

**ON A RECENT CAPTURE OF A WHALE SHARK (*RHINCODON
TYPUS SMITH*) AT TUTICORIN, WITH A NOTE ON INFORMATION
TO BE OBTAINED ON WHALE SHARKS FROM
INDIAN WATERS**

Information was received on 28-7-1961 that a large whale shark had got entangled the previous night in some nylon gill nets laid off Tuticorin, north of Thollayiram Paar. Efforts were made to tow the shark to the Tuticorin fish landing place the same day, but owing to rough weather it could be landed only in the early hours of the 29th by which time it was dead. The shark turned out to be a small female *R. typus* measuring 5.62 metres in total length. It was immediately auctioned for Rs. 385 and cut up for curing the same morning. Details of body measurements taken are given below

Total length	.. 5620 mm.	Length of Pectoral from :	
Standard length	.. 4200 "	anterior insertion	.. 1000 mm.
Head length	.. 1450 "	angle of inner base to tip	.. 820 "
Girth of body at P ₁ base	.. 2800 "	Length of pelvic fin from	
Width of mouth (angle to		anterior insertion	.. 300 "
angle)	.. 720 "	Length of first dorsal from	
Vertical height of :		anterior insertion	.. 620 "
First dorsal	.. 490 "	Length of second dorsal from	
Second dorsal	.. 220 "	anterior insertion	.. 350 "
Length of caudal fin along		Diameter of orbit	.. 42 "
upper margin	.. 1420 "	Inter-orbital distance	.. 1100 "
Snout to :		Anterior margin (mid-point) of	
First dorsal	.. 2540 "	snout to :	
Second dorsal	.. 3640 "	eye	.. 530 "
Pectoral	.. 1400 "	spiracle	.. 680 "
Pelvic	.. 2900 "	1st gill opening	.. 1100 "
Anal	.. 3800 "	Least height of caudal Pedun-	
		cle	.. 160 "

The three lateral ridges along each side of the body were very conspicuous and the colouration characteristic (Plate, fig. A). When cut the skin was 80 mm. thick along the dorsum and 30 mm. at the abdomen. One peculiarity noted was the alternating muscular bands running along the abdominal wall which was seen as dark patches at regular intervals.

It was not possible to weigh the entire animal, but the flesh that was cut for curing (excluding the head, fins and viscera) weighed about 850 kg. The liver which was pale brown in colour weighed 65 kg.

FOOD OF THE WHALE SHARK

From Gudger's work on the food and feeding habits of the whale shark (Gudger, 1941) it will be seen that more precise information is wanted about the food of the whale shark. It is hoped that the data given below may add to our existing knowledge.

When the viscera of the shark was exposed and the stomach slit, about 20 gallons of water gushed out, which the shark had apparently taken during its



PLATE—*Rhincodon typus* Smith. (A) Dorso-lateral, and (B) ventral view of specimen (female) caught off Tuticorin.
(Photo : M. S. Rajagopalan.)

struggle in the net. A portion of the stomach contents about one-tenth in quantity was collected for detailed analysis, results of which are given below.

Total volume of stomach contents examined ..	696 cc.	Volume of digested remains of fish ..	7.4 cc.
Volume of zooplankton ..	603 "	Volume of Mollusca (bivalves) ..	0.3 "
.. of sand and shell bits ..	75 "	.. of decapod crustaceans ..	0.4 "
.. of algae and sea weeds ..	10 "		

A further analysis of an aliquot portion of the zooplankton revealed the following items to be present :

<i>Crustacea :</i>	<i>Percentage in the sample</i>	
Crustacean limbs and eyes	66.63
Calanoid Copepods	0.38
Cyclopoid Copepods	0.90
Mysids	0.38
Isopods	0.22
Amphipods	0.38
Lucifer	0.15
Decapod larvae	1.35
<i>Mollusca :</i>		
Bivalves	0.15
Pteropods	0.15
<i>Chaetognatha :</i>		
Sagitta	0.15
Digested unidentifiable matter	27.85

It is interesting to note that the portion of the stomach contents examined includes varied items such as, large quantities of zooplankton, partly digested remains of fish, crustaceans, molluscs, and small quantities of seaweeds and algae, undoubtedly suggesting an omnivorous diet. The quantity of sand, shell bits and even part of the plant matter present in the stomach could have been gulped in by the animal during its struggle in the nets which were set in relatively shallow waters of six to eight fathoms. Similarly, two copepod parasites (the like of which several were seen attached to the walls of the buccal cavity) found in fresh condition in the stomach contents could have also been inadvertently taken in.

No external parasites were seen. However, three small helminth parasites (one cestode and two nematodes) were collected from the portion of the stomach contents examined, besides a number of copepod parasites from the buccal cavity.

The whale shark was immature and the ovary undeveloped.

NEED FOR MORE INFORMATION ON THE WHALE SHARK

Prater (1941) gave a list of 20 captures, strandings and sightings of whale sharks from Indian coastal waters, and one of us (E.G.S. in M.S.) has been able to gather information about the captures and strandings of at least 30 whale sharks from Indian coastal waters since then, over 50% of the additions having occurred during the last 2 to 3 years. Although much has been said about the whale shark by the late Dr. Gudger in a number of articles, our knowledge about many aspects

of the habits and biology of this shark is far from complete. For instance, only as late as 1954 has it been definitely known that the whale shark is oviparous, earlier workers having considered it to be viviparous or ovo-viviparous. Hence while reporting on the present capture of a whale shark from Tuticorin, we also take this opportunity to draw the attention of those interested to the information that could be usefully collected about the whale shark from Indian coastal waters as and when opportunities arise. This is given in the ensuing section and we appeal to readers who are able to make any further observations on the whale sharks from Indian seas, both in coastal and offshore waters to properly record their findings.

INFORMATION WANTED ON THE WHALE SHARK *Rhincodon typus* SMITH

DATA

Date Locality

If captured, time and method of capture

If stranded, time

If stranded, injured or infected

If washed ashore dead, injured or infected

If sight record, location (Lat. & Long.) Numbers seen.....

Any other animals seen in association with the whale shark?

Sex Weight

If female, any eggs (if so number)

Length, width, and thickness of egg cases

Length of embryos (Eggs and embryos to be preserved)

Contents of stomach (at least sample to be preserved)

Any stomach, intestinal or other internal parasites

..... (if so to be preserved).

Any gill parasites (" ").

Any external parasites (" ").

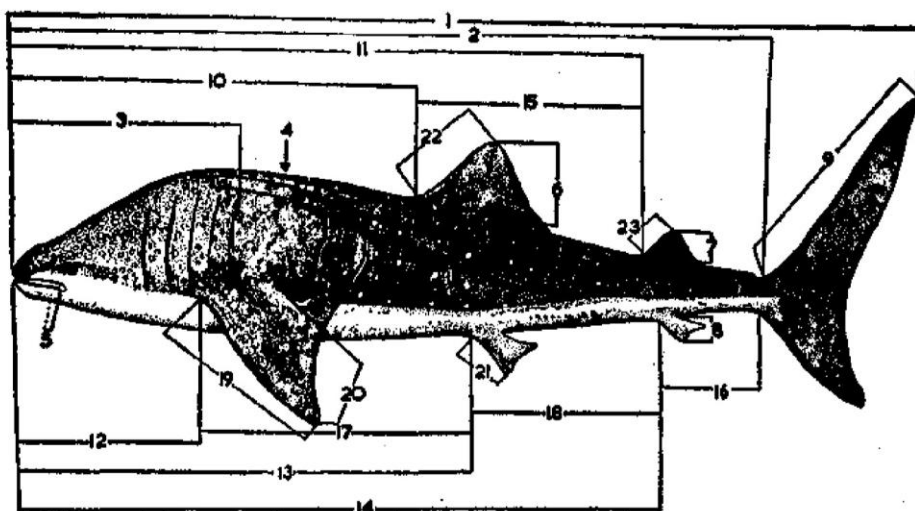


FIG. *Rhincodon typus* Smith. Lateral view showing methodology for taking measurements (Figure of fish after Bigelow and Schroeder, 1948).

MEASUREMENTS (in metric system) For methodology see figure 1 :

- (1) Total length (2) Standard length
 (3) Head length (4) Girth of body at
 (5) Width of mouth from angle to angle

Vertical height of :

- (6) First dorsal fin (7) Second dorsal fin (8) Anal fin
 (9) Length of caudal fin from caudal pit along upper margin

Snout to :

- (10) First dorsal (11) Second dorsal (12) Pectoral
 (13) Pelvic (14) Anal fin

Interspace between :

- (15) First and second dorsals
 (16) Anal and caudal
 (17) Pectoral and pelvic origins
 (18) Pelvic and anal origins

Length of pectoral fin :

- (19) Along outer margin from anterior insertion
 (20) From angle of inner base to tip
 (21) Length of pelvic fin (22) Length of first dorsal
 (23) Length of second dorsal

If male :

- Length of clasper from inner base of pelvic fin
 Length of pelvic fin along its inner edge

ANY ADDITIONAL MEASUREMENTS AND INFORMATION AVAILABLE.....

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REFERENCES

- GUDGER, E. W. 1941. *J. Elisha Mitchell Sci. Soc.* 57 (1) : 57-72.
 PRATER, S. H. 1941. *J. Bombay nat. Hist. Soc.*, 42 : 255-279.