolarvae and postlarvae of the slender lizardfish *Saurida gracilis* are described and figured from material reared in the laboratory. Comparisons are made with published descriptions of other lizard fishes.

A FEW LARVAE and juveniles of the slender lizard fish *Saurida gracilis* have been recorded from the Indo-Australian Archipelago (Weber and Beaufort, 1922). Sanzo (1915) illustrated a series of larvae of *Synodus saurus* of the Atlantic region. Takayukikamma (1916, 1925 as cited by Delsman, 1938) has given an account of larvae of some lizard fishes. Delsman (1938) described two types of myctophid eggs with the suggestion that they might belong to *Saurus* or *Saurida*. Mito (1961, 1967) studied the eggs and larvae of *S. tumbil* and *Trachynocephalus myops* respectively from the Japan waters. Gopinath (1946) has given an account of the larvae of *S. tumbil* and *T. myops* from the west coast of India. Nair (1952) described an egg and a few stages of *S. tumbil* from the east coast of India. Bapat (1955) obtained an egg from the gulf of Mannar with hexagonal markings without mentioning the species. Vijayaraghavan (1957) and Kuthalingam (1959) traded the life history and feeding habits of *S. tumbil* from the Madras waters, east coast of India. From the foregoing account it is evident that except for the description of the larvae of *S. gracilis* by Weber and Beaufort (1922), the development of this fish has not been studied in the Indian waters. Hence an attempt has been made to describe the development of *S. gracilis*.

Procedures used to obtain eggs and to culture larvae are given elsewhere (Venkataramanujam and Ramamoorthi 1981).

Whole measurements and drawings were based on specimens preserved ia 5% neutral formalin. Drawings were made with the aid of *camera lucida*. All measurements were made microscopically with the aid of ocular micrometer.

Terminology of eggs and larvae is based on that used by Jones (1950).