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SOME OBSERVATIONS ON DOLPHINS IN MANDAPAM AREA WITH A NOTE ON THEIR FOOD*

Introduction

The dolphins are common in the Gulf of Mannar near Mandapam. Five of them were caught by the fishermen in trawler or gill net in the neighbourhood of Krusadai Island in the Gulf of Mannar in the winter months of 1980 to 1982. They were studied for the species identity and their stomach contents. Data regarding the date, place of collection weight, sex and essential body measurements of all specimens were recorded.

Observations on school of dolphins

Sighting of dolphin in singles or in pairs in the vicinity of Krusadai Island, particularly in the channel areas during winter months is very common. When the senior author was on board the vessel Cadalmin-II, conducting trawling operation in the area (9-79/IB) in depths ranging between 20 and 22 m on 7-12-'82, 15 nautical miles from the shore, 7 numbers of dolphins were observed following the cod end of the net. On 15-12-'82, while conducting trawling operation in the same area 15 to 30 dolphins were found at the net end during all the hauls. The species was identified to be *Tursiops aduncus*. In all the three trawl hauls the

silverbellies dominated with 87.2, 95.0 and 96.6% respectively.

Dolphins caught in trawl/gill nets

Three numbers of *T. aduncus* caught by the fishermen in their trawl net, one young common dolphin *Delphinus delphis* caught in a gill net operated from the non-mechanised boat and another *D. delphis* which was washed ashore just opposite to C.M.F.R.I. jetty were all brought to the laboratory to examine and study the stomach contents. The body measurements taken are given in the Table I.

On 12-11-'80 an adult dolphin (Fig. 1) measuring 182.5 cm and weighing 65 kg was caught accidentally in a trawl net while operating off Krusadi Island in the Gulf of Mannar. The colour of the specimen was black on the dorsal side and greyish white on the ventral side. The lower jaw was somewhat longer than the upper, and number of teeth on the upper jaw on one side was 25 and 24 on the lower jaw. It was identified as a male of *T. aduncus*. The stomach was cut open and found that the food was in a digested condition. The length of the small intestine measured 4.5 m.

On 26-11-'81 another adult specimen was caught in a trawl net while fishing at night (Fig. 2). It resembled the first one in colour and in the number of teeth.

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Table 1. The morphometric measurements (cm) of *Tursiops aduncus* and *Delphinus delphis* caught in Mandapam during winter months

1. Name of the species	<i>T. aduncus</i>			<i>D. delphis</i>	
	12-11-'80	26-11-'81	8-12-'81	20-2-'82	8-12-'82
2. Date of capture					
3. Total length (snout to notch of caudal flukes)	182.5	210.5	143.0	145.0	159.0
4. Tip of the snout to blowhole	30.0	34.0	24.5	29.0	30.5
5. Tip of the snout to centre of eye	30.4	34.5	24.0	29.5	29.5
6. Tip of the snout to anterior insertion of flipper	45.7	53.0	37.5	39.5	43.0
7. Tip of the snout to centre of anus	125.7	150.0	101.0	102.5	114.5
8. Notch of the flukes to posterior end of the dorsal fin	—	87.0	57.0	59.0	57.5
9. Notch of the flukes to centre of anus	53.3	61.5	44.0	41.0	46.0
10. Length of the fluke on the outer curvature	27.9	31.0	23.5	18.0	27.0
11. Length of the fluke on the inner curvature	22.8	26.0	18.0	17.0	20.0
12. Distance between the extremities of flukes	40.6	47.0	32.0	26.0	37.0
13. Width at insertion of fluke	10.1	16.5	—	9.0	16.5
14. Length of dorsal fin base	24.1	28.0	20.5	18.0	28.0
15. Vertical height of dorsal fin	20.3	26.0	15.0	10.1	13.5
16. Length of flipper from anterior insertion to tip	31.7	38.0	26.5	22.0	27.0
17. Length of flipper along the curve of lower border	24.1	28.0	19.5	11.0	20.0
18. Greatest width of flipper	11.4	14.0	10.5	9.0	10.5
19. Depth of body at anal region	53.3	63.0	39.0	44.0	25.0
20. Depth of body at origin of flipper	83.8	95.0	64.0	63.0	26.5
21. Depth of body at the origin of dorsal	100.3	122.0	72.0	72.0	44.0
22. Depth of body in the region of eye	72.3	78.0	55.0	50.5	27.0
23. Tip of the lower jaw to the centre of anus	125.7	151.0	105.5	103.0	111.0
24. Length of upper jaw	23.4	27.5	20.5	23.5	25.5
25. Length of lower jaw	24.1	29.0	20.7	24.0	25.0
26. Diameter of the eye	1.5	1.3	1.0	—	0.7
27. Distance between the genital opening and anus	15.3	9.0	5.0	10.0	6.0
28. Total number of teeth on one side of upper jaw	25	25	17	61	66
29. Total number of teeth on one side of lower jaw	24	24	17	58	60
30. Sex	Male	Female	Female	Male	Female
31. Weight in kg	65.0	130.0	26.5	25.0	46.0

Fig. 3 shows pattern of teeth on the upper and lower jaws. It was a female *T. aduncus* measuring 210.5 cm and weighing 130 kg. The stomach with the food weighed 2.6 kg and after removal of all the food items the stomach alone weighed 2.00 kg. The stomach content of the dolphin included fishes namely *Saurida tumbil*, *Sphyræna* spp., *Ilisha* spp., *Trichiurus* spp., *Polyne-mus* spp., Anchovies and *Stolephorus* spp., and their total displacement volume measured 1,014 ml.

On 8-12-'81 another young female dolphin was caught in a trawl net near Mandapam which was identified as *T. aduncus*. It measured 143 cm in length and weighed 26.5 kg in weight (Fig. 4). Only 17 numbers of teeth were counted on one side of both the jaws and rest of the teeth were in developing stage embedded in

the sockets on the jaws. The stomach was cut open and only yellowish fluid was observed.

On 20-2-'82, a young dolphin was washed ashore just opposite to C.M.F.R.I. jetty. It was 145 cm in length and weighed 25 kg (Fig. 5). It was distinguished from *T. aduncus* by the presence of long jaws with rows of small conical teeth; 61 in upper half jaw and 58 in lower half jaw (Fig. 5). The colour on the dorsal side was grey while the belly was white. It was identified as a male of the common dolphin *Delphinus delphis*.

On 8-12-'82 a young dolphin of 159 cm in total length, weighing 46 kg was accidentally caught in a gill net operated from a non-mechanised boat in between Thonithurai and Krusadai Island near Mandapam. It was tied by a rope on its caudal peduncle and was brought



Fig. 1. *Tursiops aduncus* caught on 12-11-'80 in the trawl net from Gulf of Mannar, Mandapam.

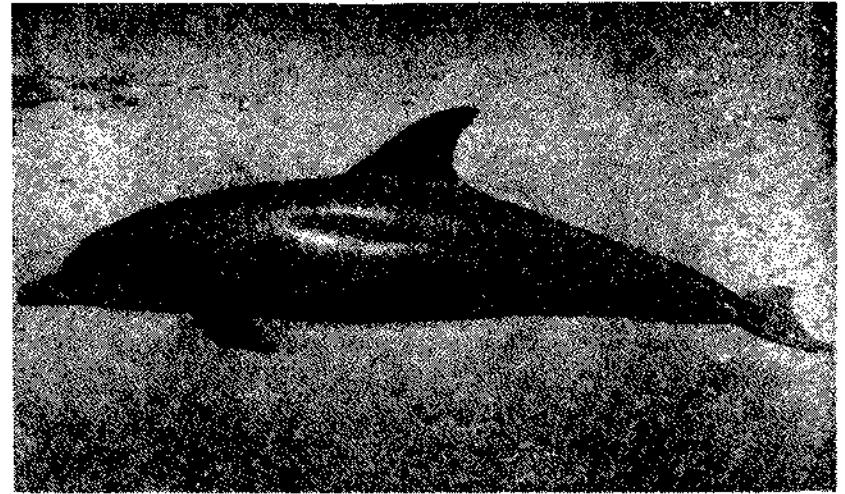


Fig. 2. *T. aduncus* caught on 26-11-'81 in the trawl net from Gulf of Mannar, Mandapam.

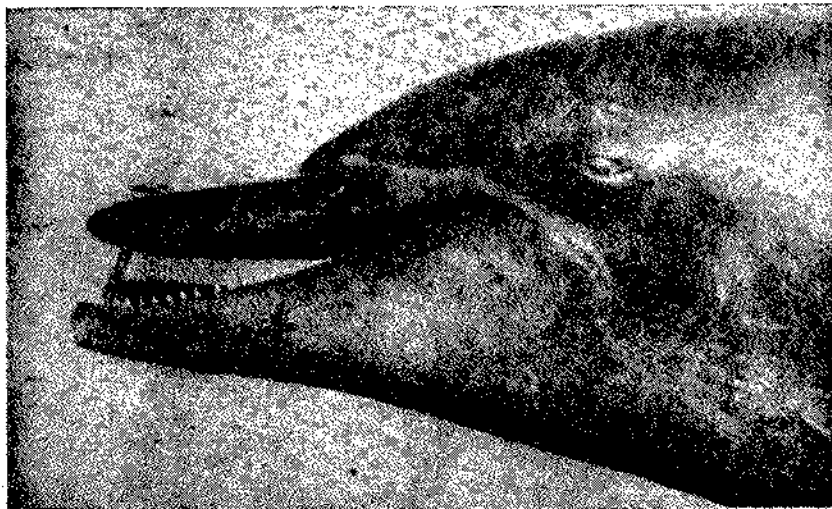


Fig. 3. Head of *T. aduncus* showing 25 numbers of teeth on each side of upper and lower jaws.

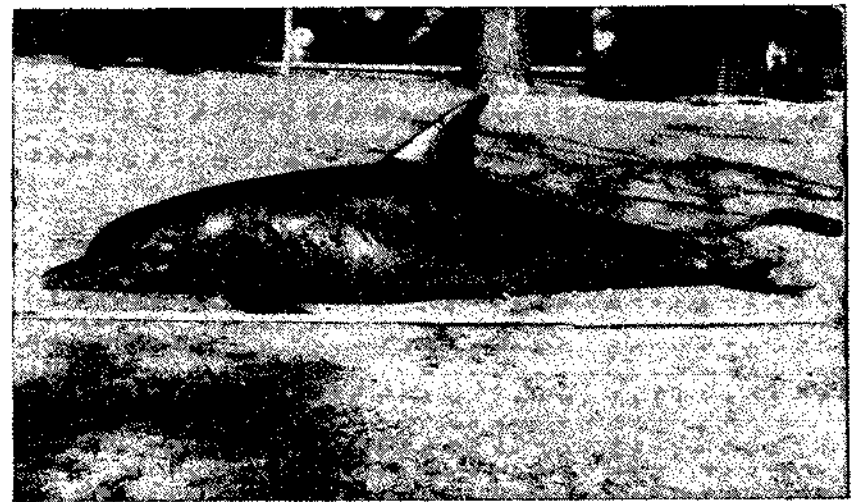


Fig. 4. Young of *T. aduncus* caught on 8-12-'81 in the trawl net from the Gulf of Mannar.

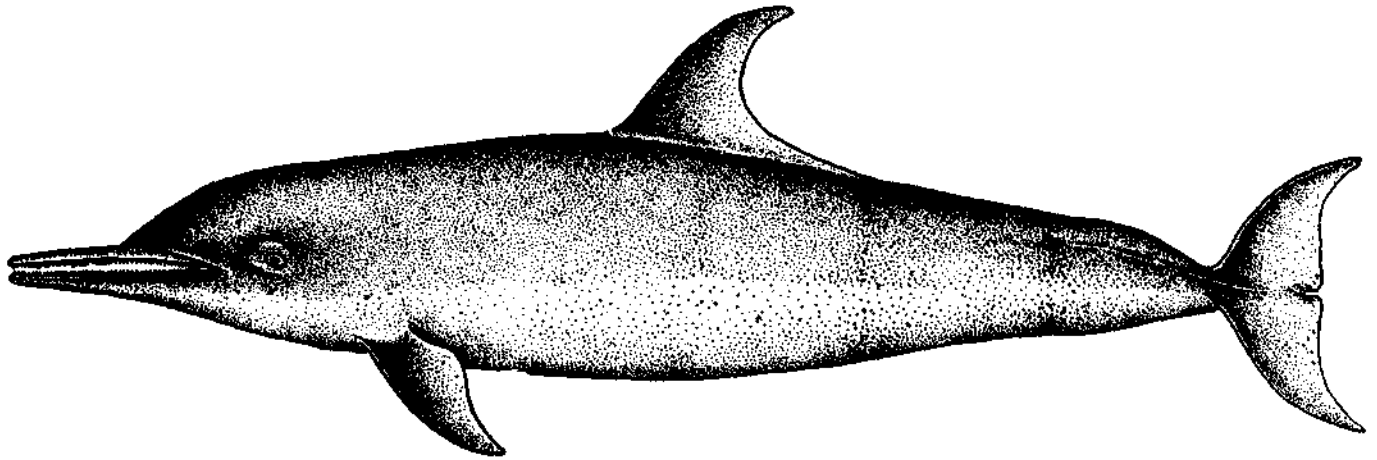


Fig. 5. Drawing of the common dolphin *Delphinus delphis* washed ashore near CMFRI jetty, Mandapam.

to the shore of Thonithurai in live condition. This young dolphin was kept alive near the shore at a depth of one metre for nearly 24 hrs. Attempt to bring it alive to the aquarium did not succeed.

The specimen had elongated jaws bearing small pointed conical teeth. The total number of teeth on

one side of the upper jaw was 66, and 60 in the case of lower jaw. It was also identified as the common dolphin *Delphinus delphis*. The analysis of the gut contents showed only yellowish fluid. The weight of the stomach was 450 g and after the removal of the yellowish fluid it weighed 400 g.

