

NOTES

UNDERWATER ECOLOGICAL OBSERVATIONS IN THE GULF OF MANNAR, OFF TUTICORIN

III. ON THE EMPEROR BREAM *Lutjanus sebae* SEBAE FOUND WITH *Pterois* THE SCORPION FISHES

During the dives made on rocky beds, several hundreds of small and large fishes were noticed inhabiting the rocky area lying between 8°35'N.-8°55'N. Lat. to 78° 10'E.-78°25'E. Long. up to 26 metres depth. Surprisingly, with the sole exception of an occasional *Lutjanus sebae* (Cuvier) not one species of *Lutjanus* of commercial importance was seen anywhere in the area explored. The deeper rocky areas (between 40-60 metres depth) seem to be rich in lutjanids as evidenced by the catches landed by local fishermen by hook and line.

While diving, *Lutjanus sebae* (30-40 cm. length range) were noticed on different occasions at 17-19 metres depth. The nature of the bottom over which *L. sebae* was seen was characterised by millipores, sand-covered flat rocks with narrow crevices and shallow rocky pits of limited extent inhabited by eels, serranids, *Balistes* and *Gaterin* spp. etc. The body colour of *L. sebae* was white with 3 brown, broad, oblique bands (Photograph).



Photograph. *Lutjanus sebae* (Cuvier) with the scorpion fish.

Every time, a single specimen was seen only in the company of the scorpion fish *Pterois miles* (Bennet) or *Pterois volitans* (Linnaeus) or both. When found in the association of more than one scorpion fish *L. sebae* remained in the middle so close together that its presence went unnoticed at first sight because of the matching body colour of the fishes. The pattern of disruptive colouration into which the body of *Pterois miles* or *P. volitans* is broken by patches of white and brown contrasting colours helped to mask *L. sebae* associated with them, thus giving a hide-out. Where only one scorpion fish was seen with *L. sebae*, the latter was spotted out easily. The fish, in either case remained sluggish or moved along with the scorpion fish in slow jerks. Any unsuspecting small fishes which happened to pass by the vicinity of the scorpion fishes disappeared into the mouth of *L. sebae*. When disturbed or apprehensive of any approaching enemy the fish did not try to move away for shelter into the crevices or pits nearby as other rocky fishes like serranids do. On the other hand it kept calm near the scorpion fish. Even if it was driven away from the scorpion fishes *L. sebae* returned to the company of its associates instinctively. On such occasions, the usually lethargic scorpion fishes also showed their affinity to *L. sebae* by moving half way down in the direction of the returning fish and jointly took up position.

REMARKS

Bleeker (quoted by Day 1958), Weber & Beaufort (1928), Smith (1955) and Munro (1955) described the colour pattern of *L. sebae* differently. It may be that the intensity and pattern of colour vary according to size of fish or from locality to locality depending on the surroundings. In the present case the pattern of distinct white and brown colouration of *L. sebae* might have been an obvious disadvantage to the fish in respect of self-protection as well as in hunting for the prey. This might have been the possible reason for its seeking company with the scorpion fish to overcome the drawbacks.

L. sebae is known to attain 40 inches length (Munro, 1955) in which case the size of the fish seen presently is comparatively small. It is not known whether only the smaller specimens resort to this mode of life or the large ones also form such an association. It would be, therefore, interesting to know its habit in relation to its size and depth at which it is found and also whether *L. sebae* is found in association with *Pterois* spp. in other parts of the world.

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REFERENCES

- DAY, F. 1958. *The Fishes of India*. I : 1-778. (Dawson & Sons Ltd.).
MUNRO, I. S. R. 1955. *The Marine and Fresh water Fishes of Ceylon*. Canberra : 1-349.
SMITH, J. L. B. 1961. *The Sea Fishes of Southern Africa*. 1-573.
WEBER, M. & DE BEAUFORT, L. F. 1936. *The Fishes of the Indo-Australian Archipelago* 7 : 1-607.