

**STUDIES ON DEMERSAL FISHES OF THE DEEP NERITIC WATERS AND
THE CONTINENTAL SLOPE 3. ON THE OCCURRENCE
OF THE OIL FISH *RUVETTUS PRETIOSUS* COCCO
(GEMPYLIDAE : PISCES) ON THE UPPER CONTI-
NENTAL SLOPE ALONG THE SOUTH-WEST
COAST OF INDIA**

ABSTRACT

A specimen of *Ruvettus pretiosus* Cocco (Gempylidae : Pisces) measuring 310 mm in total length was obtained in trawl collections from 185 fathoms in the Quilon Bank (9°04'N, 75°31'E.) on 7th November 1968. The paper embodies a description with illustrations of this species which has not been described from the Indian Seas upto now.

THE occurrence of *Ruvettus pretiosus* Cocco from the upper continental slope along the south-west coast of India was reported by Silas (1969). Since this is the first report of this species from the Indian Seas, a description of the specimen is given here. Earlier records of *R. pretiosus* Cocco from the Indian Ocean are from the deeper waters (200-275 fathoms) along the South African coast between Cape and Delagoae Bay (Gilchrist and Von Bonde, 1924 described as *R. delagoensis*; Barnard, 1927

and Smith 1961). This species has a wide distribution occurring also in the Pacific and Atlantic oceans and in the Mediterranean.

Material : One juvenile male (?), 310 mm in total length and 220 gm in weight, from 9°04'N., 73°31'E. (Quilon Bank), depth 185 fathoms on 7th November 1968 from trawl collections of Integrated Fisheries Project vessel *KLAUS SUNNANA*.

Description : D_1 , XV; D_2 , I+ 17 + 2; P_1 , 14; P_2 , I + 5 ; A, II + 16. Body fusiform, moderately elongate and laterally compressed. Standard length 270 mm. Head 29.26, snout 10.00, maxilla 15.16, inter orbital distance 8.15, vertical diameter of eye 5.93, horizontal diameter of eye 5.55, snout to origin of first dorsal 26.66, snout to origin of soft dorsal 67.41, snout to P_1 28.88, snout to P_2 33.33, snout to vent 66.30, origin of P_2 to vent 38.15, depth of body at origin of spinous dorsal 21.11, greatest depth of body 22.22, depth of body at vent 17.41 per cent in SL. Snout 34.18 in head length, Maxilla 51.90, vertical diameter of eye 20.25, length of canine teeth at anterior tip of upper jaw 8.86, length of longest gill-raker at angle of gill arch 5.06, least depth of caudal peduncle 17.72, distance from tip of snout to anterior naris 17.72 and tip of snout to posterior naris 26.58 per cent of head length.

The outer gill arch has a pointed tooth-like sharp gill-raker at its angle and a few minute clusters of villiform-tooth-like rakers along the upper and lower length of the arch. The posterior angle of the maxilla falls short of a vertical line through the posterior margin of the eye. The teeth on the jaws are well-developed and the upper jaw has anteriorly two canine teeth. Rudimentary villiform teeth are present on vomer and palatine. Teeth on lower jaw are pointed numbering about 8-12 on each side and have wider inter-spaces between each tooth; while those on the upper jaw are more closely arranged numbering about 15-17 on each side. The profile characteristic of the tip of the lower jaw is slightly longer than the upper. The scales are rather coarse like, plates and tubercles each with two ridges.

The stomach of the specimen was found to be gorged with the remains of a semi-digested fish.

Colour : The post-mortem colouration of the specimen is as follows: Body dusky in patches along the upper half and above the anal fin, mid-lateral region from slightly ahead of spinous dorsal and backwards to caudal peduncle silvery; so also mid-ventral region from symphysis to caudal. Upper sides and dorsal surface of head are dusky with a patch of silver-gray on the pre-operculum. Snout is sooty black, inter-spinous membrane of dorsal fin is black; but tips of spines are white. Other median and paired fins are dusky except the tips of the anterior rays of the soft dorsal and anal and the outer tips of the caudal. Similarly the spines of pelvic fins are white when fresh. On preservation, the white patches on the fish have disappeared and they are dusky. The general body colour has also changed to straw yellow.

The coarse surface of the body on account of the ridged scales is very characteristic and the skin is also thick. The fish when fresh was oozing with oil at the slightest pressure on the sides of the body.

Remarks : *R. pretiosus* grows to a large size and is said to attain about 2 m in length and weigh over 50 kg. No detailed study has been made on a graded series of specimens to understand the morphometric changes in body proportions with age in *R. pretiosus*. At least three more species have been described under the

Genus *Ruvettus* and they are considered synonyms of *R. pretiosus*. These species are *R. tydemani* Weber (1913), *R. pacificus* Jordan and Jordan (1922) and *R. delagoensis* Gilchrist and Von Bonde (1924).

The description of *R. tydemani* is based on a single specimen, 140 cm in length obtained during the Siboga Expedition from the deep waters off Binongka Island, Indonesia. The meristic characters for this species has been given as : D_1 XIII, D_2 16 + 2, A. 15 + 2, P_1 II + 11, P_2 I + 5. In this as well as in body proportions it shows considerable similarity to *R. pretiosus*.

R. pacificus is also considered a synonym of *R. pretiosus* (Herre, 1953). In the case of *R. delagoensis* which was described from a 380 mm specimen obtained at 275 fathoms from Delagoae Bay, South Africa, Gilchrist and Von Bonde remarked that in the greater depth of body ; greater length of head ; the maxillary reaching to vertical through the posterior margin of the orbit ; and the commencement of the D_2 being ahead of Anal, *R. delagoensis* differ from *R. pretiosus* and *R. tydemani*. Smith (1961) while describing *R. pretiosus* considered *R. delagoensis* a synonym of *R. pretiosus* and reproduced the figure of the latter given by Goode and Bean (1895). Our specimen is a juvenile and shows the diagnostic characteristics of *R. delagoensis* to which Gilchrist and Von Bonde had drawn attention to as distinguishing it from *R. pretiosus* and *R. tydemani*. It is quite likely that some of these differences may be attributed to the juvenile specimens as compared to adults. The inadequacy of graded series of specimens makes it difficult to comment on the significance of these characters mentioned as distinguishing *R. delagoensis* from *R. pretiosus* and *R. tydemani*. Until this is clarified, we consider *R. delagoensis* also a synonym of *R. pretiosus* and have identified our specimen as *R. pretiosus*.

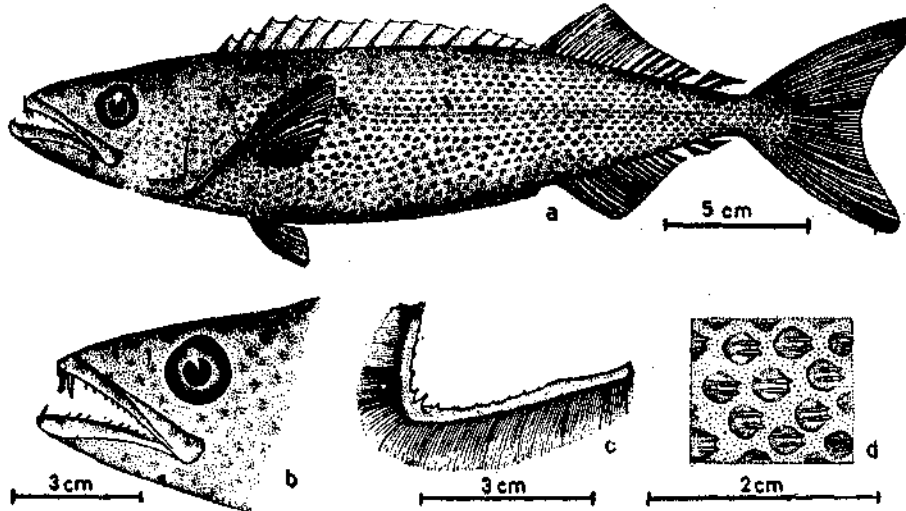


Fig. 1. The oil fish *Ruvettus pretiosus* Cocco, a. Lateral view ; b. mouth showing the canine teeth ; c. gill and d. portion of the skin showing the ridged scales.

This species gains its name 'Oil Fish' on account of the high oil content of the meat which virtually oozes oil when pressed. Gudger (1925) has discussed at length the use to which this oil is put to. The oil when taken is known to be an intestinal irritant. According to Gudger (1925) and Smith (1961), there have been several

instances of poisoning on account of consuming the flesh of *R. pretiosus*. Gudger (1927) has also made an extensive study about the manner in which this deep water fish is caught in various places in the Pacific.

The occurrence of this fish in the continental slope along the South-west coast of India, is yet another piece of evidence of the similarity in the deep water ichthyo-faunal complex that exists along the continental slope of the Indo-Pacific, some species being commercially exploitable.

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