

TWO ELASMOBRANCHS FROM THE MEDITERRANEAN

by

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I — INTRODUCTION

It is attempted here to study the elasmobranch fishes of the Mediterranean.

At the north-western end of the Red Sea, the Bay of Suez has been artificially communicated with the Mediterranean Sea and a certain amount of water exchange has since been taking place between the two Seas and so some elasmobranch fishes have been able to pass from the Red Sea to the Mediterranean Sea and vice-versa. The present work is a continuation to that being carried by Gohar and Mazhar 1964, on the elasmobranch fishes of the Red Sea.

ORDER SELACHII

SUB ORDER GALEOIDEA

FAMILY TRIAKIDAE

GENUS MUSTELUS Linck, 1790

MUSTELUS VULGARIS Müller and Henle 1841

Four specimens of this smooth dog-fish (Pl. I, Fig. 1), measuring from about 40 to 50 cm, were obtained from Alexandria market in August 1965. These were caught by Fishermen from Alexandria shores. The local Arabic name of this shark is « Matsula ».

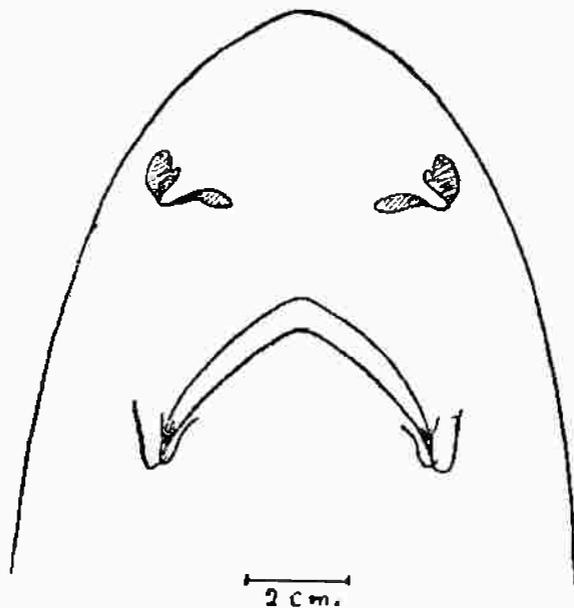
The general shape of the body is slender, with the head flattened dorsally and sloping anteriorly to a thin-tipped snout. The trunk tapers caudally to a subcylindrical caudal peduncle.

The colour is greyish above and fades down the sides becoming whitish ventrally. The posterior margins of the fins are whitish. The tip of the caudal fin is blackish.

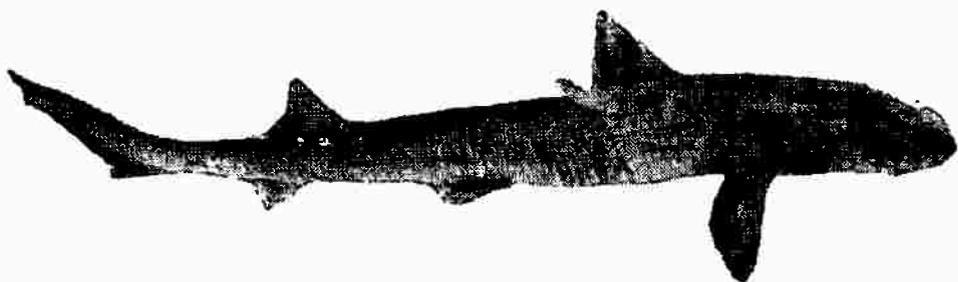
The gastric contents were found to be partly digested small fishes and prawns.

The teeth are adapted for crushing and accordingly have acquired bluntly rounded apices, slightly outcurved margins and are arranged in pavement-like rows, which range from $\frac{64}{54} - \frac{70}{60}$ in number. The teeth of the lower jaw are mostly larger than of the upper jaw.

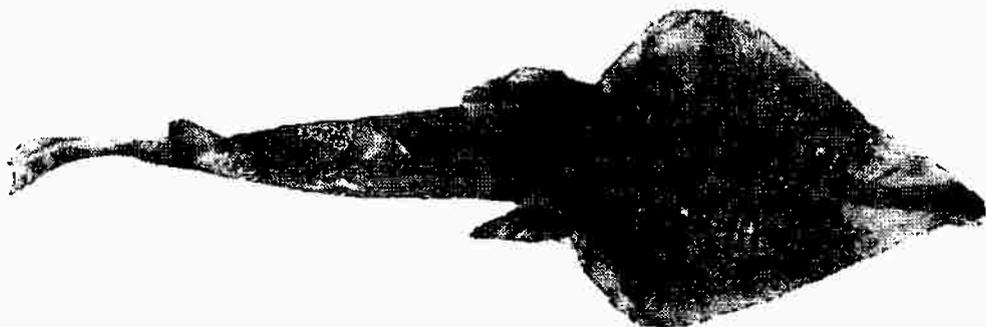
The dorsal outline of the head slopes anteriorly into an ovate, thin-tipped snout, and the head length equals about twice its breadth, and is somewhat less than one fifth of the total body length. The eye is oval, has an horizontal eye pupil and a subocular fold. The spiracle is oval, oblique, about one fifth of the length of the eye. The gill-slits increase gradually in length from the first to the third, which equals the fourth, but the fifth is the shortest. The nostrils are slightly oblique with the front valve produced posteriorly into a rounded lobe and are nearer to the mouth than to tip of rostrum. The mouth is wide, and has a gap which is somewhat longer than the preoral length. Well-developed labial folds lie in strongly marked labial furrows at the corners of the mouth (Text-Fig. 1).



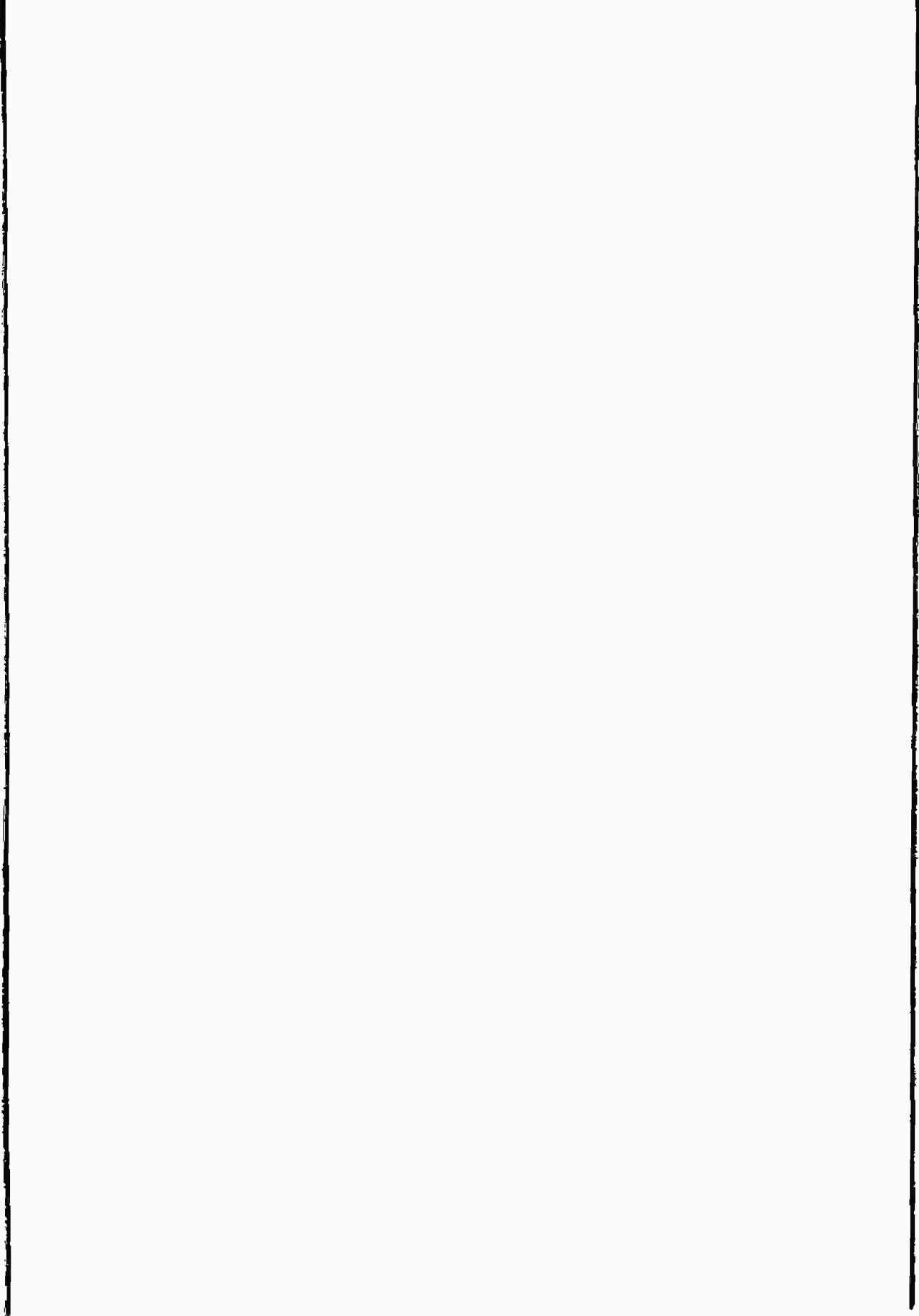
Text-fig. 1 — *Mustelus vulgaris*, antero-ventral view of head.



1 : *Mustelus vulgaris*.

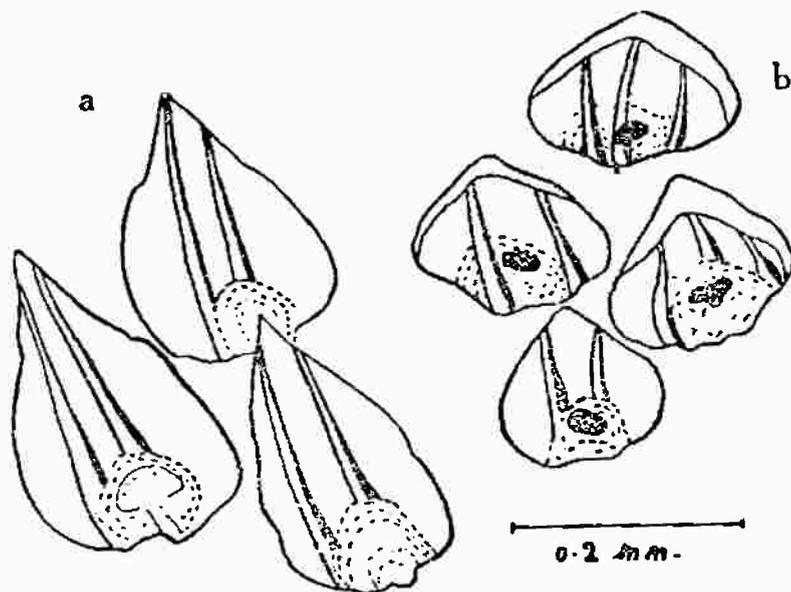


2 : *Rhinobatos rhinobatos* (Linn.).



The trunk is slender, tapers posteriorly, and its height at the origin of the first dorsal fin is about one seventh of the length of the body from the tip of the snout to the origin of the caudal fin. The first dorsal fin originates somewhat anterior to the proximal end of the pectoral fin, and has a slightly outcurved anterior margin, a deeply incurved posterior margin and a nearly rounded apex. The second dorsal fin resembles the larger first dorsal and originates considerably anterior to the anal fin. The pectoral fin originates below the fourth gill-slit and has an outcurved proximal margin but incurved distal one. The pelvic fin occurs wholly nearly at middle distance between pectoral and anal fin and has nearly straight anterior but a slightly incurved posterior margin. The anal fin equals nearly half the second dorsal fin and originates nearly below its middle. The caudal axis is slightly raised and the caudal fin is about one fifth of the total body length. The caudal peduncle is subcylindrical and has no caudal pits, and the caudal fin has a well-marked subcaudal lobe, as well as subterminal notch.

The dermal denticles (Text-fig. 2 a) are very small, lanceolate, each has only a single pointed spine and two ridges, and the basal plate is embedded in the skin. These denticles are arranged in oblique rows alternating with each other, and are partly overlapping. The stomodaeal denticles (Text-fig. 2 h) resemble the dermal in general shape and arrangement, but the spine is less pointed.



Text-fig. 2 — *Mustelus vulgaris*, (a) Dermal denticles from laterodorsal side of body, below first dorsal. (b) Stomodaeal denticles.

ORDER BATOIDEI
SUB ORDER RHINOBATOIDEA

FAMILY RHINOBATIDAE

Genus RHINOBATOS Linck 1790

RHINOBATOS RHINOBATOS (Linn., 1758)

This Mediterranean species (Pl. I, Fig. 2) is closely allied to *Rhinobatos schlegeli* previously recorded from the Red Sea (Gohar & Mazhar 1964). Four specimens ranging from 52 to 100 cm. were obtained from Alexandria market. The local Arabic name of this rhinobatoid is « Mehrat ».

The colour of this species is drab brown on the dorsal side and cream white ventrally and so it is distinguished from *R. schlegeli* which is brownish above but with scattered whitish spots all over the dorsal side of the disc.

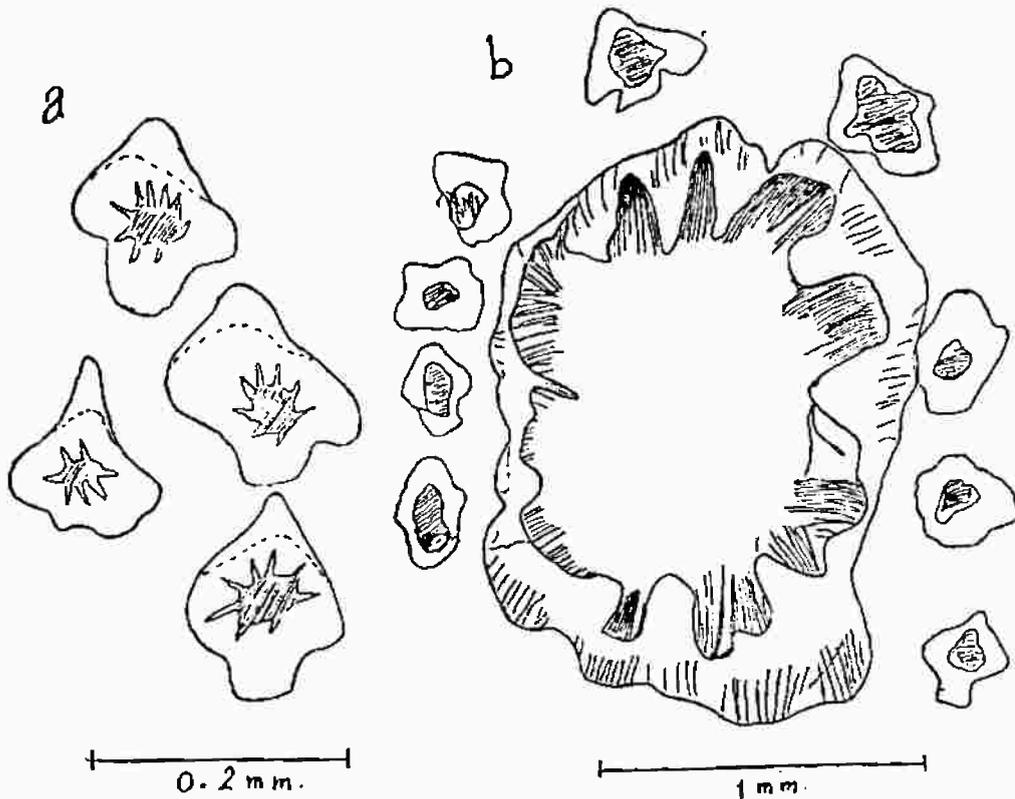
The snout in front of the orbits is $1\frac{4}{5}$ times in the length of the head and about $3\frac{1}{2}$ times the interorbital distance. The two lateral rostral cartilages are separate from one another along their whole length and converge in front. The eye is large and its long axis reaches about the spiracular length and about 4-5 times in the preorbital length. The two spiracular folds are moderately pronounced in young specimens but well developed in larger ones and the outer fold is longer than the inner one.

The two dorsal fins are of nearly the same size and shape, with the anterior margin somewhat outcurved while the posterior is slightly incurved. The place and size of the two dorsal fins are similar in this species and in *R. schlegeli*. The gill-slits are equidistant and the second, third and fourth gill-slits are equal in length and are longer than the first, while the fifth is the shortest. The first gill-slit is about $\frac{1}{3}$ of the length of the nostril, and the distance between the inner ends of the fifth pair of gill-slits is $\frac{10}{14}$ of that between the first pair. The mouth is narrow ; its width is about $\frac{2}{5}$ of the preoral distance and $1\frac{7}{10}$ times as the length of the nostril. The labial folds are moderately developed.

The tail is about $\frac{5}{8}$ of the total body length.

The teeth are arranged in 80-90 rows in each jaw and each row is in turn made up of 9-15 teeth, which have similar shape and arrangement as those of *Rhinobatos schlegeli*.

The skin is studded with minute arrow-shaped denticles (Text-fig. 3) more or less smooth to touch. A row of large compressed spines extends along the mid-dorsal line, from a distance posterior to the spiracles backwards till the second dorsal fin. On each shoulder, 3 spines are found, two of them along one line and the third is separate and occur outer to them. Also 2-4 spines occur around the eye and the spiracle of each side.



Text-fig. 3 — *Rhinobatos rhinobatos*, dermal denticles (a) : From laterodorsal side. (b) : From mid-dorsal line.

The stomach contents were partly digested prawn.

Fowler (1936) gave a short description to the same species. Bigelow and Schroeder (1953) described the group of *Rhinobatos rhinobatos* of the Eastern Atlantic and its immediate allies, as to have the anterior nasal flap extending inward across the inner margin of the nostril and so enchroaches upon the internarial space.

Our specimens conform with those of Chevey (1954).

III — CONCLUSION

The shark *Mustelus vulgaris* and the Ray *Rhinobatos rhinobatos* are Mediterranean species and are not Red Sea species.

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مدير المطبعة

بجى أحمد صالح