MINISTERIE VAN ONDERWIJS, KUNSTEN EN WETENSCHAPPEN

ZOOLOGISCHE MEDEDELINGEN

UITGEGEVEN DOOR HET

RIJKSMUSEUM VAN NATUURLIJKE HISTORIE TE LEIDEN

DEEL XXXV, No. 7 29 mei 1957

ON A COLLECTION OF EAST ASIAN FISHES

by

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With Plate III

A collection of 561 specimens of East Asian freshwater fishes has recently been presented to the Rijksmuseum van Natuurlijke Historie at Leiden by Mr. A. Werner, Munich, a well known collector and naturalist. A close examination of the present material provided several interesting data, which are given below, while one sample proved to belong to a species and genus new to science.

The localities given by Mr. Werner are: Colombo, Calcutta, Bangkok, and Singapore, but some of the Singapore material seems to have been imported, presumably from Sumatra or Borneo.

Kryptopterus bicirrhis (C. V.)

18 ex., Singapore, probably 1956, 38-73 (46-87) mm.

Occasionally the name *Cryptopterus* is still used for the present species. The original name was given by Bleeker (1858, p. 283) as *Kryptopterus*. Kaup (1859, p. 11) used the name *Cryptopterus* for his new genus of apodal fishes; it has to be rejected as a homonym and, moreover, is at present regarded as a synonym of *Ophichthys* Ahl (1789, p. 5). Günther (1864, p. 38) corrected Bleeker's name to *Cryptopterus*, an example followed by numerous later authors, but at present Bleeker's orthography is generally preferred.

Botia macracanthus (Blkr.)

30 ex., Singapore (probably imported from Borneo), 1956?, 26-52 (33-66) mm.

This very characteristic species seems to occur only in Borneo and Sumatra; it is not mentioned in Fowler's list of the fishes known from Malaya (1938, p. 54).

Botia horae Smith

2 ex., Bangkok, 1956?, 28,28 (38,38) mm.

Both specimens still distinctly show remains of the characteristic colouration: the broad dark median dorsal band and the dark transverse band at the base of the caudal fin.

In some recent papers Von Wahlert (1956, p. 85; 1956a, p. 147) and Klausewitz (1957, p. 35; 1957a, p. 33) have tried to solve the various problems hitherto existing in this genus, especially those concerning the identification of the species *modesta* Bleeker, *horae* Smith, and *lecontei* Fowler. The results of the present investigations completely agree with the ultimate conclusion arrived at by Klausewitz. Consequently the specimens described by Fowler (1934, p. 101) and Hora (1941, p. 53) as *modesta* Bleeker definitely belong to *horae* Smith.

Botia lecontei Fowler

29 ex., Bangkok, 1956?, 41-51 (54-70) mm.

Among aquarium hobbyists this species seems to be known as *"Botia pulchripinnis"* (cf., Von Wahlert, 1956a, p. 147).

The only colour marking of any importance, a dark blotch at caudal base, shows a remarkable variation in intensity and is generally rather vague in our preserved specimens. Some indistinct dusky areas on back are quite variable in shape, intensity, and extension, sometimes even when comparing both sides of the same example. For further data I refer to the literature given for *Botia horae* Smith.

Botia modesta Blkr.

1 ex., Bangkok, June 1956, 47 (64) mm.

The back and the apical part of the caudal peduncle are vaguely darker; four or five transverse bands across the anterior part of the sides are hardly discernible. The body is remarkably plump. For further data see Klausewitz (1957, p. 35; 1957a, p. 33).

Botia berdmorei (Blyth)

5 ex., Bangkok, 1956?, 54-63 (69-77 [1])) mm.

These specimens obviously do not belong to any of the species recorded by Smith (1945, pp. 287-293) for Siam. However, the species *berdmorei* has since been reported from Central Thailand by Klausewitz (1957, p. 37), while his description and figure show hardly any discrepancy in comparison with the present material.

1) Caudal fin mutilated.

The colour markings are generally still distinct. The dorsal fin has (3-)4 bands, the upper two anteriorly originating with an intensely dark blotch. The caudal fin with 2-4 distinct bands, generally followed by some vague indications of further bands on the lobes. Anal fin with (0-)2-3 bands. Body and caudal peduncle with 11-12 transverse bands, the ultimate one more intense, and with several rows of very intense ovate or rounded dark spots. A dark band from eye to rostral barbel. Two dark longitudinal bands on occipital and interorbital, coalescing slightly before tip of snout. Two dark curved lines, generally interrupted, from below and behind eye running backwards.

Dorsal fin with 9 branched rays, originating slightly before ventrals (in contradistinction to Klausewitz's figure 4).

Blyth's description (1860, p. 30), though rather incomplete and partly inaccurate, provides sufficient data for a definite identification. The only differences of any importance in comparison with Klausewitz's description and figure, and with the present material, are the slightly less slender body of his specimen and the lacking of colour markings on the anal fin. On the other hand, the occurrence of bands and spots on head, body, and caudal peduncle; the subapical blotch on dorsal fin; the number of dorsal rays; and the distinctly more slender shape than in *lucas-bahi* Fowler, easily distinguish the present species.

The specimens reported from Trang, Siam, by Fowler (1939, p. 59, figs. 7-9) as *Botia lucas-bahi,* obviously belong to the present species. The specimens are much more slender than Fowler's type (1937, p. 154, fig. 70), while the markings almost completely agree with those on our material of *berdmorei.*

?**Botia hymenophysa** (Bleeker)

2 ex., Bangkok, 1956?, 51-65 (68-86) mm.

Both specimens are slightly more slender than hitherto recorded for this species, viz., depth about 4.5 in standard length. The colour markings are still distinct and generally characteristic: about 11 transverse bands, those at caudal base much more intense; no spots on body; no postocular lines; 3-4 bands on caudal fin. Dorsal fin with 3.12 rays, anal fin with 3.6-7.

The markings on the dorsal fin are aberrant: 4 oblique bands, slightly curved downwards and continuous with transverse bands on the body.

The few differing characters seem slight in comparison with the great agreement with *hymenophysa*; a different identification would, moreover, necessitate the establishment of a new species, a procedure for which the present limited material seems insufficient.

The specimens from Srisawat, Siam, identified by Fowler (1935, p. 106) as *Botia hymenophysa* (Bleeker), probably do not belong to the present species but possibly to *lucas-bahi*.

Acanthophthalmus semicinctus Fraser Brunner

44 ex., Singapore?, 1956?, 33-59 (38-66) mm.

All specimens still distinctly show the characteristic colour markings and definitely belong to the present species (Fraser Brunner, 1940, p. 172, fig. 3).

Noemacheilus trans-lineatus Fowler

1 ex., Bangkok, 1956?, 36 (49) mm.

Depth almost 6 in standard length; first barbel 2.4, second 1.8, maxillary barbel 1.9 in head; preorbital papilla; rakers 11-12; nasal barbels pigmented, maxillary barbels pale; internaral band indistinct, interorbital band dark, suborbital band vague; caudal fin with but two transverse bands on median rays; some dark pigment along upper pectoral rays; an indistinct central spot on ventrals; very intense spots just behind dorsal origin and on caudal base; the caudal lobes long and pointed.

The agreement with Fowler's description (1939, p. 63, fig. 13) is convincingly close. Some slight differences may be caused by juvenile characters in the present specimen, Fowler's examples measuring 65 and 61 mm.

Rasbora borapetensis Smith

2 ex., Bangkok, June 1956, 24, 24 (32, ?) mm.

The lateral line is incomplete, the number of pores uncertain on account of the damaged squamation; 12 rows of scales around caudal peduncle; origin of dorsal fin behind ventrals. The remains of colour markings are in complete agreement with the original description by Smith (1934, p. 302).

Rasbora pauciperforata Weber & De Beaufort

2 ex., Singapore, June 1956, 23-30 (31-39) mm.

The scales on the anterior lower sides have the margins distinctly darker, which occurs on a somewhat larger area than indicated on Weber & De Beaufort's figure (1916, p. 79, fig. 28).

?**Rasbora taeniata** Ahl

2 ex., Singapore, June 1956, 22-26 (26-31) mm.

D 2.7; A 3.5 (1) or 3.6; P 1.12; scales in longitudinal series about 30, 7-8 between insertions of dorsal and ventral fins; pores indistinct, probably 2; predorsal scales 12-13, around caudal peduncle 12.

Head 3.6-3.7, depth 4.7-4.9 in standard length; eye 2.7-2.8 in head; depth of caudal peduncle 2.0-2.2 in its length; caudal fins damaged.

Both specimens closely agree with Ahl's description of *R. agilis* (1937, p. 113; = *R. taeniata* Ahl cf. Brittan, 1954, p. 167; 1954a, p. 150). Especially the few pores in the lateral line, the remarkably slender caudal peduncle, and the sharply defined dark lateral band seem characteristic. On the other hand, the occurrence of the slender-peduncled form in Malaya is in contradistinction to Brittan's remark (1949, p. 22) "that the long-finned, slender-peduncled forms (*agilis* and the Johore and Biliton examples) have been taken from both ends of the known geographical range of the species (Johore and Biliton). The relatively shorter-finned, deeper-peduncled form has been reported from Malaya and Sumatra."

The present material seems to indicate an occurrence of both forms in Malaya, making the synonymy between *agilis* and *taeniata*, as presumed by Brittan, again slightly dubious. On account of this, the present identification is given with some reserve.

Puntius hexazona (Weber & De Beaufort)

6 ex., Singapore, 1956?, 16-28 (20[1]-38) mm.

The colour markings are still distinct and seem characteristic.

Puntius partipentazona Fowler

37 ex., Singapore, 1956?, 19-32 (25-43) mm.

As in the previous species, the characteristic colour markings are still distinct. According to Hoedeman (1954, p. 215), the present species should be regarded as a subspecies of *tetrazona* Bleeker.

Puntius phutunio (Ham. Buch.)

6 ex., Calcutta, 1956?, 21-23 (27-29) mm.

The two dark and vertically elongate spots above pectoral and posterior part of anal are still distinct. In some specimens a small spot at origin of dorsal and remains of a wide dark band along centre of dorsal and anal fins. Body generally slightly darker below dorsal fin. No spot near caudal base, in contradistinction with the figure given by Axelrod & Schultz (1955, p. 305) but agreeing with Day's figure (1878, pl. cxlv, fig. 4).

Labeo erythrurus Fowler

1 ex., Bangkok, 1956?, 38 (52) mm.

D 3.11 (1); scales in longitudinal series 30.2 or 3; depth 4.2 in standard length; rostral barbel small, about 2 in diameter of eye; maxillary barbel 1.7 in diameter of eye; gill rakers on lower limb about 25.

1) Caudal fin mutilated.

Sides with pigment in reticulate pattern; anal fin pale; a narrow dark median band along back; the large rounded dark blotch at caudal base still distinct; a dark preocular band distinct but not "nur leicht dunkler als die umgebenden Partien" as described by Klausewitz (1957, p. 35), and continued vaguely behind eye.

The present specimen closely agrees with Fowler's original description (1937, p. 204, figs. 171, 172), the few slightly differing characters (viz., length of barbels) being probably caused by the youth of our single example. A presumed synonymy with *Labeo frenatus* Fowler (1934, p. 129, figs. 91, 92), as suggested by Smith (1945, p. 255), has been convincingly rejected by Von Wahlert (1956, p. 177); the more advanced origin of the dorsal fin in *L. erythrurus,* suggested as a possible point of distinction between the two species (Smith, l.c.), seems a distinctly discriminating character in Fowler's figures (l.c.), but is not evident in those given by Von Wahlert (l.c., fig. 1). The present specimen has the origin of the dorsal well in advance of the ventrals.

Microphis brachyurus (Blkr.)

28 ex., Colombo, 1956?, 74-108 (77.5-113) mm.

Rings generally 21-22.21-22. The diffuse lateral band still distinct, especially on head. Tail shorter than trunk. Snout long, length more than eye and postorbital head. Ridges spinous. All specimens in complete agreement with Munro's short diagnosis (1955, p. 82, fig. on pl. 14).

Doryichthys ocellatus Duncker

1 ex., Colombo, 1956?, 60 (63) mm.

Rings 16.32; D approximately 40, situated on rings 2.8. The superior and inferior cristae of trunk and tail are discontinuous.

Syngnathus djarong Bleeker

9 ex., Colombo, 1956?, 74-93 (76-95.5) mm.

Rings 14-15.40-42; snout about equal to postorbital head. Upper cristae interrupted, lower cristae continuous, lateral cristae deflected but seldom coalesced. According to Munro (1955, p. 83) a subspecies of *Syngnathus spicifer,* probably after Duncker (1910, p. 31), but Duncker afterwards re-established *djarong* as a separate species (1915, p. 80).

Ichthyocampus carce (Ham. Buch.)

1 ex., Colombo, 1956?, 94 (97) mm.

Superior and inferior cristae continuous, lateral crista on trunk deflected posteriorly, coalesced on right side only.

Colisa lalia (Ham. Buch.)

38 ex., Calcutta, 1956?, 25-41 (31-52) mm.

The oblique stripes are still visible, generally even distinct.

Sphaerichthys osphromenoides Can.

32 ex., Singapore, 1956?, 17-33 (23-44) mm.

The characteristic markings are still distinct.

Ctenops pumilus Ahl

29 ex., Bangkok, June 1956, 18-23 (23-30) mm.

A VI (VII). 20-22(23), scales in transverse series 9-10 (counted in 12 specimens). Of the two longitudinal bands the upper generally less distinct, consisting of spots, sometimes lacking; the lower band consisting of a series of intensely dark spots, seldom continuous.

Ahl (1937, p. 116) obviously overlooked the very small first anal spine The agreement with his further description is complete.

Aplocheilus panchax (Ham. Buch.)

31 ex., Calcutta, 1956?, 25-37 (33-48) mm.

Gymnochanda nov. gen.

Body rather elevated and compressed, without scales or indications of a previous deciduous squamation. Lateral line indistinct. Gape of mouth moderate, oblique, slightly protractile, jaws subequal. Preopercle spinous along inferior and posterior margins, with a spinous horizontal and a smooth vertical ridge. Opercle without spine. Gill membranes separate; 6 branchiostegals; pseudobranchiae present. Teeth in villiform bands, the outer series partly enlarged; teeth on vomer and palatines. Spinous and soft dorsal connected, the former with a recumbent spine pointing forwards and 7 normal spines, the latter with 1 spine. Anal with 3 spines. Caudal forked. Ventrals below insertion of pectorals, with 1 spine and 5 rays.

Excluding the complete absence of scales, the present genus closely resembles *Ambassis* (= *Chanda*) as defined by Weber & De Beaufort (1929, p. 398). The only species at present known, and described below, is the generic type.

Gymnochanda filamentosa nov. spec. (Pl. III)

1 ex., Singapore, 1956?, 29 (38) mm (holotype).
31 ex., Singapore, 1956?, 13-25 (17-33) mm (paratypes).

D I.VII.I.12(1)-13(1); A III.12(1)-14(1); P 2.11-12; V I.5; C 9 + 8.

Body strongly compressed, dorsal profile elevated, distinctly concave above

eyes, strongly arched between occiput and dorsal. Height 2.5(-2.9 in smallest paratype), head 2.6(-2.85) in standard length. Eye 3.2(-2.3 in smallest paratype), snout 3.0-3.3 in head. Interorbital space narrow, width about 1.25 in eye diameter, between bluntly rounded longitudinal ridges slightly convex. Mouth steeply oblique, lower jaw subequal or slightly included. Teeth on jaws in narrow bands, the outer series (especially anteriorly on both jaws) partly enlarged. Teeth on vomer and palatines small. Preorbital with three strong spines close before eye directed backwards, the lower margin with a series of strong retrorse spines (less numerous in smaller specimens). Supraorbital ridge with a distinct series of strong retrorse spines. Preopercle with distinct spines along margins and on horizontal ridge. Spines along margin of interopercle none, occasionally a few.

Dorsal spines strong, the first (excepting the procumbent spine) small, the second longest and about 2 in head; the following spines gradually but rapidly decreasing in size, the last spine again much longer, 1.5 in eye. First anal spine moderate, approximately 1.5 in eye, second and third subequal, slightly surpassing eye diameter but shorter than longest dorsal spine. Anterior rays of dorsal and anal fins in larger examples filamentous, longest dorsal ray in holotype 1.05, longest anal ray 1.1 in standard length. No filamentous rays in small specimens. Pectorals 1.8 in head, ventrals 2.1 in head, ventral spine about 2.6 in head. Caudal deeply forked, caudal peduncle slightly longer than deep, its depth almost equal to snout. Lateral line indistinct, indications dubious.

The colour of the present preserved specimens is yellowish white with scattered spots of pigment chiefly on snout, around eye, on occipital region, on jaws, near bases of dorsal and anal fins, and on all fins excepting ventrals. There are vague indications of narrow transverse stripes, the first short stripe being below the spinous dorsal, five further stripes below soft dorsal.

In general the characters given above are those of the holotype. The smaller specimens slightly differ in the usual juvenile characters only.

The present species seems to be closely related to *Chanda lala* Ham. Buch. (= *Chanda ranga* Ham. Buch.?), especially on account of the similarity in shape (the elevated compressed body, the supraorbital concavity in the dorsal outline, etc.), in the numbers of finrays, and in colour markings. On the other hand, when comparing the present holotype with a specimen of *lala* of approximately the same size, the various differences become obvious (see Pl. III).

Scatophagus argus (L.)

117 ex., Calcutta, 1956?, 7-14 (9.5-18) mm.

All specimens still distinctly show the juvenile markings and belong to the *Tholichthys*-stage.

Monodactylus argenteus (L.)

52 ex., Singapore, 1956?, 14-30 mm.

The caudal fins are generally damaged, so only the standard lengths are given.

?**Tetraodon fluviatilis** Ham. Buch.

2 ex., Colombo, June 1956, 16-19 mm.

Both juvenile specimens have the caudal fin mutilated, only standard length can be given; the further fins are also badly damaged.

The back is dark with a few large circular lighter markings, the belly whitish. There are two nasal tentacles on each side. The interorbital is broad. Back from eyes to dorsal fin, cheeks, and belly to vent spiny, with a few spines before eyes.

The present identification is given with some reserve on account of a lack of material of comparable size, though probably representing the only possibility.

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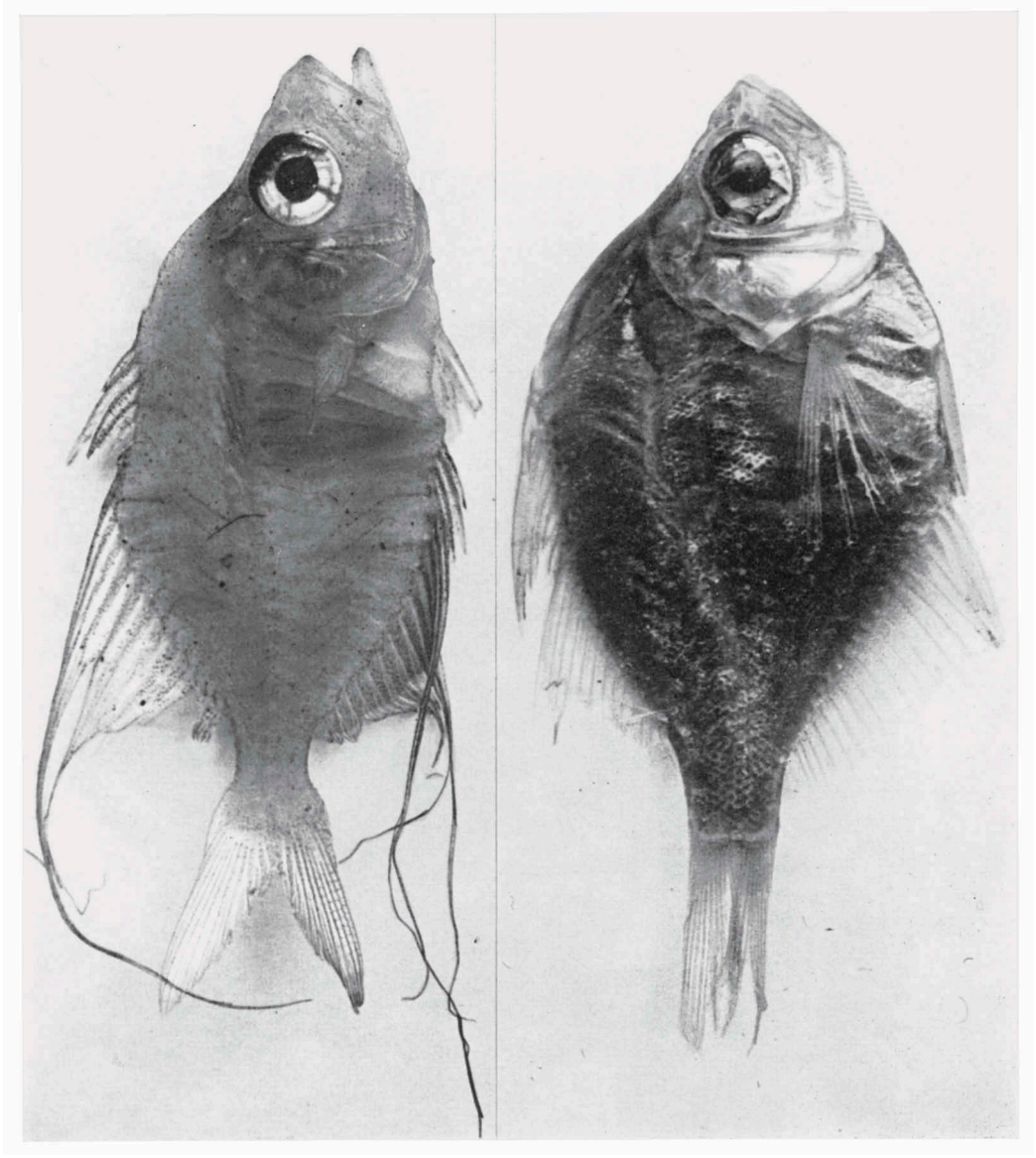

Left (upper) figure, *Gymnochanda filamentosa* nov. spec., holotype.
Right (lower) figure, *Chanda lala* Ham. Buch. (= *Chanda ranga* Ham. Buch.?).
Both figures × 3.