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ON THE SNAKE MACKEREL, *GEMPYLUS SERPENS* CUVIER FROM THE LACCADIVE SEA

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INTRODUCTION

DURING the third cruise of R. V. KALAVA in the Laccadive Sea (Jones 1959) two specimens of *Gempylus serpens* Cuvier, measuring 580 mm. and 434 mm. in standard length were collected by me from Station No. 449 (Lat. 10°.39′ N. Long. 72°.42′ E) on 29-4-1959. The vessel stopped at this Station at 20.00 hrs. and the fish came the ship's side evidently attracted by the search light. The larger of the two (Plate I, fig. 1) was seen at about 20.30 hrs. and the second specimen about an hour later. The sea in this area is about 2200 metres deep.

G. serpens is a bathypelagic form known from a number of places in the tropical regions of the Atlantic and Pacific Oceans (Heyerdahl 1950, Herre 1953, Matsubara and Iwaii 1952 and Munro 1958). Except for a solitary specimen from East London, South Africa (Bernard 1927), it has not been recorded so far from the Indian Ocean. Its distribution in the Indo-Pacific is given in Plate II.

Gempylus serpens Cuvier

Gempylus serpens Cuvier, 1829. *Regne Animal*, ed. 2, 2 : 200.

A description of the two specimens from the Laccadive Sea is given below.

Meristic Counts :

D_1. XXVIII ; D_2. iv, 9+6 (19) ; P_1. 14 ; P_2. I, 4 : A I-II, 9-10+7 (18-19) : C. i, 15, i, gill rakers 1+1+4 -5.

Description :

Dorsal profile more or less straight from snout to origin of second dorsal from whence it gradually slopes to base of caudal. Similarly ventral profile slopes from origin of anal towards base of caudal.

Head 5.13 to 5.69 ; first predorsal distance 5.85 to 6.07 ; base of first dorsal 1.7 to 1.79 ; second predorsal distance 1.3 ; base of second dorsal 12.4 to 12.76 ; base of second dorsal with finlets 4.61 to 4.66 ; snout to pectoral 4.93 to 5.12 ; snout to pelvic 4.42 to 4.46 ; snout to vent 1.45 to 1.57 ; snout to anal 1.3; pelvic origin to vent 2.2 ; pelvic origin to anal 1.87 to 1.94 ; base of anal 12.0 to 12.9 ; base of anal with finlets 4.4 to 4.6 ; length of first dorsal spine 23.2 to 28.9 ; length of second dorsal 16.07 to 18.71 ; longest dorsal finlet 33.4 to 36.16; length of pectoral fin 9.4 to 10.3 ; length of pelvic 62.0 to 72.0; length of anal 19.3 to 20.6 ; longest anal finlet 35.1 to 36.1 ; height of body 15.4 to 16.1 ; width of body 28.0 to 29.0 ; height of caudal peduncle

37.7 to 38.6 ; width of caudal peduncle 69.8 to 72.3; and length of caudal peduncle 23.8 to 31 in standard length. Snout 2.08 to 2.18 ; eye 6.1 to 6.3 ; interorbital distance 6.8 ; height of head at occiput 2.79 to 3.1 ; width of head 4.3 to 4.5 ; length of pectoral 1.84 to 2.02 and length of pelvic 12.14 to 14.12 in head length. Least height of caudal peduncle contained 1.2 to 1.62 in its length.

Lateral line double, commencing just above upper angle of opercle. Upper lateral line running parallel to base of first dorsal upto about origin of second dorsal from where it abruptuly disappears. Lower lateral line gently curves down above base of pectoral from where it runs in a straight line along midlateral part of body to about base of caudal fin.

Eyes conspicuously large. Maxilla extends to below vertical from middle of eye. Posterior nasal openings situated nearest to eye than to tip of snout.

Outer margin of dorsal fin more or less straight. Pectoral shorter than head, not extending beyond vertical below seventh dorsal spine. Pelvics minute with the first ray slightly elongate, origin slightly behind that of pectorals. Anal origin slightly behind that of second dorsal ; caudal deeply forked.

Teeth are well developed and are represented as follows in the two specimens.

	Specimen A [1] (580 mm.)		Specimen B [2] (434 mm.)	
	Right	Left	Right	Left
Upper Jaw	18+11 [3]	15+11	12+1	12+11
Lower Jaw	18	15	16	16

[1] Male ; [2] Sex indeterminate ; [3] Caniniform teeth.

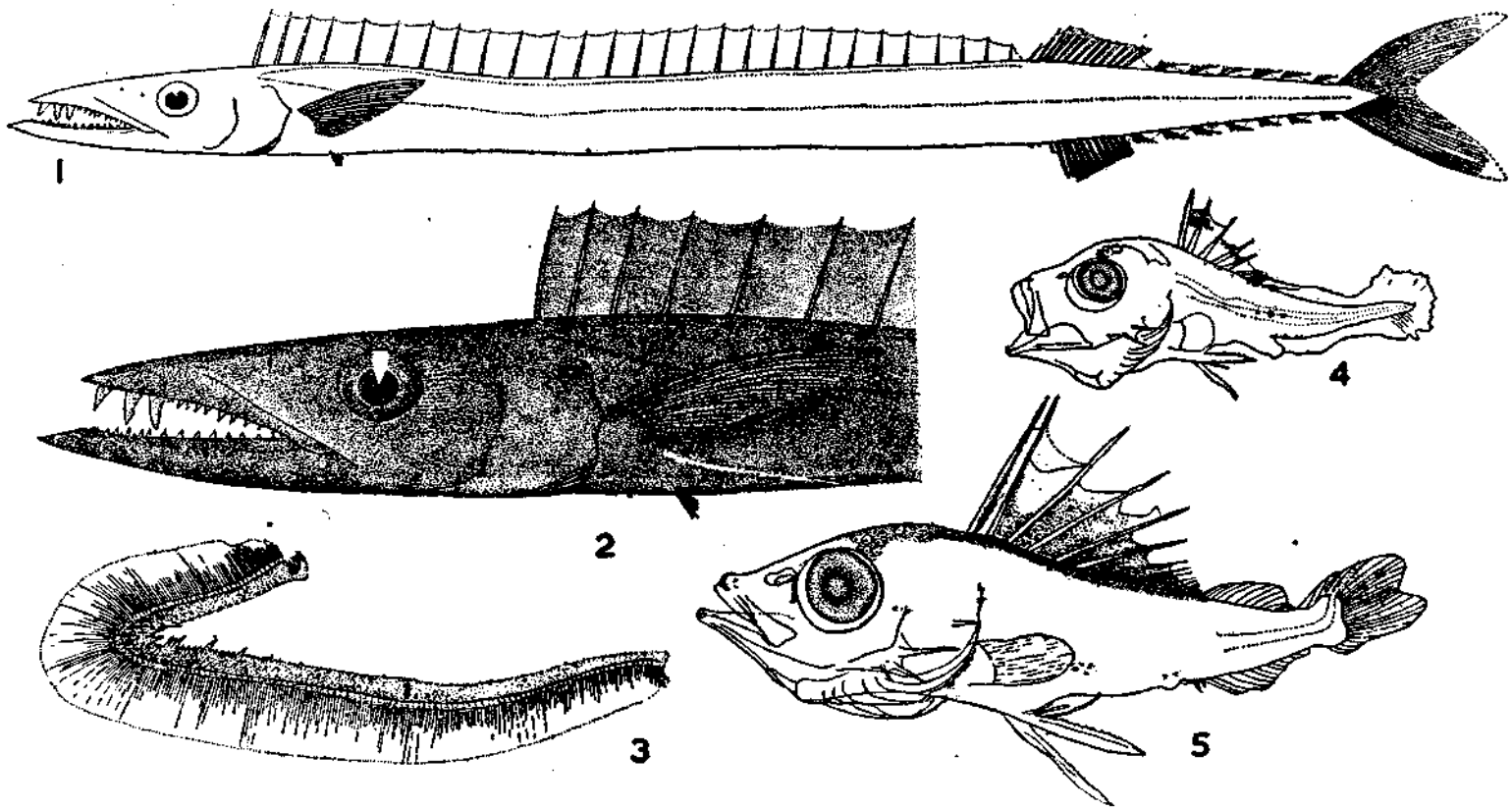
On preservation, body dorsally, sooty black, greyish along abdomen ; pectorals, caudal and interspinous membrane of first dorsal dark greyish. Head superiorly same as body colour ; lighter patches on maxilla, mandibles and operculum.

Incidentally it may be mentioned here that Tucker (1956) gives the dorsal fin ray count of *G. serpens* as spines 29 to 32 and soft rays 18. The same author gives the ventral count as 53.

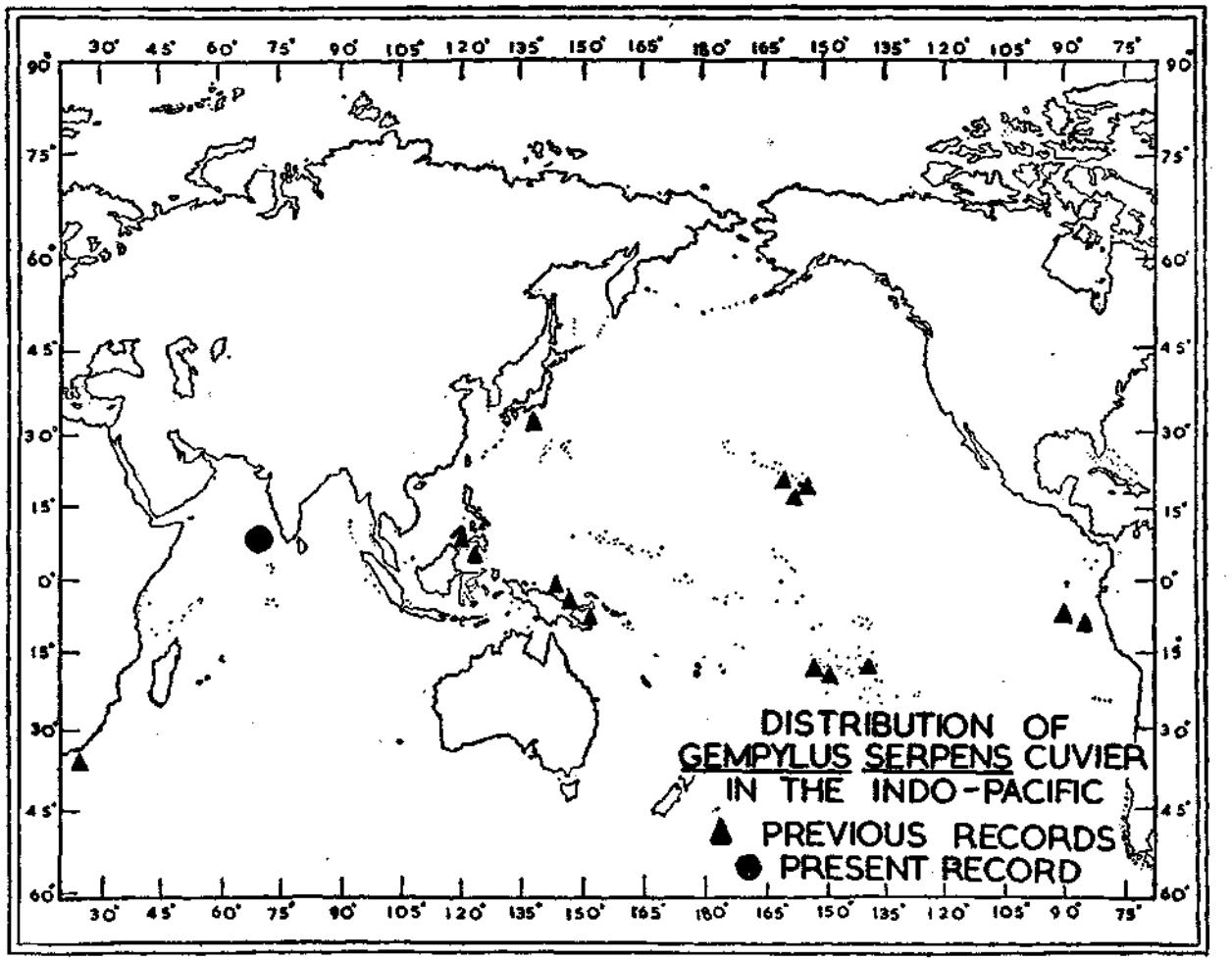
G. serpens is a carnivorous fish and possesses very prominant caniniform teeth (Plate I, fig. 2). The first gill arch is shown in Plate I, fig. 3. This species grows to a length of about one metre.

Larvae of *Gempylus serpens* Cuvier

A number of larval stages which were identified as belonging to this species have been collected from the Laccadive Sea during the cruises of R. V. KALAVA and two specimens measuring 4.91 and 8.28 mm. are figured (Plate I, figs. 4 & 5). The larvae of *G. serpens* have been found in the collections of the Dana Expedition from



1. *Gempylus serpens* Cuvier from the Laccadive Sea. 1. Outline figure of the 580 mm. specimen from KALAVA Station No. 449 ; 2. Head of the above ; 3. The first gill arch ; 4. 4.91 mm. larva from KALAVA Station No. 218 ; 5. 8.28 mm. larva from KALAVA Station No. 448. (Figs. 1-3 by K. L. K. Kesavan and 4 & 5 by Egbert Dawson).



II. Distribution of *Gempylus serpens* Cuvier in the Indo-Pacific.

the Indian Ocean and these along with those from the Laccadive Sea will be described elsewhere. The list of the KALAVA stations from where larval *G. serpens* have been collected are given below.

TABLE I

Details of larval *Gempylus serpens* collected from the Laccadive Sea.*

Date	Time	Station	Lat.	Long.	No. of specimens	Remarks
21-2-'58	08.30-08.35	209	73°08′	8°22′	4	Minicoy, outside the reef
24-2-'58	18.45-21.50	213	72°42′	9°43′	2	
28-2-'58	15.27-17.50	218	74°10′	10°03′	7	One specimen drawn (Plate I fig. 4)
9-4-'59	05.45-06.50	432	72°58′	10°38′	2	
29-4-'59	13.40-15.05	448	72°26′	10°46′	1	Drawn (Plate 1 fig. 5)
29-4-'59	19.50	449	72°42′	10°39′	1	
30-4-'59	11.15-11.38	453	73°40′	10°04′	3	

*In addition to those given in the table above there are 4 specimens collected on 8-11-1956 by Mr. M. Kumaran from about 60 miles north of Minicoy while proceeding to the Island in a sailing boat.

DISTRIBUTION

Circumtropical. Most of the records from the Atlantic Ocean are from the Carribbean Sea. It has been recorded from a number of places in the Pacific and from East London, S. Africa in the Indian Ocean. From the present record which is the first from the Central part of the Indian Ocean and from the distribution of the larval specimens it appears that the fish has a fairly wide distribution in the Indian Ocean.

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* Not consulted.