SOME NEW OR RARE FISHES OF THE INDO-AUSTRALIAN ARCHIPELAGO

by

DR. J. D. F. HARDENBERG.
(Laboratorium voor het Onderzoek der Zee, Batavia).

Family **CLUPEIDAE.**

COILIA GRAY.

Coilia lindmani BLKR. (fig. 1).

B 9—10, D I—13, A 78—80, P 16, V 7, L.l. 57—58, L.v. 9—10.

Elongate and compressed. Height 4,6—5, head 4,8—5,1 in length without tail. Snout prominent, somewhat shorter than eye, which goes 4,4 in head. Maxillary narrow, extending beyond root of pectoral, with small, rather

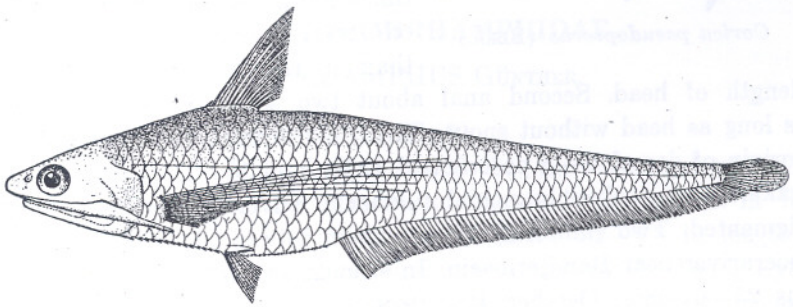

Fig. 1. *Coilia lindmani* BLKR.

irregular teeth. Dorsal about two times nearer to snout than to base of caudal. The distance origin of dorsal-snout about 2½ in the distance origin of dorsal-caudal. The ventrals are situated somewhat behind origin of dorsal. Distance ventralia-suboperculum 1,3—1,6 in distance ventralia-origin of anal. Anal 1,7—1,8 in length. Six free pectoral rays, reaching far behind origin of anal. 13—14 proventral scutes and 21—24 postventral ones. 29—32 spinulated gillrakers, shorter than eyes. Teeth on jaws and palatines. Colour yellowish, back dark.

Three specimens, of resp. 210, 155 and 175 mm, obtained at the fish-market at Palembang on Sept. 24th 1929. BLEEKER got his specimen from the same locality. They seem to be fairly abundant here.

Literature:

1. *Coilia lindmani* BLEEKER. Act. Soc. Scient. Indo. Neerl. III 1858. Zesde bijdrage tot de kennis van de vischfauna van Sumatra p. 48.

2. *Coilia lindmani* BLEEKER. Tijdschrift voor de Dierkunde II 1863. Sixième notice sur la faune ichthyologique de Siam p. 176 (only the name is given).
3. *Coilia lindmani* GÜNTHER. Cat. Brit. Mus. VII 1868 p. 415.
4. *Coilia lindmani* BLEEKER. Atlas Ichthyol. VI 1872 p. 139.
5. *Coilia lindmani* VOLZ. Natuurkundig Tijdschrift voor Nederlandsch Indië. Deel 66 1906 p. 208.
6. *Coilia lindmani* WEBER and DE BEAUFORT. The fishes of the Indo Australian Archipelago II 1923 p. 49.

CORICA HAM BUCH.

Corica pseudopterus (BLKR.) (fig. 2).

B. 5, D. 16, A. 15—16+2, P. 13—14, V. 8, C. 17, L.l. 37—39, L.v. 9—10.

Height 4,2—4,5 in length, 5,2—5,5 with caudal. Head 4,0—4,2, 5,2—5,5 with caudal. Eye 2,8—3 in head, about equal to or somewhat longer than snout and about equal to postorbital part of head. One or two ridges on vertex. Maxillary reaching beyond the first fourth or third part of pupil, about twice in head or more. Minute teeth on jaws, palatines and tongue. (Sometimes hardly to be detected). Origin of dorsal somewhat nearer to snout than to root of caudal. First anal 1,7—2 in length of head. Second anal about two scales remote from first. Pectorals as long as head without snout. Origin of ventrals two or three scales in front of origin of dorsal. 7—8 postventral scutes and 10—11 proventral ones. 23—24 gillrakers, longer than branchial filaments. Silvery. Back darker. Nose and chin pigmented. Two faint lines from dorsal to caudal.

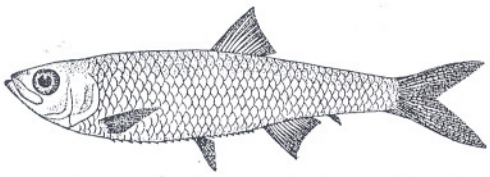

Fig. 2. *Corica pseudopterus* (BLKR.)

Martapoerariver near Bandjermasin. In schools, in slightly brackish water. 21 specimens 25—64 mm. October 4th, 1928.

From Sumatra I got a few specimens which were different in some points from those of Borneo (Bandjermasin). In the following description I will give the characteristics in which they differ.

Height 3,8 in length, 4,8 with caudal. Eye 3,3 in head, about equal to snout and shorter than postorbital part. Origin of ventrals one or two scales before origin of dorsal.

Three specimens of about 4,5 cm from Soensang at the mouth of the river Moesi, in brackish water. They were found in a sample of *Stolephorus*. September 23th 1929.

Through the kindness of Mr. L. COOMANS DE RUITER at Pontianak, I got in July 1930 three more specimens of 4—4.5 cm from the Padang Tikarbay in front of the mouth of one of the affluents of the Kapuasriver, therefore near the localities of BLEEKER. They agree exactly with the description given by him. They have the same measurements. The maxillary reaches to the frontborder of the eye only and the position of the dorsal is also the same

as given by BLEEKER, its origin being somewhat nearer to the caudal than to the snout, whereas in the specimens from Bandjermasin and Soensang the maxillary is longer (see above) and the position of the dorsal is nearer to the snout than to the caudal.

From the above we see, that specimens from several localities may have some differences in the position of the dorsal fin, in the size of the eye and in the height of the body. As the differences are not very great I think they may be ascribed to the existence of local races or varieties. The Sumatra-specimens have a smaller eye and a higher body than those from Borneo. The animals from Bandjermasin as well as from Sumatra have the dorsal fin more forward than the Pontianak-specimens, which are the only ones, which agree exactly with the type description.

1. *Spratella pseudopterus* BLEEKER. Nat. Tijdschr. Ned. Ind. III 1852 p. 432.
2. *Clupeoides pseudopterus* GÜNTHER. Cat. Brit. Museum. VII 1868 p. 452.
3. *Corica pseudopterus* BLEEKER. Atl. Ichth. VI. p. 98 1872.
4. *Clupeoides pseudopterus* VAILLANT. Nouv. Arch. Mus. Hist. Nat. V. 1894 p. 100.
5. *Corica pseudopterus* WEBER and DE BEAUFORT. The fishes of the Indo Australian Archipelago II 1913 p. 54.

Family **HEMIRHAMPHIDAE.**

ARRHAMPHUS GÜNTHER.

Arrhamphus brevis (SEALE) (fig. 3).

D. 16—17, A. 15, V. I. 5, P. I. 11, C. 15, L.l. 57—58, L.v. 9—10.

Slightly compressed, the breadth of the body going 1,3 in its height. Height 7,0 in length, 8,3—8,5 with caudal. Head 4,2—4,3 in length, 5,1—5,3 with caudal. Upper profile gradually sloping down to the head. Eye 3,4—3,7 in head, 1,1—1,3 in interorbital space, 1,2—1,4 in snout. Teeth tricuspid, 4—5 rows in lower and 5—6 rows in upper jaw. Triangular part of upper jaw, formed

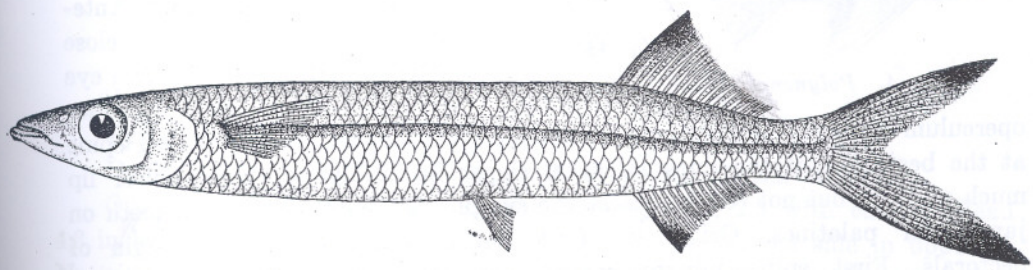

Fig. 3. *Arrhamphus brevis* (SEALE).

by intermaxillaries, broader than long. Lower jaw projecting by about the length of ⅓—¼ of the eye beyond snout. A projection of the skin forms a symphysial knob. Origin of anal opposite to third ray of dorsal. Thirty-six scales between dorsal and occiput. Dorsal and anal concave, the anterior rays

being the longest. Pectorals 1,5—1,6 in head. Ventrals 2,5—2,7 in head. Origin of ventral about midway between origin of caudal and eye. Caudal forked. Lower lobe longest. Sides with a silvery narrow band, bordered above by a dark line. Anterior rays of dorsal and outermost rays of anal tipped with black. Top of anal and dorsal tips of caudal black.

Two specimens of 205 and 240 mm bought at the fishmarket at Tandjong Pinang (Riouw Archipelago). October 9th 1929. Out of a sample of *Hemirhamphus quoyi* C. V.

The description given above agrees perfectly with that by SEALE. The bigger specimen has the lower jaw not projecting beyond the snout. As my specimens are bigger than those described by SEALE and by WEBER and DE BEAUFORT the projecting lower jaw seems to shorten with age.

Literature:

1. *Oxyporhamphus brevis* SEALE. Philippine Journal of Science IV 1909 p. 495.
2. *Arrhamphus brevis* WEBER and DE BEAUFORT. The fishes of the Indo Astralian Archipelago IV 1922 p. 172.

Family **POLYNEMIDAE.**

POLYNEMUS L.

Polynemus sextarius BL. SCHN. (fig. 4).

D^1. VIII, D^2. I—13, A. III—12, P. I—13 + 6, V. 1—5, C. 17, L.l. 49, L.h. 5—1—10.

Height 3,3 in length, 4,4 with caudal. Head 3 in length, 4 with caudal. Eyes 3,6 in head, 2 in postorbital part, and equal to interorbital space. Eyes covered with a gelatinous membrane, which forms a flap on the praeoperculum. Mouth reaching to behind eye. Maxillaries not scaly, 2,6 in head. Head covered with scales to tip of snout. Anterior and posterior nostril close together, halfway between eye and snout. Hindborder of praeoperculum serrated. The lowermost serrations the longest. A short strong spine at the beginning of the linea lateralis. Upper lip feebly developed, lower lip much stronger but not continuous at the symphysis. Band of villiform teeth on jaws and palatines. Origin of first dorsal somewhat behind origin of pectorals. First spine minute, second one the strongest, third one the longest, about as long as postorbital part of head. Origin of second dorsal behind anus. Spine of second dorsal less than half as long as the third one of first dorsal, about as long as third spine of anal. First and second anal spine small. Vertical fins scaly. Caudal deeply forked with pointed lobes. Pectoral as long as the distance middle of eye-hindborder of the operculum. The two

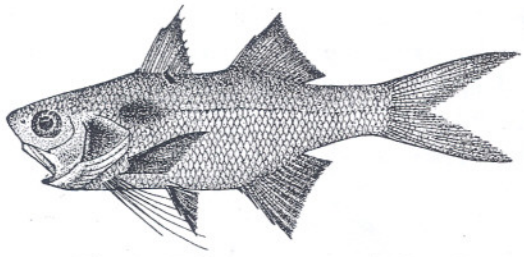

Fig. 4. *Polynemus sextarius* BL. SCHN.

upper free pectoral filaments are of equal length and are the longest, reaching to the middle of ventrals. Ventrals 1,5 in pectorals. The first ray somewhat prolonged.

Distance between origin of ventrals and origin of anal is somewhat more than postorbital part of head. Scales with a finely spinulated hindborder. Colour of the formaline specimens yellowish. Back and head finely pigmented with black. An oval black blotch at the beginning of the lateral line, about 8 scales long. Inner side of operculum black which, by the transparency of the latter, is conspicuous also from the outside. Fins yellowish, pigmented with black, with the greatest density at the hindborder of the two dorsals and of the caudal.

A single specimen of 100 mm taken in a fish-trap at the mouth of the Paneiriver, October 6th 1929, a single specimen of 69 mm from Kuala Lumpur, Malacca (January 1929) and one specimen of 92 mm caught near the mouth of the Kapuasriver (14-9-1930), Borneo. I received this latter specimen through the courtesy of Mr. L. COOMANS DE RUITER, Pontianak.

Literature:

1. *Polynemus sextarius* BLOCH-SCHNEIDER. Syst.Ichth. 1801 p. 18.
2. *Polynemus sextarius* BLEEKER. Verh. Bat. Gen. XXII 1849. Bijdrage Percoiden p. 59.
3. *Polynemus sextarius* CANTER. Journ. Asiat. Soc. Royal. XVIII 1850, p. 1014.
4. *Polynemus sextarius* GÜNTHER. Cat. Brit. Mus., II 1860 p. 326.
5. *Trichidion sextarius* BLEEKER. Ned. Tijdsch. Dierk. II 1865 p. 174.
6. *Polynemus sextarius* DAY. Fishes of India 1878—1888 p. 177.
7. *Polynemus sextarius* VOLZ. Natuurkundig Tijdschrift voor Nederlandsch Indië. Deel 66. 1906 p. 89.
8. *Polynemus sextarius* GILCHRIST and THOMSON. Ann. South Afric. Mus. VI 1908 p. 179.
9. *Trichidion sextarius* JORDAN and STARKS. An. Carnegy Mus. XI 1917. p. 455.
10. *Polynemus sextarius* WEBER and DE BEAUFORT. The Fishes of the Indo-Australian Archipelago IV 1922 p. 210.

Family **SOLEIDAE.**

TYPHLACHIRUS nov.gen. [1])

Typhlachirus caecus nov.spec. (fig. 5).

D. 63, C. 12, A. 42, V. 3, P. dextr. 3, P. sinister 6, L.l. 105.

Oval. "Eyes" on right side. Height 2,2 in length, 2,5 with caudal. Head 4,3 in length, 5 with caudal. One tubular nostril on coloured side in upperlip. Nostril on blind side remote from lip. Upper- and lowerlip on each side rather densely fringed with tentacles. Only one more or less inconspicuous, rudimentary eye on right side, situated near corner of mouth in the upperlip, surrounded

[1]) First I proposed to give this genus the name *Cryptops* but Prof. C. L. HUBBS, Michigan, was so kind to inform me that this name was preoccupied. He suggested me to use the name *Typhlachirus* instead.

by tentacles. The whole snout on blind side densely covered with small tentacles. Hindborder of operculum fringed on blind side. Mouth subterminal. Distance tip of snout corner of mouth 2,6 in head. Lateral line straight from a point of the head to the tail on which it is continued. On the head it runs with a right angle upwards and then curves strongly forwards. It disappears gradually near the tip of snout. The blind side too has a lateral line. Scales

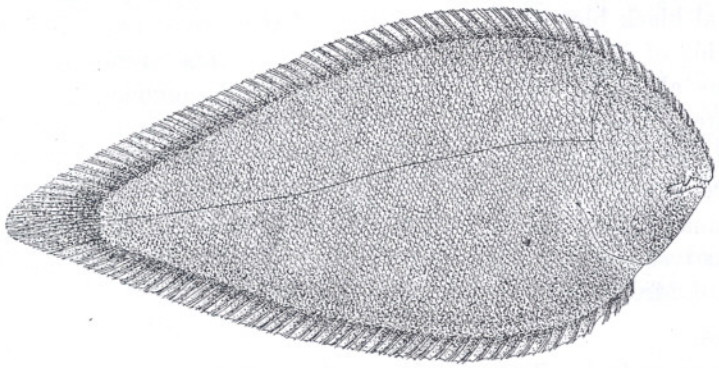

Fig. 5. *Typhlachirus caecus.*

ctenoid on each side, covered with skin. Those on coloured side larger than on blind side. The scales on coloured side are smallest in the middle, above and beneath lateral line. Towards dorsal and anal fin they become gradually bigger. The biggest are on the head. The scales on the vertical fins are smaller again. Border of fins not scaly. 19—20 scales between lateral line and dorsal fin. Vertical fins confluent. Dorsal and anal have on blind side the rays ciliated. Right pectoral minute, in upper corner of gill-opening. Left pectoral short with a broad base, confluent with a cutaneous fold of the operculum. Right ventral connected with anal. Left ventral free, its underside ciliated.

Brownish above. Dorsal and anal darker, with a hyaline border. Caudal hyaline.

The description given above is made from the type specimen of 106 mm. My other specimens differ only slightly from the type. So the height goes 2—2,2 and the head 4—4,3 in length without caudal. Also the numbers for the finrays and linea lateralis differ only one or two from the numbers given above. In one specimen of 140 mm the central part of caudal is blackish too. I got 5 specimens of 98—140 mm, near Bagan Si Api Api (Strait Malacca) in brackish and very muddy water, three specimens in January 1928 and two other ones in October of the same year. All specimens are mature. In three of the five specimens a minute eye-rudiment can be detected on the head hidden beneath the scales and tentacles. In the two other ones only the spot of the rudiment can be found, as the rudiment itself is lacking. I have called the species *caecus* with reference to the fact, that the animals are evidently blind.

This fish is most probably allied to the genus *Synaptura*. Perhaps *Synaptura lipophthalma* KAROLI (Termeszetrajzi füzetek V 1882 p. 30) is closely allied

species. In its description the right pectoral is said to be wanting. I think it fairly probable that it is as minute as in my specimens and therefore is easily overlooked.

Family **GOBIIDAE.**

TRYPAUCHEN C. V.

Trypauchen microcephalus BLKR. (fig. 6).

B. 4, D. VI—54, A. I—44, P. 16, V. 5, C. 17, L.l. 64, L.v. 14.

Elongated and compressed. Height 8,5 in total length (7,2 without tail). Head 8,4 in total length and 7,1 in length without tail. (According to BLEEKER 8,5). Its height 1,3 and its breadth about twice in its length. Breadth of the body 1,8 in its height. Crista on head smooth. Eyes minute, situated between first and second fourth part of head. Mandibles a little longer than maxillae. Chin somewhat prominent. On prae- and suboperculum, on the lower jaw and on the top of the head there are one to two rows of pores (see fig.). Head and chest without scales. Distance snout-anus about twice in distance anus-caudal.

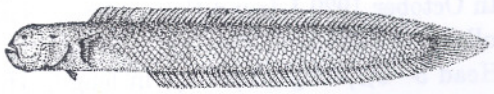

Fig. 6. *Trypauchen microcephalus* BLKR.

Vertical fine continuous and hyaline. Caudal pointed bluntly, 7 in total length. Ventrals situated somewhat in front of pectorals. Connected with each other for about three fourth of their length.

Colour uniform pink. I found one specimen in a fish-trap in the neighbourhood of Seneboei near Bagan Si Apí Api (Sumatra), January 1929. Total length 9.5 cm.

This species lives in the same muddy regions as the more common *Trypauchen vagina.*

Literature:

1. *Trypauchen microcephalus* BLEEKER. Dertiende bijdrage tot de kennis der vischfauna van Borneo.
   Act. Soc. Sc. Indo-Neerl. VIII 1860 p. 62.
2. *Trypauchen microcephalus* GÜNTHER. Catalogue of fishes III 1861 p. 17.
3. *Trypauchen microcephalus* BANKS. Eighteenth report on the Sarawak Museum 1927 p. 31.

TRYPAUCHENICHTHYS BLKR.

Trypauchenichthys sumatrensis nov.spec. (fig. 7).

B. 4, D. V—37, A. I—38, P. 15, V. 4, C. 17, L.l. 40, L.v. 8.

Head 5,3, height 6,3 in length without tail. Breadth of the body 1,8 in its height. Height of the head 1,2 in its length. Its breadth 2 in its length and 1,8 in its height. Eyes minute, situated above corner of mouth, between first and second fourth of

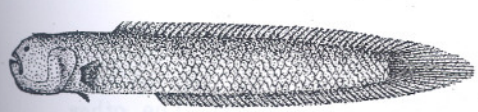

Fig. 7. *Trypauchenichthys sumatrensis.*

the head. Mouth crescentic, sub-terminal. A row of canine-like teeth of moderate length in each jaw. As in *Tyrpauchen* a cavity above the operculum. Crista on the head rather elevated, faintly serrated, covered by skin. Its first strong teeth pointed forward. Two rows of pores on prae- and suboperculum and on the lower jaw. Also some pores near the eyes and on top of head.

Vertical fins continuous. Pectorals situated in lower half of body. Ventrals inserted below or somewhat in front of pectorals, entirely free from each other. Two outer rays by far the longest. First ray stronger than the others. Caudal pointed, about 6 in total length.

Colour uniform pink. Fins in fresh specimens somewhat blackish.

I got one specimen caught in July 1922 near Bagan Si Api Api. Total length 6,3 cm.

In October 1929 I found three more specimens. Their examination furnished the following figures:

Head 5—5,3, height 6,3—7,1 in length. Height of head 1,2—1,4, its breadth 1,5—2 in its length.

D. V—38—41, A. I—34—38, L.l. 38—40.

This species has the same habitats as *Trypauchen vagina* and *Trypauchen microcephalus*. I suppose it may be found in front of the other rivermouths of Sumatra too.

PSEUDOTRYPAUCHEN nov.gen.

Pseudotrypauchen multiradiatus nov.spec. (fig. 8).

B. 5, D. VII—29, A. I—28, V. 5, P. 40, C. 17, L.l. 50, L.tr. 8.

Head 7,0 in total length, 5,6 without tail. Height of the body 1 in length of head, 7 in total length. Breadth of the body 2 in its height. Height of head 1 in its length. Tail 3,3 in total length. Pectorals reaching to anus, 5,5 in total length, 3,7 without tail. Ventrals reaching to anus, inserted in front of pectorals. The innermost as well as the outermost rays are connected, the total forming a disk. The innermost rays are the longest. Vertical fins continuous.

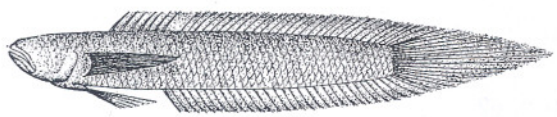

Fig. 8. *Pseudotrypauchen multiradiatus.*

Eyes minute, concealed beneath skin, situated in second fourth of the head. Mouth large, terminal, reaching far behind eye, about half of the head. Jaws provided with small, regular, teeth. No prominent chin. Gillopenings not confluent with each other, large. Head and body entirely scaled. No pores visible on the head.

Colour pale rosa.

I got two specimens in the neighbourhood of Bagan Si Api Api, October 4th 1929. The type specimen, described above, measured 7,2 cm. The other specimen had its tail damaged. Length without tail 5,0 cm.

In a collection from the same locality made in July 1922, I found three more specimens of about the same lengths. They all had their tails damaged.

Their proportions were the same as shown by the type-specimen. For the finformula and linea lateralis I found as follows:

D. VII—30—33, A. 28—33, P. 38—41, L.l. 50.

I found this species mixed with *Trypauchen vagina*. It seems therefore to have the same mud-burrowing habits. I think the species can be found in other rivermouths of Sumatra too. I have called the genus *Pseudotrypauchen* as the animals resemble specimens of *Trypauchen* very much and the species-name refers to the numerous rays of the pectoral fin. It has no cavity in the nape.