raptorial propodus has three stout spines and a row of pectinations. The dactylus has only the terminal tooth. Abdominal segments are broader than long; sixth with a pair of submedian dorsal spines. Lateral spines of telson short; denticles—one lateral, 11 intermediate, and 18 submedians on each side (Fig. 1 *b*). Uropod reaches almost to the base of intermediate spine; basal segment of exopod with three free spines; outer spine of ventral prolongation about one-third the length of the inner, the tip of which projects beyond that of endopod.

Hands of the third, fourth and fifth thoracic limbs are coloured conspicuously yellowish red.

The larva was kept alive in a glass dish of clean sea water, and overnight it metamorphosed into a post-larva, 17 mm. long, having

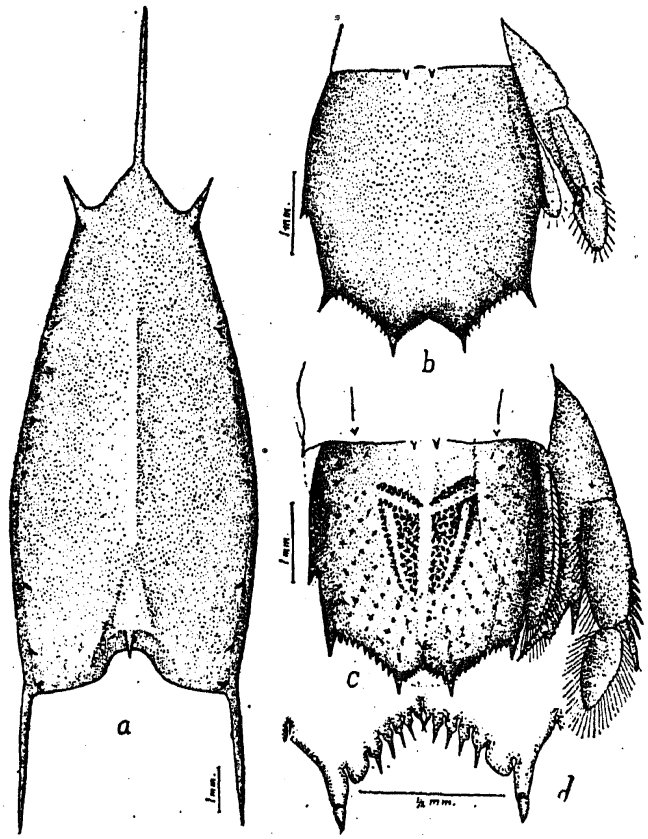

FIG. 1. *Squilla hieroglyphica*
a, final pelogic larva—carapase; *b*, final pelogic larva—telson and right urapod; *c*, early post-larvas—telson and right urapod; *d*, early post-larva—submedian area of telson.

undergone a complete moult. Fed regularly, it lived in the aquarium for 8 days and then died while undergoing the first post-larval moult.

In spite of its small size the specimen agrees remarkably well with Kemp's account (1913)[3] of *S. hieroglyphica*. The characteristic colouration on the telson, which according to Kemp is unlike any other species, is quite well marked in the young post-larva. On either side of the median carina of telson there are two longitudinal bands of dark chromatophores, the inner one very much broader than the outer, with which it is connected proximally. Close to but distinct from the base of these bands, on either side, is an obliquely placed narrow band which is even darker in colour (Fig. 1 *c*). There are five dark spots on the eye stalk, three of them arranged in the form of a triangle, while the rest are placed close to the cornea towards its outer aspect, on either side. The submedian spines of telson are terminally articulated and there are six submedian denticles on each side (Fig. 1 *d*).

S. hieroglyphica is a rare stomatopod, so far known only from two specimens, the type from an unknown locality (Kemp, 1913), and the second from the Philippines (Kemp, 1915). The present one from the Madras coast considerably extends the range of distribution of this rare species. It is interesting to note in this connection that Schmitt (1940)[4] records a closely related species, *S. hildebrandi* from the Panama Canal zone.

University Zoology Laboratory,
Madras, K. H. ALIKUNHI.
Department of Natural Science,
Maharaja's College,
Ernakulam,
August 24, 1944.

1. Alikunhi and Aiyar, *Curr. Sci.*, 1942, **11**, 2; 1943, **12**, 3. 2. Alikunhi, K. H., *Ibid.*, 1944, **13**, 1. 3. Kemp, S., *Mem. Ind. Mus.*, 1913, **4**; *Philip. Jour. Sci.* (D), 1915, 10, 4. Schmitt, W. L., *Atlan Hancock Pacific Exped.*, 1940, **5**, 4.

OCCURRENCE OF A STAUROMEDUSA ON THE INDIAN COAST

ACCORDING to Mayer[1] and many other students of Scyphozoa, the Stauromedusæ are found only in the Arctic and Antarctic regions and in the cold seas; owing to their absence from the tropics the group is often cited as a very noteworthy example of bipolarity in distribution.[2] It is, therefore, of unusual interest to record the occurrence of a Lucernarian from the Indian coast at the Krusadai Island in the Gulf of Manaar.

In recent years students from colleges at Madras and Trivandrum have made collections of Lucernarians during their study tours at Krusadai. I have been able to examine a number of specimens from these collections. As a detailed account may have to wait till normal publication facilities are again available the significant facts may here be recorded.

The Lucernarian occurring at Krusadai is one of the Eleutherocarpidæ with a well-developed but short stalk and eight marginal lobes, each of which bears a cluster of knobbed tentacles. The general appearance is similar to that of *Lucernaria* usually figured in textbooks and differing from *Haliclystus* in the absence of marginal anchors. The short peduncle is single-chambered and the inter-radial septa projecting into this chamber are devoid of longitudinal muscles. There are well-developed glandular pads on the clusters of tentacles. Owing to these and other characters the species comes under the genus *Lucernariopsis* belonging to the sub-family *Kishinouyiinæ*, adopting the scheme of classification proposed by Carlgren.[3] This genus is now known from three species, *L. campanulata* of the coasts of Europe and the Mediterranean (which is the common European Lucernaria), *L. capensis*

from South Africa described by Carlgren[4] and *L. vanhöffeni*, described by Browne[5] from the Antarctic. The genus *Lucernaria* includes only species known from the colder regions of the Atlantic. Both these genera are unrepresented in Japanese coasts where a number of other interesting Stauromedusæ are known.[6] Now that this rare group of Coelenterates is known from the Krusadai it is hoped that a more intensive search will be made for Lucernarians in other coastal regions of India. It would appear that the group is not so strictly bipolar as is commonly assumed. The possibility of these medusæ being brought to the tropical zone by means of cold currents from the south also needs careful study.

University Zoology
Research Laboratory,
Madras, N. KESAVA PANIKKAR.
August 15, 1944.

1. Mayer, A. G., *Medusæ of the World*, 1910, **3**, 500. 2. Ekman, S., *Tiergeographie des Meeres*, *Leipzig*, 1935, 330. 3. Carlgren, O., *K. Svenska Vet. Akad. Handl. Ser. III*, 1935, **15**, 1-24. 4. —, *K. Fysiograph. Sälls. Lund. Forh.*, 1939, **Bd. 8**, 139-44. 5. Browne, E. T., *Coelenterata V. Medusae. Rep. Nat. Antarct. Expd. Nat. Hist.*, 1910, **5**, 1-62. 6. Uchida, T., *Jap. Journ. Zool. Tokyo*, 1929, **2**, 103-89.

THE FOOD OF RIBBON-FISH *TRICHIURUS. Spp.**

THE Ribbon fishes, commonly known as "Thalayan" on the west-coast of our Presidency, are ribbon-like in appearance possessed of an elongated body, which is compressed from side to side. These fishes afford a good fishery from September to end of November, after which period catches are very poor upto end of March.

The study on the food of the Ribbon-fish was based upon a systematic examination of the stomach contents of 281 specimens of *T. savala* (Cuv. and Val.), 208 specimens of *T. haumela* (Forsk) and 2 specimens of *T. muticus* (Gray). This has established the fact that Ribbon-fishes are mainly carnivorous in their feeding habits. Besides, it has been possible to infer from the many observations made, that their appetite is something insatiable. Several specimens when examined showed the stomach unusually distended and gorged with foodmaterials in different stages of the digestive process.

Coupled with the voracity for eating, these carnivorous fishes exhibit a total lack of choice as regards their food. So indiscrimminate is their feeding habit, that sometimes, their abundance may have some adverse effect on other fisheries. For instance, the samples of *T. savala*, examined on 10th September 1943, revealed the stomach to be literally clogged with macerated fish-eggs, which feature would very likely hit other fisheries.

Prawns and White-baits constitute their favourite food, for these were invariably found in all stomachs. Ribbon-fishes are so partial to prawns and white-baits that they pursue them for long distances. Ribbon-fishes since they follow shoals of white-baits and prawns have been profitably hauled by fishermen in those localities where prawns and white-baits abound. Besides, statistics point out that there is some relation between the fishery of Ribbon-fish and white-bait, for when the white-bait fishery is poor, than that of Ribbon-fish is also comparatively little.

The other items of food found in their stomach are given below:—

1. Sardine (*Sardinella fimbriata*).
2. Silverbelly (*Leiognathus splendens*, *L. bindus*).
3. Sole (*Cynoglossus semifasciatus*).
4. Big-jawed Jumper (*Lactarius Lactarius*).
5. Rainbow-sardine (*Dussumieria hasselti*).
6. Anchovy (*Engraulis mystax*, *E. dussumieri*).
7. Glass-fish (*Ambassis dayi*).
8. Grunter (*Pristipoma* spp.).
9. Horse-Mackerel (*Caranx.* spp.).
10. White Sardine (*Kowala thoracata*).
11. Jew Fish (*Sciaena.* spp.).
12. Fish Larvæ, Eggs, Sand-grains.

Marine Biological Station,
West-Hill,
March 12, 1944. R. S. VENKATARAMAN.

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ACCLIMATISATION OF SALT-WATER MULLET *MUGIL SEHELI* TO FRESH WATER†

DEVANESEN AND CHACKO* have shown how fry of Mulletts—*Mugil troschelii* and *M. waigiensis* taken from the sea—can be accumulated to the freshwater conditions at Krusadai Biological Station. Commenting on this note Hora has pointed out the great practical importance of culture of these fishes in the areas adjoining the sea-shore. This note embodies the results of acclimatisation of a common Mullet along the West Coast—*Mugil seheli*.

South of the West-Hill Marine Biological Station is a stream which is connected with the sea during high tide but is cut off from it by a sand bar during low tide. It is noticed that during low tide *Mugil seheli* are trapped in the stream. The fishes were collected from this locality and kept in a glass tank filled with salt-water. The water in the tank was kept constantly aerated by means of a simple aeration apparatus. Gradually the salinity of the water in the tank was reduced by the admixture of fresh well water for a period of 12 days when the tank was filled entirely with fresh-water. The fishes were fed on fresh plankton—Copepod, Leucifer, Sagitta, etc. It was observed that the fishes were not in the least affected by the changes in salinity. They continued to thrive very well in freshwater. There is every reason to believe that the freshwater fishery resources can be made more productive by stocking them with *Mugil seheli*.

Marine Biological Station,
West-Hill,
December 10, 1943. R. S. VENKATARAMAN.

† Published with the kind permission of the Director of Indurstry and Commerce, Madras.

* Devanesen D. W., and Chacko P. I., *Pro.. Nat. Inst Sci.*, 1943 **19**, No. 2.