# NOTES ON SOME RARE AND INTERESTING FISHES FROM THE ANDAMAN ISLANDS, WITH DESCRIPTIONS OF TWO NEW FRESHWATER GOBIES.

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(Plate VI).

Our knowledge of the freshwater and the littoral marine fish-fauna of the Andaman Islands is very limited, and is mainly based on four papers, two by Blyth[1], one by Day[2] and the fourth and the last by Annandale and Hora[3]. With the exception of Annandale and Hora, the other authors did not give particulars as to the type of environments in which the various species were found, nor did they pay attention to the remarkable forms that are found in the streams of the jungle-clad hills of these islands. In these islands there are a few freshwater streams which in the hilly areas turn to mountain rapids; but these also, except during the rainy seasons, are insignificant, and very shallow. Nevertheless, their fish-fauna offers very interesting forms for study. Large natural tanks and ponds are rare on these islands, but as a result of comparatively recent development of the activities of the Penal Settlement and local agriculture, a number of fairly large reservoirs, tanks and ponds have been dug up in various localities.

Among the principal species of fish known to thrive in these and other fluviatile waters, are certain members of the families, Ophicephalidae, Cyprinidae, Cyprinodontidae, Gobiidae, Eleotridae and Syngnathidae. The species are as follows:

*Ophicephalus gachua* Ham. Buch.
*Labeo rohita* (Ham. Buch.)
* *Rasbora daniconius* (Ham. Buch.)
*Panchax panchax* (Ham. Buch.)
* *Aplocheilus melastigma* (McClell.)
*Glossogobius giuris* (Ham. Buch.)
*Eleotris fusca* (Bl. & Schn.)
*Syciopterus garra* Hora.
*Ophiocara ophicephalus* (Kuhl & van Hasselt).
*Doryichthys insularis* Hora.

Of the ten species, the well known Indian carp, *Labeo rohita* has been introduced within recent years into the Andaman Islands in the "fingerling" stage from the neighbourhood of Calcutta, and though precise information about the breeding of the species in these places is still wanting, specimens of the species have been found to grow and thrive fairly well in certain tanks in the neighbourhood of Port Blair. It may also be presumed that several other smaller species such as *Rasbora*

[1] Blyth, *Journ. Asiat. Soc. Bengal*, XXVII, pp. 270-272 (1858); *Journ. Asiat. Soc. Bengal*, XXIX, pp. 145-147 (1860).
[2] Day, *Proc. Zool. Soc. London*, pp. 677-705 (1870).
[3] Annandale and Hora, *Rec. Ind. Mus.*, XXVII, pp. 33-41, pl. ii (1925).
* The species marked with an asterisk are recorded here for the first time from the Andaman Islands.

*daniconius, Panchax panchax, Aplocheilus melastigma,* etc., have also been introduced along with *Labeo rohita.* The introduction of *Ophicephalus gachua* in the fresh waters of these islands must also have been, as in the case of other distant oceanic islands, effected through human agency. The rest of the species which are invariably found in muddy and rocky streams, are not true fresh-water forms but consist mainly of highly adaptable marine species, and I fully concur with the opinion that the " fluviatile fish-fauna of the Andamans has been derived from the surrounding sea rather than from any other territory "[1]. The stream-fauna of these islands, therefore, offers a very fascinating field of study from the standpoint of evolution of the freshwater forms from the marine element.

In regard to the occurrence of Siluroid fishes in the Andaman Islands, Day (*op. cit.,* p. 677) remarked that they " are very rare " He reported only 5 species, belonging to the families Plotosidae and Ariidae. Of these, *Plotosus canius* Ham. Buch. and *Plotosus anguillaris* (Bl.) were " found in the muddy estuaries in considerable numbers ", but no mention is made of the respective localities of the three Ariid fishes, *e.g., Arius sumatranus* Benn. (=*A. venosus* Cuv. & Val.), *A. andamanensis* Day (=*A. thalassinus* Rüpp.) and *Ketengus typus* Bleeker. It is apparent, however, that the first two species came from the open sea, while the third was procured from some brackish water area near the shore. So far we are totally ignorant of the occurrence of any of the true fluviatile Siluroid fishes in these islands, though it is probable that certain species may have been introduced with *Labeo rohita.*

The Andaman Islands are rocky for the most part and are surrounded by extensive coral reefs ; the water, except during the monsoons, is beautifully clear. Consequently, it is possible to observe even at considerable depths, the movements of the various fishes, crustaceans and other animals inhabiting the coral beds which are conspicuous for their exquisite assortment of colour. The fish-fauna of the coral reefs around these islands is of unusual interest, and environmental conditions are particularly suitable for the study of the fauna.

In the course of preliminary investigations in connection with the establishment of a shell-fisheries department at Port Blair, several parties from the Zoological Survey of India, including the author, have since 1929 been visiting the islands from time to time. In 1930, a five-years' Fishery Research scheme (1930-1935) was sanctioned by the Government of India and the successive Fisheries Research Officers stationed at Port Blair, have since been in a position to investigate the fauna of the Andaman waters more intensively. As a result of these activities very large and valuable series of Andaman fishes, both fresh-water and marine, have accumulated in the collections of the Zoological Survey of India. In view of the importance of these collections on one hand, and the dearth of our knowledge of the fishes of the Andaman Islands, on the other, it has been decided to make a thorough study of the collections and to report on them from time to time. At the instance of Dr. Baini Prashad, Director of the Zoological Survey of India and Dr. S. L. Hora I have undertaken this study.

[1] Annandale and Hora, *op. cit.,* p. 35.

In the present communication I deal with a portion of the collection made in 1934 by Dr. H. Srinivasa Rao from several muddy and rocky streams, coral beds and pebbly shores.

Of the twelve species under report, five come from small freshwater streams and pools, and five from coral reefs, while the remaining two were taken near the shore from among stones and gravel. Below I give a complete list of the species arranged according to their respective habitats:

I. MUDDY OR ROCKY STREAMS:
- *Awaous melanocephalus* (Bleek.)
- *Eleotris fusca* (Bl. & Schn.)
- *Glossogobius giuris* (Ham. Buch.)
- *Raogobius andamanicus*, gen. *et* sp. nov.
- *Vaimosa koumansi*, sp. nov.

II. CORAL REEFS:
- *Bathygobius fuscus* (Rüpp.)
- *Zonogobius semidoliatus* (Cuv. & Val.)
- *Tripterygion* (*Enneapterygius*) *fasciatum* Weber
- *Doryrhamphus melanopleura* (Bleek.)
- *Choeroichthys sculptus* (Günther)

III. PEBBLY SHORE:
- *Blennius semifasciatus* Rüpp.
- *Plesiops nigricans* (Rüpp.)

I wish to express here my sincere thanks to Dr. Baini Prashad, Director, Zoological Survey of India, for giving me the opportunity to study the material and for kindly going through the manuscript. To Dr. S. L. Hora, I am greatly indebted for help and useful suggestions. I am also thankful to Dr. H. Srinivasa Rao for the excellent preservation of the material and for helping me with useful information. Messrs. S. C. Mondul and R. C. Bagchi have drawn the accompanying illustrations under my supervision, and my best thanks are due to them.

## Family GOBIIDAE.

### Genus **Awaous** Cuvier & Valenciennes (1837).[1]

### **Awaous melanocephalus** (Bleeker).

1849. *Gobius melanocephalus*, Bleeker, *Verh. Bat. Gen.*, XXII, p. 33.
1849. *Gobius personatus*, Bleeker, *Verh. Bat. Gen.*, XXII, p. 34.
1849. *Gobius grammepomus*, Bleeker, *Verh. Bat. Gen.*, XXII, p. 34.
1851. *Gobius grammepomus*, Bleeker, *Nat. Tijd. Ned. Ind.*, IX, p. 200.
1861. *Gobius litturatus*, Heckel MS., Steindachner, *Sitzb. Akad. Wien*, XLII, p. 289.
1861. *Gobius grammepomus*, Günther, *Cat. Fish. Brit. Mus.*, III, p. 64.
1870. *Gobius Stoliczkae*, Day, *Proc. Zool. Soc. London*, p. 692.
1878. *Gobius personatus*, Day, *Fish. India*, p. 292, pl. lxiii, fig. 6.
1879. *Awaous personatus*, Bleeker, *Contrib. faune Ichth. l'ile Murice*, *Verh. Akad. Amsterdam*, XVIII, p. 17.
1895. *Gobius grammepomus*, Boulenger, *Ann. Mag. Nat. Hist.*, (6), XV, p. 185.

[1] In preferring the name *Awaous* to *Chonophorus*, adopted by most of the American ichthyologists, I entirely subscribe to the views advanced by Koumans ('A preliminary revision of the genera of the Gobioid fishes with united ventral suckers', *Proefschrift Lisse*, pp. 82-84, 1931).

1913. *Gobius melanocephalus*, Weber, *Siboga Expeditie, Fische*, p. 465.
1913. *Gobius melanocephalus*, Weber, *Nova Guinea*, IX, pt. 4, p. 599.
1913. *Gobius melanocephalus*, de Beaufort, *Bijd. Dierk., Amsterdam*, XIX, p. 139.
1927. *Gobius melanocephalus*, Barnard, *Ann. S. Afric. Mus.*, XXI, p. 818.
1927. *Chonophorus melanocephalus*, Herre, *Bureau Sci. Manila, Monogr.* 23, pp. 216-218, pl. xvii, fig. 1.
1928. *Chonophorus melanocephalus*, Fowler, *Mem. Bernice P. Bishop Mus.*, X, p. 410.

In the collection under report there is a single specimen of the species collected (27-xii-33) by Dr. Rao from " shallow stream near base camp, N. Andamans " It was found " sticking to stones or hidden amongst gravel ; very elusive and quick in movements " The specimen is in a good state of preservation and is 33 mm. long excluding the caudal fin.

*A. melanocephalus* is a very characteristic, wedge-shaped and strikingly coloured goby of the mountain torrents, swiftest rivers and shallow and rapid gravelly streams. Its horizontal ventral profile, broad fins and powerful sucking disc are particularly suited for clinging to the bottom under the shelter of rocks and boulders. The form of its snout and mouth, which is very peculiar, is certainly " an adaptation for life as a bottom dweller as it nuzzles around for food under the rocks." The species rarely exceeds 135 mm. in length and presents considerable variation in colouration and in certain body proportions. Herre (*op. cit.*, p. 217) has observed that " specimens from wide shallow streams being much paler than those living under rocks in mountain torrents."

*A. melanocephalus* is very closely related to *A. genivittatus* (Cuv. & Val.), *A. lachrymosus* (Peters), and *A. ocellaris* (Broussonet), and although these three species are probably valid, as considered by several authors, it is by no means easy to separate them, in view of the wide range of variation of colouration and of different body proportions in each of the species. The specimen under report is provided with a black patch beneath the eyes, which invariably characterises both *A. genivittatus* and *A. lachrymosus*, but is not reported so far to have been found in *A. melanocephalus* ; the rest of the characters, however, clearly indicate that it should be referred to the latter species.

Originally the species was described from Java under three separate names by Bleeker (*vide* synonymy) which he afterwards united under the name *Gobius grammepomus*. It has since been found from the Andamans, Ceylon, and Madras eastwards to Celebes, Buru, and Amboina.

**Raogobius,** gen. nov.

The new genus represents small and delicately built gobies with an elongate and compressed body and a depressed head. The neck and the crown of the head are flattened in such a manner as to give the latter a characteristic snake-like appearance. The body is almost naked except for the region of the caudal peduncle which is partly covered with very thin but large cycloid scales. The eyes are superior, but do not project above the dorsal profine. They are situated in the anterior half of the head. The interorbital width is almost equal to the diameter of the eye. The snout is a little longer than the orbital width. The nostrils are not tubular. The mouth is oblique ; the jaws are subequal, the lower one being somewhat better developed. The premaxilla is protractile ; the maxilla extends backwards to below the anterior third

of the eyes. The teeth are fixed and widely set; they are rather long and needle-like and are curved backwards at the tips. In the upper jaw they are arranged in a single well defined row, while in the lower jaw they are distributed in two rows which are somewhat irregular. The tongue is faintly notched. The gill-openings are moderate; the isthmus is broad. The inner edge of the shoulder-girdle is devoid of fleshy flaps. The dorsal fins are inserted well apart. The first dorsal is composed of six slender and flexible spines, which, in certain specimens (males ?) may be produced into filaments. The second dorsal is provided with ten (1/9) rays, the last branched one being divided to the root. The anal fin is similar to the second dorsal but has thirteen (1/12) rays. The ventral fins are united, forming a well developed disc which is somewhat oblong and situated below the pectorals. The pectorals are long and devoid of free silken rays. The caudal fin is lanceolate.

*Genotype.*—*Raogobius andamanicus*, sp. nov., collected from a muddy stream, south-west of Golf course, Aberdeen, Port Blair, Andamans (February 12, 1934).

*Relationship.*—According to Koumans'[1] key to the genera belonging to the subfamily Gobiinae, *Raogobius* occupies a place intermediate between *Schismatogobius*[2] and *Mirogobius*[3], but differs from either in the following characters :—

i. The region of the caudal peduncle is covered with thin cycloid scales.
ii. The maxilla extends backwards to below the anterior third of the eyes.
iii. In the upper jaw the teeth are arranged in a single row, while in the lower jaw they are in two rows.
iv. The tongue is faintly notched.
v. The first dorsal fin is composed of six spines.
vi. The second dorsal fin is provided with ten (1/9) rays.
vii. The caudal fin is lanceolate.

Comparing these characters with those of *Schismatogobius* and *Mirogobius*, it will be found that *Raogobius* essentially differs from *Schismatogobius* in characters,[4] (i), (ii), (iii) and (vi), while from *Mirogobius* it can easily be separated by characters, (ii), (iii), (v),[5] (vi)[6] and (vii).

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[1] Koumans, ' A preliminary revision of the Gobioid fishes with united ventral fins ' *Proefschrift Lisse*, iv+174 pp. (1931).

[2] de Beaufort, ' On some new Gobiidae from Ceram and Waigen ' *Zool. Anz.*, XXXIX, p. 139 (1912); and ' Fishes of the Eastern part of the Indo-Australian Archipelago with remarks on its zoogeography ' *Bijd. Dierkunde*, XXIX e, p. 142; *Schismatogobius bruynisi*, pl. ii, fig. 2 (1913).

[3] Herre, ' Gobies of the Philippines and the China sea ' *Bureau Sci. Manila, Monogr.* 23, p. 91; *Mirogobius stellatus*, pl. vi, fig. 4 (1927).

[4] Unfortunately the character of the tongue in *Schismatogobius* is not known; a comparison of this structure is, therefore, not possible.

[5] In the original definition of *Mirogobius* it is mentioned that there are 4-5 spines in the first dorsal fin, but in the figure of *M. stellatus*, the type-species, 6 spines have been shown. Koumans has taken this discrepancy with due caution. This is an " error of artist " as pointed out by Herre in his own hand-writing in the copy of his paper before me.

[6] In the original definition of *Mirogobius* as also in Koumans' description, the genus has been characterised by the possession of 8 (1/7) rays in the second dorsal fin. In the key, on the other hand, Koumans has put " 9-11 " rays for the same. This is obviously an error.

In so far as its general facies is concerned, *Raogobius* has a much closer resemblance to *Schismatogobius* than to *Mirogobius*.

I have great pleasure in associating the name of the genus with that of Dr. H. Srinivasa Rao of the Zoological Survey of India.

**Raogobius andamanicus,** sp. nov.

(Plate VI, figs. 1 & 2.)

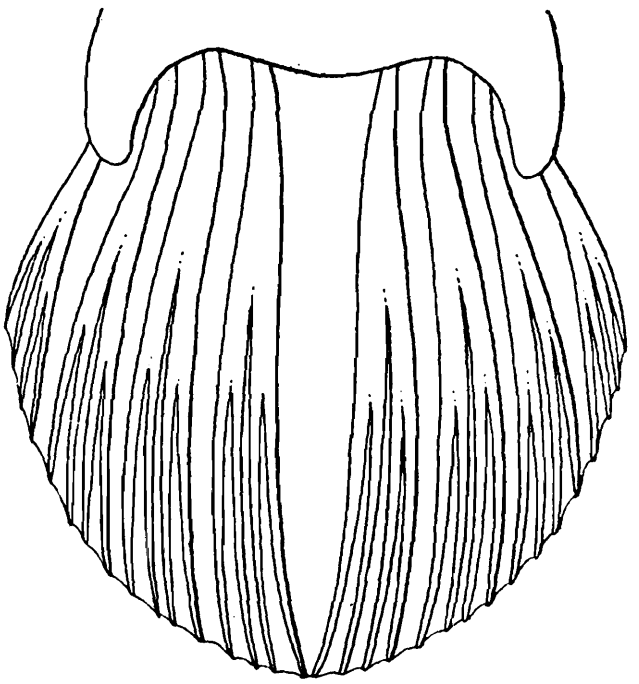
D. VI, I/9 ; A. I/12 ; P. 13 ; V. 8 ; C. 13 (excluding the small compact outer rays).

In general outline this small goby is elongated, narrow and more or less spindle-shaped. The body behind the head is considerably compressed from side to side. The flatness of the head as also of the crown gives the fish a snake-headed appearance. The maximum depth of the body which lies in a vertical plane below the middle of the spinous dorsal is contained almost 7 times in the length of the body excluding the caudal fin. The caudal peduncle is nearly as long as high. The head is longer than broad and slightly broader than deep. Its length is contained 4·2 times in the length of the body. The snout is obtusely pointed and is a little longer than the orbital width. Its length is contained less than 3·5 times in the length of the head. The cheeks are somewhat fat and consequently the width of the head is greater than the maximum width of the body. The eyes are moderate and sub-elliptical ; they are supero-lateral, placed entirely in the anterior half of the head, and are separated by a concave interspace which is slightly narrower than the orbital width. The diameter of the eye is contained 5 times in the length of the head. The non-tubular anterior nostrils are situated nearer the margin of the eyes than the tip of the snout.

The dorsal fins are separated by a distance which equals almost the three-fourths of the base of the spinous dorsal. The spinous dorsal is inserted midway between the tip of the snout and the posterior end of the rayed dorsal. Its spines are longer than half the depth of the body below them, the penultimate one being the longest. The origin of the second dorsal is one ray in advance of that of the anal. The second dorsal is lower than the first and its rays are more or less of equal size ; it falls short of the caudal when adpressed. The anal fin is nearly as high as the rayed dorsal ; both these fins are similar in shape and are angulate posteriorly. Their margins are nearly straight. The pectorals are obtusely pointed and are as long as the length of the head behind the snout ; their central rays are about twice as long as the marginal ones, extending to below the fourth dorsal spine. All the rays of the ventrals are tetra-radiate distally and form a very effective adhesive disc. The frenum is thick and sub-tubulate ; its bihorned free margin is characteristic of the species. (Text-fig. 1). The caudal fin is as long as the head ; it is about half as broad as long.

Except for the posterior fourth, the body is naked, but covered with granular mucous which when removed may leave small pits in the skin

resembling rudimentary scales. The other characters are as given under the generic description.



TEXT-FIG. 1.—Enlarged view of ventral disc of *Raogobius andamanicus*, gen. *et* sp. nov., showing characteristics of rays and frenum. ×30.

The general colouration in alcohol is straw yellow but becomes pale brownish in the abdominal region. The top of the head is dark. The whole of the body as also the inter-radial membrane of all the fins are thickly spattered with very fine blackish dots. There are six fairly large black transverse blotches along the upper half of the sides of the body. Four anterior ones of these are semi-ovoid in shape and are almost equidistant from each other. The fifth one, situated below the posterior end of the rayed dorsal, is somewhat smaller than the preceding ones and is indistinct, while the sixth one, at the root of the caudal fin is the largest of all the blotches and is somewhat rounded. This *Nemachilus*-like colour pattern is very characteristic of the species, and seems to be rather unusual[1] among gobioid fishes. The anal fin is tipped with black. The rest of the fins are pale brownish.

The species is described from a single specimen, 21 mm. long excluding the caudal fin.

*Type-specimen.*—No. F 11788/1, preserved in the collection of the *Zoological Survey of India, Indian Museum, Calcutta.*

*Remarks.*—From its general facies, lepidosis, character of the adhesive disc, the development of the frenum, and the characteristic colouration, it appears that *Raogobius andamanicus* is an inhabitant of rocky mountainous streams and that somehow the type specimen has drifted to a muddy stream.

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[1] The characteristic Siamese goby, *Pipidonia quinquecincta* Smith (*Proc. U. S. Nat. Mus.*, LXXIX, pp. 39, 40, fig. 19, 1931) has a more or less similar colour pattern.

*Measurements in millimetres.*

| | |
|---|---|
| Length of body without caudal | 21·0 |
| Height of body | 3·5 |
| Length of head | 5·0 |
| Breadth of head | 3·0 |
| Height of head | 2·0 |
| Length of snout | 1·5 |
| Diameter of eye | 1·0 |
| Interorbital width | 0·75 |
| Length of spinous dorsal | 2·5 |
| Length of rayed dorsal | 4·0 |
| Length of anal | 5·5 |
| Length of pectorals .. | 4·0 |
| Length of ventrals | 3·0 |
| Length of caudal | 5·0 |
| Length of caudal peduncle | 3·0 |
| Least height of caudal peduncle | 2·5 |

## Genus **Bathygobius** Bleeker (1878).

### **Bathygobius fuscus** (Rüppell).

1927. *Bathygobius fuscus*, Herre, *Bureau Sci. Manila, Monogr.* 23, pp. 113-115, pl. viii, fig. 2 (see synonymy).

The species is represented in Dr. Rao's collection from the Andamans by a single specimen, 25 mm. long excluding the caudal fin. It was taken (31.i.34) at Brookesabad from under stones and dead corals between tide marks.

*B. fuscus* is one of the most widely distributed of the Indo-Pacific gobies of the tide pools, rocky and shallow coastal waters and river mouths of India, the East Indies, Samoa, Marcus Island, the Hawaiian Islands and the West Indies. Herre (*op. cit.*, p. 115) has observed that " among the islands of Sulu Archipelago it is abundant in the shallow water of salt water lagoons where it is more or less exposed at low tide, when it seeks shelter in pools and holes in coral sands ; it can evidently thrive in water of rather high temperatures since the puddles in which it stays when the tide is out soon become excessively warm."

Of a number of aquatic gobies that inhabit such brackish water areas of the Gangetic Delta as are subject to immersion and desiccation with the rise and fall of the river, certain species, such as, *Apocryptes bato*, *Pseudapocryptes lanceolatus*, *Taenioides rubicundus*, *Stigmatogobius sadanundio*, etc., show wonderful adaptability to their very stable environment. Not unlike, *B. fuscus*, some of them can thrive in considerably warm waters of the pools and puddles when the tide is low, while others habitually make suitable burrows as to have access to a cooler medium. The study of the different aspects of ecology of the goboioid fishes of the Gangetic Delta is one of particular interest and importance.

## Genus **Zonogobius** Bleeker (1874).

### **Zonogobius semidoliatus** (Cuv. & Val.).

1837. *Gobius semidoliatus*, Cuvier & Valenciennes, *Hist. Nat. Poisson.*, XII, p. 51.
1861. *Gobius semidoliatus*, Günther, *Cat. Fish. Frit. Mus.*, III, p. 31.
1876-81. *Gobius semidoliatus*, Günther, *Fische der Sudsee*, II, p. 174, pl. cix, fig. 4.
1878. *Gobius semidoliatus*, Day, *Fish. India*, p. 295, pl. lix, fig. 6.
1905. *Zogobobius semidoliatus*, Jordan & Seale, *U. S. Bur. Fish. Bull.*, XXV, p. 397, fig. 86.
1913. *Gobius semidoliatus*, Weber, *Siboga Expeditie, Fische*, p. 462.
1927. *Zonogobius semidoliatus*, Herre, *Gobies of the Philippines and the China Sea, Manila*, pp. 200, 201, pl. xxx, fig. 2.
1928. *Zonogobius semidoliatus*, Fowler, *Mem. B. P. Bishop Mus.*, X, p. 414.
1934. *Zonogobius semidoliatus*, Smith, *Journ. Siam Soc. Nat. Hist. Suppl.* IX, No. 3, p. 325.

This species is represented in Dr. Rao's collection by a single specimen, 19 mm. long excluding the caudal fin. It was taken (14.xi.34) in a crevice of a coral rock at N. W Ross Island, Andamans. It agrees very well with the detailed description of the species given by Herre and Fowler in their respective works cited above.

It appears, however, of special interest to note that the posterior rays of the pectoral fins as also the outer ones of the ventrals of the specimen under report have numerous proximal branchings which are modified into thickened appendage-like processes, resembling those of the Scorpaenidae and Cottidae. In the latter group of fishes such modified rays of the paired fins play an important role in the progression of the animals of the rocky substratum, and it appears probable that the similarly modified rays of the paired fins of the Coral reef-dwelling *Zonogobius semidoliatus* may also have a similar function.

Fishes of the genus *Zonogobius* are tiny gobies usually with a variegated colouration, with large head and nape. *Z. semidoliatus* is a bright chestnut and beautifully marked species. It is found on Coral reefs from the Red Sea eastward throughout the East Indies and south-east in the Pacific ocean to the Samoan and Tonga Islands. The species was originally described from Vanicola, Red Sea. Hithertofore only two small specimens are known to have been procured by Day from the Andamans, one of which is figured in the *Fishes of India*. Recently, the species has been reported from Siam by Smith (*op. cit.*) " but whereas in other waters the fish is found on Coral reefs, the only known occurrence of the fish in local (Siamese) waters was in a littoral tide pool at Lem Ling, south-east Siam."

## Genus **Glossogobius** Gill (1859-1860).

### **Glossogobius giuris** (Ham. Buch.).

1927. *Glossogobius giurus*, Herre, *Gobies of the Philippines and the China Sea, Manila*, pp. 161-164, pl. xxvii, fig. 1 (see synonymy).

This common goby is represented in Dr. Rao's collection from various streams and pools in both North and South Andamans by several specimens of varying sizes.

*G. giuris* is one of the largest true gobies of the fresh, brackish and salt waters, growing to a length of about 350 mm. Its size, abundance

and delicate taste make it a very important market fish. The species appears to grow to its maximum size usually in fresh water lakes. It is very variable in regard to colouration, different body proportion, etc., and has a very wide distribution, occurring from the east coast of Africa eastward at least as far as Celebes and northward to China.

Genus **Vaimosa** Jordan and Seale (1906).[1]

**Vaimosa koumansi,** sp. nov.

(Plate VI, figs. 3 & 4.)

D. VI, 1/7 ; A. 1/6 ; P. 16 ; C. 13 (excluding the small compact outer rays) ; L. l. ±25 ; L. tr. ±7.

In general facies this new goby is moderately elongated and resembles ordinary stoutly built gobies ; but its large, broad and blunt head and the enlarged fins give the fish a characteristic appearance. The body behind the head is laterally compressed in a moderate degree, while the head is rather flat from above downwards. Both the dorsal and ventral profiles of the body are more or less evenly arched. The maximum depth of the body which lies in a vertical plane below the middle of the spinous dorsal is contained about 4·5 times in the length of the body excluding the caudal fin. The caudal peduncle is fairly long and is more than 1·7 times longer than high. The head is considerably longer than broad and as broad as deep ; it is broader than the body. The length of the head is contained almost 3 times in the length of the body. The snout is rather short, convex and broad anteriorly ; it is slightly longer than the orbital width ; its length is contained 4 times in the length of the head. The cheeks are broad, full and considerably fat, giving the head a swollen appearance. The eyes are prominent and somewhat oblique ; they are supero-lateral in position and placed entirely in the anterior half of the head ; the gaze is directed partly upwards. The diameter of the eye is contained 5 times in the length of the head. The interorbital space is narrow and concave and is about half as wide as the orbit. The anterior nostrils are tubular and are situated nearer the tip of the snout than the margin of the eye.

The mouth is terminal and slightly oblique ; its gape is very wide, extending considerably beyond the eye. The angle of the maxillary extends nearly to the lower posterior angle of the preoperculum. The lips are broad and thick, the upper one being protractile. The long sloping chin is rather prominent. The upper jaw has an outer row of widely spaced, enlarged, curved and pointed teeth and one or two inner rows of very minute teeth. The teeth in the lower jaw are pluriserial, the outer series being somewhat enlarged and hooked. The tongue is adnate and from rounded to subtruncate.

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[1] The new species is referable, in the present state of our knowledge, to the genus *Vaimosa* which is variable within rather narrow limits as to certain features, *viz.*, teeth, tongue, degree of squamation of operculum and top of head. For critical notes on the genus and the confusions that exist in the definition of *Vaimosa* reference may be made to Dr. H. M. Smith's remarks (*Journ. Siam. Soc. Nat. Hist. Suppl.*, IX, No. 1, pp. 68, 69, 1933).

The body is covered with large ctenoid scales, which are of more or less equal size throughout, except for the chest region, where they are comparatively small. Anteriorly the scales appear to be cycloid but microscopic examination shows that they are weakly ctenoid. Before the dorsal fin there are 6-7 scales. The operculum is provided with a few large scales which are imbedded in the skin and are, therefore, likely to be overlooked.

The dorsal fins are separated by a short distance which equals less than half the base of the spinous dorsal. The origin of the spinous dorsal is midway between the tip of the snout and the middle of the second dorsal. The length of its base is slightly less than that of the rayed dorsal. Its height is almost equal to the depth of the body below it. The spines are inequal in length; the fourth one is the longest, while the sixth one is the shortest. The insertion of the second dorsal is about 2 rays in advance of that of the anal. Both the second dorsal and the anal are short and more or less similar in outline. The rayed dorsal is almost as high as the spinous dorsal and its posterior rays are the longest. It falls slightly short of the caudal fin when adpressed. The anal fin is a little lower than the second dorsal, and like the latter, its posterior rays are the longest; when adpressed it bearly reaches the root of the caudal. Both the second dorsal and the anal are angulate posteriorly. Most of the rays of the second dorsal are tetra-radiate distally, while those of the anal are tri-radiate. The pectorals are rather long and broad; they are shorter than the head but longer than the ventrals, and have a rounded margin. The ventrals form an enlarged adhesive disc which is nearly twice as long as broad; the frenum is moderately thick and large and is rather subtubulate. The margin of the ventrals is finely incised and distally their rays are tetra to penta-radiate. The ventral disc reaches as far as the anal papilla, which is somewhat short and cylindrical and is situated nearer the root of the caudal than the tip of the snout. The anal opening is situated just in front of the insertion of the anal fin. The caudal fin is rounded and slightly shorter than the length of the head; it is a little longer than high.

The general colouration of the body in alcohol is yellowish green, the upper portion being more or less dusky, interspersed with specks and blotches of dark brown. On the sides of the head there are 5 to 6 broad curved bands of brown which alternate with broader ones of the ground colour. There appear to be two dark cross bands across the spinous dorsal; posteriorly it is provided with an obscure blackish patch. The second dorsal has from 2 to 3 similar cross bands. The caudal fin has from 3 to 4 more or less zig-zag vertical bands restricted to its anterior two-thirds. All the vertical fins are dusky and their inter-radial membrane is thickly spattered with fine black dots. Both the pectorals and the ventrals are colourless with a thinly pigmented inter-radial membrane.

*Relationship.—Vaimosa koumansi* is very closely allied to *V macrognathus* Herre[1] described from Lake Taal, Balangas, Luzon, but differs

[1] Herre, *Gobies of the Philippines and the China Sea, Manila*, pp. 145, 146, pl. x, fig. 2 (1927).

from it in different body proportions, colouration, etc. The pointed pectorals and the caudal fins of *V macrognathus* readily differentiate it from *V koumansi* in which both the fins are rounded.

The species is here described from a single specimen collected (3.i.34) by Dr. H. S. Rao from " pools amidst rocks in the course of a hill stream (with no flowing water except a slight trickle) half a mile from camp, Austen Straits, N. Andaman "

I have great pleasure in associating the name of this new Andamanese goby with that of Dr. F. P. Koumans of the Rijks Museum of Natural History in Leiden, Holland, as a slight recognition of his valuable studies of the gobioid fishes.

*Type-specimen.*—No. F11789/1, preserved in the collection of the *Zoological Survey of India, Indian Museum, Calcutta.*

*Measurements in millimetres.*

| | |
|---|---|
| Length of body without caudal | 29·0 |
| Height of body | 6·5 |
| Length of head | 10·0 |
| Breadth of head | 6·0 |
| Height of head | 6·0 |
| Length of snout | 2·5 |
| Diameter of eye | 2·0 |
| Interorbital width | 1·0 |
| Length of spinous dorsal | 4·0 |
| Length of rayed dorsal | 4·5 |
| Length of anal | 3·5 |
| Length of pectorals | 7·0 |
| Length of ventrals | 6·0 |
| Length of caudal | 8·5 |
| Length of caudal peduncle | 7·0 |
| Least height of caudal peduncle | 4·0 |

## Family ELEOTRIDAE.

### Genus **Eleotris** (Gronow) Bloch and Schneider (1801).

### **Eleotris fusca** (Bl. and Schn.).

1927. *Eleotris fusca,* Herre, *Gobies of the Philippines and the China Sea, Manila* pp. 30-33, pl. ii, fig. 1 (see synonymy).

This eleotrid is fairly common in small streams and creeks in the South Andaman. It is usually of a uniform dark colour in life and of retiring habits, often lying perfectly concealed for hours among bottom weeds, stones and gravels. Previous observations show that the fish is a voracious and indiscriminate feeder ; it has been found to feed, in addition to vegetable matter, on small mollusca, crustacea, and fishes.

In the collection under report the species is represented by five specimens varying from 35 mm. to 70 mm. in length excluding the caudal fin. They were taken (14.ii.34) at a " creek near Dhoby line, Aberdeen, Port Blair "

*E. fusca* is a widely distributed species of the Indo-Pacific region and is quite common in the shallow bays, river mouths, streams and creeks. According to Günther [1] the species reaches a length of "ten inches," that is, about 255 mm., while according to Barnard[2] it grows "upto 260 mm." I have, however, no knowledge of the Indian individuals usually growing even to "8 inches in length" as indicated by Day.[3]

## Family BLENNIDAE.

### Subfamily *CLININAE.*

### Genus **Tripterygion** Risso (1826).

There has been a certain amount of difference of opinion among ichthyologists in reference to the systematic position and affinities of the genera *Tripterygion* Risso[4] (emended to *Tripterygium* by authors), *Enneapterygius* Rüppell [5] and *Helcogramma* McCulloch and Waite[6]. The fishes of these highly specialised blennid genera are remarkable in that their body, except for the head and belly, is covered with well developed ctenoid scales. Unlike most other blennid fishes their dorsal fin is divided into three distinct parts. The very close similarity that exists between *Tripterygion* and *Enneapterygius* induced certain authors[7] to consider them as synonymous, while others [8] have regarded them as distinct chiefly on the character of the lateral line and the relative heights of the first and the second dorsal fins. In *Tripterygion* the lateral line is continuous, while in *Enneapterygius* it is interrupted below the middle of the second dorsal. In *Helcogramma*, on the other hand, the lateral line is incomplete, ending below the end of the second dorsal. Besides these, there is not a single character ascribed to the genera in question that can separate them. The character of the lateral line has often been found to be very variable in many genera of fishes, and it does not seem justifiable to recognise generic distinction on such a variable character. Further, the relative heights of the various fins can hardly be considered to be of any great taxonomic value. I am inclined, therefore, to think, that both *Enneapterygius* and *Helcogramma* should be regarded no more than subgenera of *Tripterygion.*

The geographical distribution of the genus *Tripterygion* extends from the Mediterranean, Bay of Bengal, Indo-Australian Archipelago to New Zealand, etc. Its occurrence in Indian waters was so far doubtful, for, in recording *T trigloides* from India, Day remarked in his *Fishes*

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[1] Günther, *Fische der Südsee*, II, p. 188 (1876).
[2] Barnard, *Ann. S. African Mus.*, XXI, p. 810 (1927).
[3] Day, *Fish. India*, p. 313 (1878).
[4] Risso, *Hist. Nat. Principal Product. Eur. Merid.*, III. p. 241 (1826).
[5] Rüppell, *Neue Wirbelt. Fische*, p. 2, (1835).
[6] McCulloch and Waite, *Rec. S. Austral. Mus.*, I, p. 51 (1918).
[7] Klunzinger, *Verh. Zool. bot. Ges. Wien*, XXI, p. 498 (1871); Regan, *Ann. Durban Mus.*, II, p. 77 (1918); Norman, *Ann. Mag. Nat. Hist.* (9), IX, p. 322 (1922); Weber, *Siboga Expeditie, Fische*, p. 545 (1913); McCulloch, *Mem. Austral. Mus.*, V, pt. iii, p. 347 (1929).
[8] Jordan and Evermann, *U. S. Fish. Comm. Bull.*, XXIII, p. 495, 1903 (1905); Fowler, *Mem. B. P. Bishop Mus.*, X, p. 427 (1928); Barnard, *Ann. S. African Mus.*, XXI, pp. 868, 869 (1927).

*of India* : " I have never obtained any species of the genus in India, nor seen specimens from thence. That it exists there however is certain, as amongst Sir W. Elliot's drawings coloured illustrations of a male and a female of one species are given which may be " *T. trigloides.* Sir Elliot's specimens which were collected from amongst rocks at Waltair, were packed to be sent to Europe, but unfortunately were all destroyed in a storm. The genus, it appears, has so far not been rediscovered in Indian waters.

In the collection of fishes from the Andamans there is a single well preserved specimen of *Tripterygion* which I refer to the following species :

**Tripterygion (Enneapterygius) fasciatum** M. Weber.

1913. *Tripterygium fasciatum,* Weber, *Siboga Expeditie, Fische,* p. 548, fig. 118.

D. III ; XII, 9 ; A. 18 ; P. VII/9 ; C. 15 ; L.1.30 ; L. tr. $2\frac{1}{2}/6$.

Weber described the species from three specimens varying from 24 to 27 mm., taken from the Coral reefs in Seba and in Karakelang Islands, Dutch East Indies. The specimen under report is 21 mm. long excluding the caudal fin. It was collected by Dr. Rao from under stones and dead corals between tide marks at Brookesabad, Andamans (31 .x. 34). It agrees in all important characters with the Siboga species ; but as it differs slightly in colouration the following short description may prove useful.

The colouration of the specimen in alcohol is pale brown to white. There are on the sides six pairs of dark brown irregularly vertical bars which are more or less confluent. The head is marked with fine brown dots above which become larger, deeper and denser on the cheeks forming two triangular patches below the eyes. The lower surface of the head is whitish with a few scattered dark brown dots. The snout is tipped with black. The first spinous dorsal is blackish ; while the rest of the fins are more or less pale and olivaceous, except for the bases of the soft dorsal and anal which are studded with series of black, dots. At the bases of the pectorals, that is, at the humeral region there are black patches. The caudal fin is provided with a narrow black ring at the root.

*Remarks.—Tripterygion fasciatum* is a very close ally of *T. hemimelas* Kner and Steindachner[1] and *T atriceps* Jenkins,[2] described from Samoa and Honolulu respectively. It can, however, be readily distinguished from either species by the possession of lesser number of scales on the body and soft rays in the second dorsal and anal fins. It may not be out of place to mention that Fowler[3] has regarded *T. atriceps* a synonym of *T hemimelas.* But Jenkins' species can easily be separated from *T hemimelas* by the possession of greater number of soft rays in the anal fin (I/20 *versus* I/17-18). As the character of the anal fin of *T. atriceps* is established by Jenkins by an examination of ten specimens of the species and later substantiated by Jordan and Evermann[4]

[1] Kner and Steindachner, *Akad. Wiss. Wien Sitz.,* LIV, p. 371 (1866).
[2] Jenkins, *U. S. Fish. Comm. Bull.,* XXII, p. 505, fig. 46, 1902 (1903).
[3] Fowler, *Mem. B. P. Bishop Mus.,* X, pp. 427, 428 (1928).
[4] Jordan and Evermann, *U. S. Fish. Comm. Bull.,* XXIII, p. 495, 1903 (1905).

by a re-examination of the type series as also an additional material of 37 specimens from Waikiki reef near Honolulu, it appears reasonable, in my opinion, to assign a distinct rank to *T. atriceps.*

*T. fasciatum* and it allies are dainty little fishes common in the holes and crevices in the coral rocks. They can be " most successfully, collected by lifting up large pieces of rock and breaking them to pieces over a bucket or fine-meshed net."

## Subfamily *BLENNIINAE.*

### Genus **Blennius** Linnaeus (1858).

### **Blennius semifasciatus** Rüppell.

(Plate VI, fig. 5.)

1835. *Blennius semifasciatus*, Rüppell, *Neue Wirbelt. Fische*, p. 134.
1861. *Blennius semifasciatus*, Günther, *Cat. Fish. Brit. Mus.*, III, p. 214.

This is perhaps one of the rarest species of the genus *Blennius.* Since Rüppell's discovery from " Massuah (Red Sea) " it has not been, as far as I can find from the literature on the subject, reported by any other ichthyologist. Günther had no specimen in the collection of the British Museum and the short description of *B. semifasciatus* given by him in the *Catalogue* is only a recast of Rüppell's original description.

In the collection of the Zoological Survey of India there are three specimens, varying from 35 to 50 mm. in length excluding the caudal fin, which are labelled as " *Blennius semifasciatus* " These specimens were taken on the 14th January, 1889 on the Orissa coast, 3 miles east of Kanarak by the late Colonel A. Alcock, the then Surgeon Naturalist to the Marine Survey of India. Unfortunately the specimens bear no other legend and it can only be presumed that they were determined by Colonel Alcock himself. This very interesting find of the species from the Indian waters, however, remains yet to be recorded. The specimens are in a fair state of preservation and they fit in so nicely with the description of *B. semifasciatus* that there can be no doubt of their being conspecific with that species.

In Dr. Rao's collection from the Andamans there is a single specimen taken at N. W. Ross Island (14.i.34). The specimen is in an excellent state of preservation and is 26 mm. long excluding the caudal fin. Comparing the specimen with those of Alcock's *B. semifasciatus* from the Orissa coast I am convinced that it is referable to the same species.

In view of the rarity of this interesting Blenny in the Museum collections and of the inadequacy of its description I give below a detailed account of the species from the four specimens before me :

D. XI/15 ; A. 18 ; P. 14 ; C. 13.

*Blennius semifasciatus* is a beautifully coloured small species in which the body is considerably compressed from side to side, specially in the region behind the middle of the body. The head is somewhat wedge-shaped, being gradually thin and compressed from below upwards. It is almost as high as long and a little higher than broad. Its length is

contained from 3·0 to 3·5 times in the length of the body without the caudal fin; its width is contained about 1·3 times in its own length. The maximum depth of the body which lies in a vertical plane in the region of the ventrals, is contained from 3·6 to 4·0 times in the length of the body. The eyes are circular and prominent. They are situated close to the upper profile, and almost in the anterior half of the head. The diameter of the eye is contained from 3·3 to 4·6 times in the length of the head. The anterior profile of the snout is rather blunt and subvertical; its length is nearly equal to the diameter of the eye. The interorbital space is very narrow and concave; it is from half to three-fourths the orbital width. There is no crest on the head. A pair of fringed tentacles are present above the orbit. A short and simple tentacle also arises from each anterior nostril in some specimens. The mouth is large and terminal; its gape extends below the middle of the eyes. The lips are fairly well developed, specially the lower one which is considerably broad. The teeth are slender, sharp and close-set. In the upper jaw there are twenty-four incisiform teeth, while in the lower there are only twenty. Each jaw is provided with an enlarged and slightly recurved canine. The gill-opening is large and lateral. The skin is naked and smooth. The lateral line consists of simple tubes. It is superior at the beginning for about half the length of the body, beyond which it slopes down.

The origin of the spinous dorsal appears to vary in accordance with age. In the half-grown specimens it is situated nearly midway between the angle of the opercles and the anterior margin of the orbit, while in young examples the fin may be inserted much nearer the former. The spines are slender and subequal with flexible tips in some specimens. The commencement of the rayed dorsal is almost equidistant between the posterior margin of the eyes and the root of the caudal fin. The first ray of the second dorsal is small. The rayed dorsal is a little higher than the spinous one. Both the dorsal fins are continuous. In young specimens there is a notch between the two dorsal fins which may be absent or indistinct in grown up individuals. The anterior spines of the anal are provided with fleshy prominences only in adult individuals. All the anal rays have free fleshy tips. The pectorals are broad and somewhat shorter than the head. Their median rays are the longest, while a few lower ones are provided with free tips. The pectoral rays reach as far as the vent which is situated very close in front of the anal. The ventrals are jugular with slightly prolonged rays. The caudal fin is rather short and somewhat rounded. Its length is contained from 5·2 to 6·5 times in the length of the body.

Günther's description of the colouration of specimens in spirit, quoted below, agrees in all respects with that of the specimen before me: "Brown; back with seven dark cross bars, each formed by two streaks; whitish lines diverge from the eye downwards; opercles and pectoral fins dotted with whitish; a blackish spot between the first and the second dorsal spines"

*Remarks.*—As already mentioned above, *B. semifasciatus* was originally described by Rüppell from the Red sea. The record of the species from the Andamans and its discovery from the Orissa coast by Colonel Alcock greatly extend its range of distribution.

*Measurements in millimetres.*

| | Orissa coast | | | Andamans |
|---|---|---|---|---|
| Length of body without caudal | 50·0 | 46·0 | 35·0 | 26·0 |
| Length of head | 14·0 | 13·0 | 10·0 | 8·5 |
| Depth of body | 13·0 | 12·0 | 9·5 | 6·5 |
| Width of head | 10·5 | 10·0 | 7·0 | 6·0 |
| Height of head at occiput | 14·0 | 12·0 | 9·5 | 7·0 |
| Length of snout | 3·0 | 3·0 | 2·5 | 2·5 |
| Diameter of eye | 3·0 | 3·0 | 3·0 | 2·5 |
| Interorbital width | 0·75 | 0·75 | 0·75 | 0·5 |
| Height of spinous dorsal | 6·0 | 6·0 | 4·5 | 2·5 |
| Height of rayed dorsal | 8·0 | 6·0 | 4·5 | 3·0 |
| Length of pectorals | 10·5 | 11·0 | 8·0 | 7·0 |
| Length of ventrals | 7·0 | 7·0 | 5·0 | 4·0 |
| Length of base of anal | 19·0 | 19·0 | 13·0 | 12·0 |
| Length of caudal | 8·0 | 7·0 | 6·5 | 5·0 |
| Length of caudal peduncle | 4·0 | 4·0 | 3·0 | 2·5 |
| Least height of caudal peduncle | 4·0 | 4·0 | 3·0 | 2·5 |
| Gape of mouth | 6·0 | 6·0 | 4·0 | 3·0 |

## Family SYNGNATHIDAE.

### Subfamily *DORYRHAMPHINAE.*

### Genus **Doryrhamphus** Kaup (1856).

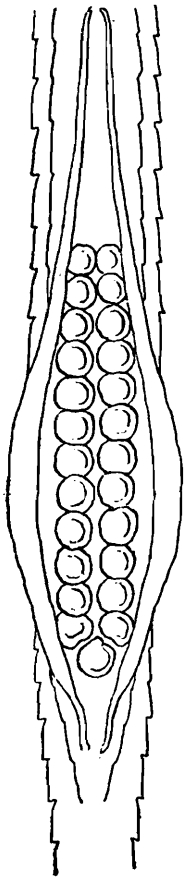
### **Doryrhamphus melanopleura** (Bleeker).

1858. *Syngnathus melanopleura,* Bleeker, *Nat. Tijds. Ned. Ind.,* XV, p. 464.
1922. *Doryrhamphus melanopleura,* Weber, and de Beaufort, *Fish. Indo-Austral. Archipel.,* IV, pp. 64, 65, fig. 27.
1928. *Doryrhamphus, melanopleura,* Fowler, *Mem. Bernice P. Bishop Mus.,* X, p. 111.

D. 23 ; P. 19 ; A. 4 ; C. 10 ; Rings 18+13 ; Subdorsal rings 4+3.

In Dr. Rao's collection there is a single well preserved male specimen of the species, 31 mm. long, excluding the caudal fin. It was taken in a crevice on coral rock between tide marks, north-west of the Ross Island. The abdominal brood pouch, which is well developed and holds developing embryos, is 13 mm. long and is as broad as or slightly broader than the abdomen. It is formed by the lateral cutaneous folds, which are temporarily glued in the median line. The egg capsules are large and spherical ; there are 25 of them, 24 of which are arranged in two rows of 12, while the remaining one is situated medially at the posterior end (Text fig. 2). They are placed close toegether in isolated cells of the abdominal skin. They are more or less of equal size and have an outer diameter of 1·25 mm. Through their thin and transparent outer membrane the developing embryos can be very clearly seen. The embryos completely coil round the yolk-mass, the free portion of the tail reaching the head. Indications of myomeres throughout the greater part of the body are apparent. Optic vescicles, brain divisions, and

the notochord are also discernible. The embryos are destitute of chromatophores ; they are uniformly white, having a light yellowish



Text-fig. 2.—Abdominal brood pouch of *Doryrhamphus melanopleura*, opened to show structure and arrangement of egg capsules. ×7.

tinge over the head. The yolk mass is round having a diameter of about 0·5 mm. ; it is granular and yellowish in colour.

*D. melanopleura* is an attractive small shore fish of the Indo-pacific region, having a graceful and stout build and a beautiful colouration. Dr. Rao observed that in life the fish is of a orange-brown colour. The fan-like caudal fin is deep black with three distinct white spots, two of which are situated near the root of the fin while the third one is in the middle towards the free margin.

The species was originally described by Bleeker from Nova Semla, Cocos Islands, Indian Ocean. It has since been found in Mauritius, East Indies, Japan, Samoa and in the Hawaiian Islands.

## Genus **Choeroichthys** Kaup (1856).

### **Choeroichthys sculptus** (Günther).

1870. *Doryichthys sculptus*, Günther, *Cat. Fish. Brit. Mus.*, VIII, p. 185.
1922. *Choeroichthys sculptus*, Weber and de Beaufort, *Fish. Indo-Austral. Archipel.*, IV, pp. 61, 62, fig. 26.
1928. *Choeroichthys sculptus*, Fowler, *Mem. Bernice P. Bishop Mus.*, X, pp. 110, 111.

D. 31 ; P. 22 ; A. 4 ; C. 11 ; Rings 18+21 ; Subdorsal rings 4+2.

The species is represented in the collection by a single well preserved female specimen, 50 mm. long excluding the caudal fin ; it was collected

(31.i.34) from under stones and dead corals between tide marks, Brookesabad, Andamans. It agrees in all respects with the description of the species given by Weber and de Beaufort as also with the detailed account of colouration, etc., given by Fowler from a specimen from the Society Islands.

*C. sculptus* is a small shore fish, rarely exceeding 60 mm. in length. It is an inhabitant of the Coral reefs. The species was originally reported by Günther from the Fiji Islands. Its range extends from East Africa to the Philippines, Japan, Fiji, and Society Islands.

## Family PLESIOPIDAE.

### Genus **Plesiops** Schinz (1822).

### **Plesiops nigricans** (Rüppell).

1929. *Plesiops nigricans*, Weber and de Beaufort, *Fish. Indo-Austral. Archipel.*, V, pp. 375-377 (see synonymy).

The species is represented in the collection under report by a single specimen, 30 mm. long excluding the caudal fin. It was taken (22.ii.34) at south-east coast of the Long Island, Middle Andamans, between stones at moderate tides.

The colouration of the specimen in alcohol is dusky with somewhat irregularly vertical broad alternating bands of dark and light grey. The light-edged dark ocellus on the operculum which is characteristic of the species, is very obscure in the present specimen. Both the dorsals as also the anal are edged with white. The rest of the fins are dark.

*P. nigricans* grows to a length of about 190 mm. and is widely distributed in the Indo-Pacific region.