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## SOME CHINESE FRESH-WATER FISHES<sup>1</sup>

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### I.—LOACHES OF THE GENUS *BOTIA* IN THE YANGTZE BASIN

#### *Botia rubrilabris* (Dabry de Thiersant)

?*Cobitis variegata* DABRY DE THIERSANT, 1872, 'Pisciculture en Chine,' Pl. XLIX, fig. 5. Unidentifiable. Yetchuen.

*Parabotia rubrilabris* DABRY DE THIERSANT, 1872, 'Pisciculture en Chine,' Pl. XLIX, fig. 8. Yangtze (referred to Guichenot).

*Botia variegata* GÜNTHER, 1889, Ann. and Mag. Nat. Hist., IV, p. 228. Ichang, Yangtze.

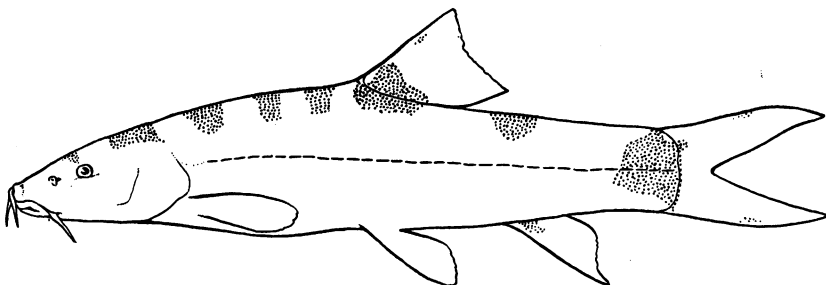


Fig. 1. *Botia rubrilabris* from Tungting Lake. Length, without caudal, 65 mm.

The synonymy of this, the best-known species of the genus in China, is somewhat uncertain and involved. Our two small specimens from Tungting Lake, Hunan, are clearly referable to Dabry's inaccurate but characteristic figure of *rubrilabris*, and also agree with Günther's type description of *variegata*. Günther aptly says in Ann. and Mag. Nat. Hist., 1888, I, p. 429: "I regret not to be able to make use of the notes on Chinese fishes in 'La Pisciculture et La Pêche en Chine par P. Dabry de Thiersant,' as the figures as well as the accompanying notes are the work of persons not conversant with the rudiments of descriptive ichthyology, and as likely to lead to misconceptions as to assist in the determination of the species." Nevertheless, some of the species in this work are perfectly identifiable.

<sup>1</sup>Publications of the Asiatic Expeditions of The American Museum of Natural History. Contribution No. 51.

A specimen from Huping, Tungting Lake, Hunan, collected by Clifford H. Pope, may be described as follows.

Length to base of caudal, 50 mm. Depth in length, 4.5; head, 3.3. Snout in head, 2.5; width of body, 2.4; depth of peduncle, 2.2; its length, 1.8; pectoral, 1.8; ventral, 1.8; longest dorsal ray, 1.4; longest anal ray, 1.6; caudal lobe, 1. Eye in snout, 4; interorbital, 2.1; maxillary, 2; maxillary barbel, 2.3.

Dorsal, 11; anal, 7. Scales very fine, evident only on peduncle.

Head long and pointed; peduncle moderately constricted; body compressed; peduncle strongly compressed; ventrals contiguous, in a horizontal plane; vent equidistant from ventral axil and anal origin. A row of four contiguous barbels across the tip of the snout, the inner slightly the longer and slightly shorter than a barbel on the end of the maxillary; mouth slightly oblique, inferior, horseshoe-shaped; the maxillary not reaching half the distance from tip of snout to under front of eye; lips thickish; the lower cleft in the middle; snout long and narrow; interorbital strongly convex; eye with a slight free rim, except behind; subtended by a simple, concealed, backwardly directed curved spine, a little longer than diameter of eye; gill-membranes broadly joined to side of breast beneath posterior third of opercle. Dorsal origin equidistant from base of caudal and middle of eye; ventral origin slightly behind that of dorsal; pectoral reaching  $\frac{1}{2}$  the distance to ventral; ventral  $\frac{2}{3}$  to anal; caudal deeply forked with pointed lobe (one broken). Lateral line complete, straight, in the center; short, bluntly pointed fleshy flaps in pectoral and ventral axils.

Pale; six dark saddles along mid-dorsal line; the first between the front of the eyes, the fifth on the dorsal base; a narrow stripe across the caudal base; a large blotch on the peduncle, two faint blotches anterior to this one on one side. A less perfect specimen of 63 mm. with seven dorsal blotches.

### ***Botia pratti* Günther**

?*Parabotia tæniops* SAUVAGE, 1878, Bull. Soc. Philom. Paris, p. 90. Yangtze.

*Botia pratti* GÜNTHER, 1892, in Pratt, 'The Snows of Tibet,' p. 250, Pl. iv, fig. A.

This is a species with an elongate snout, but the very small eye rather nearer the end of the snout than the edge of the operculum. Depth rather more than  $\frac{1}{2}$  the length to base of caudal; head in same, 3.5; interorbital narrow, convex, 3 or 4 times the diameter of eye. Dorsal origin midway between base of caudal and orbit; caudal deeply forked, its lobes as long as the head. Dorsal with 11 rays; anal with 8. Brownish olive, without distinct markings on the body; dorsal with two blackish bands parallel to the upper margin; caudal rays with numerous linear black markings or without spots; lower fins with indistinct blackish markings. The figure shows snout in head, 2.3; depth of peduncle, 2.4; its length, 1.6; longest anal ray, 1.5; eye in snout, 8.5.

Günther had three specimens 8 inches long, from Kia-tiang-fu (elevation 1070 ft.) at the foot of Omieshan. The locality is central Szechwan near long. 104° East, and where the Tung and Ya rivers join to enter the Min, a northern affluent of the Yangtze.

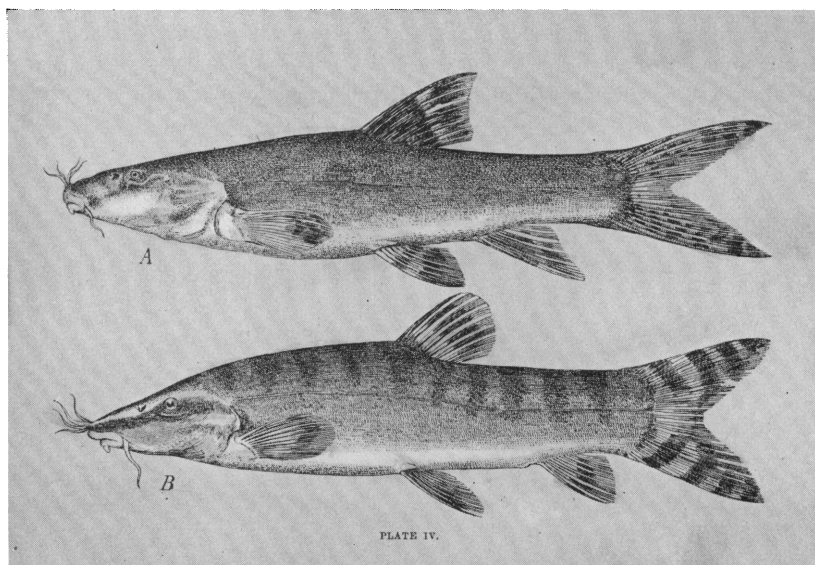


Fig. 2. *Botia pratti* (upper) and *Botia superciliaris* (lower) from Günther, by courtesy of the publishers, Longmans, Green and Co.

### ***Botia superciliaris* Günther**

*Botia superciliaris* GÜNTHER, 1892, in Pratt, 'The Snows of Tibet,' p. 250, Pl. iv, fig. B.

This is a species allied to *B. rubrilabris* from the same locality as the above, with an elongate snout, eye behind the center of the head, and a short deep peduncle. Depth in length to base of caudal, 4.5; head, 3.5. Interorbital narrow, convex,  $2\frac{1}{2}$  times the diameter of eye. Dorsal origin midway between base of caudal and eye; caudal forked, its lobes shorter than the head. Dorsal with 11 rays; anal with 8; light olive, with broad, brownish bars across the back, five in front of and five behind the dorsal; a yellowish streak on the side of snout running back through superciliary region; three yellowish longitudinal lines on the crown of the head; dorsal and generally pectoral with a broad, dark cross-band well within the margin; each caudal lobe with three or four dark oblique bands. The figure shows snout in head, 1.9; depth of peduncle, 1.9; its length, 2.4; longest anal ray, 1.9. Eye in snout, 5.

Günther had five specimens, six inches long, from Kia-tiang-fu, Szechwan.

***Botia purpurea*, new species**

DESCRIPTION OF TYPE.—Number 8401, American Museum of Natural History, from Huping, Tungting Lake, Hunan; collected by Clifford H. Pope.

Length to base of caudal, 132 mm. Depth in length, 4.2; head, 4. Snout in head, 2.5; width of body, 2; depth of peduncle, 1.6; its length, 1.4; pectoral, 1.4;

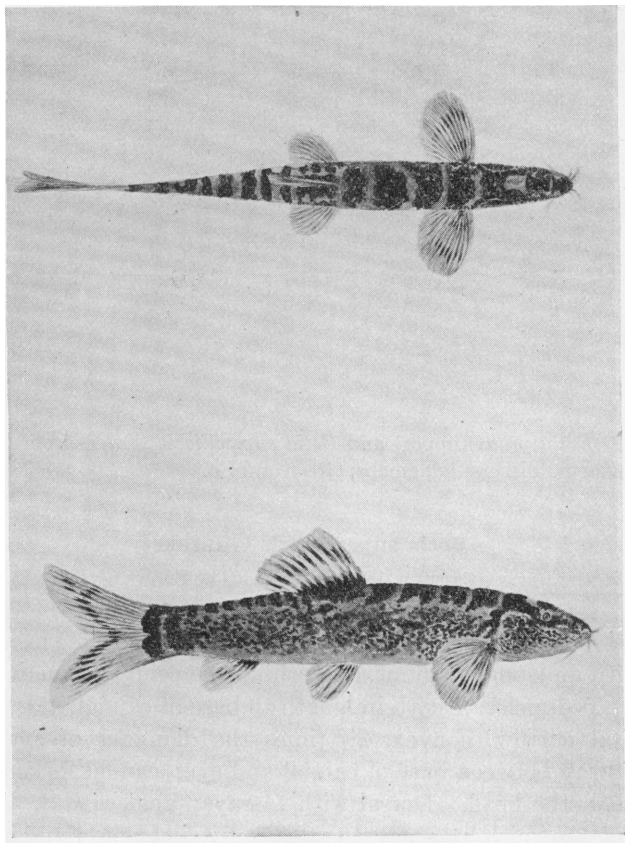


Fig. 3. *Botia purpurea* of 63 mm. without caudal, from the side and from above.

ventral, 1.5; longest dorsal ray, 1.4; longest anal ray, 1.5; upper caudal lobe, 0.9. Eye in snout, 5.5; interorbital, 1.7; width of mouth, 2; maxillary, 1.6; maxillary barbel, 2.5; distance between gill clefts, 1.5.

Dorsal, 10; anal, 8. Scales about 150.

Compressed; peduncle broad and strongly compressed; snout pointed; vent equidistant from ventral axil and anal origin; ventrals contiguous, in a horizontal

plane. Mouth small, slightly oblique, inferior, transverse, horseshoe-shaped, with moderately thick lips, the upper free behind, the lower, which is split in the center, free in front; maxillary reaching half-way to under front of eye from tip of snout; three small barbels on each side, two at the side of the tip of the snout, and one at the end of the maxillary a little the longest; eye with a slight free rim, except behind; a strong, simple, backwardly directed spine beneath the eye, half as long again as same; gill-slit curving around pectoral base, gill-membranes broadly joined to side of breast before lower pectoral axil. Dorsal origin equidistant from tip of snout and base of caudal; ventral origin slightly behind that of dorsal; pectoral reaching  $\frac{2}{3}$  the distance to ventral; ventral  $\frac{2}{3}$  to anal; caudal deeply forked, with pointed lobes, the upper slightly the longer. Scales small, oval, imbricated, with concentric and parallel horizontal striæ; lateral line complete, straight, in the center; pectoral and ventral with fleshy axillary flaps joined by membrane to the fin, that of the ventral elongate, pointed.

Rather dark purplish, the sides vermiculated; midline of back from nape to dorsal with about five irregular dark saddle-marks, narrowly separated; fins with dark bases, each crossed by a blackish bar; mouth and barbels pale. In a sketch from life the ground color is dull purplish rose; broad dark cross-bars before the dorsal leave narrower interspaces of the ground color; behind the dorsal light and dark bars are more numerous and of about equal width; the sides are irregularly mottled.

A number of specimens of this form were collected at Tungting Lake.

#### ***Botia citraurata*, new species**

DESCRIPTION OF TYPE.—Number 8402, American Museum of Natural History, Tungting Lake, Hunan; December 29, 1921; collected by Clifford H. Pope.

Length to base of caudal, 50 mm. Depth in length, 5.4; head, 3.8. Snout in head, 2.6; depth of peduncle, 1.8; its length, 1.9; pectoral, 1.7; ventral, 1.8; longest dorsal ray, 1.5; longest anal ray, 1.8; caudal lobe, 0.9. Eye in snout, 3; interorbital, 2; maxillary, 1.4; maxillary barbel, 1.4.

Dorsal, 10; anal, 7. Scales minute, imbedded, scarcely evident.

Body strongly compressed, particularly the peduncle. Mouth inferior, strongly curved; two barbels on snout and one on maxillary on each side, which latter reaches back to opposite center of eye, none on chin. Small eye with a free rim; a strong, erectile, backwardly directed spine below eye; gill-membranes broadly joined to isthmus, gill cleft extending to opposite lowest ray of pectoral. Dorsal origin midway between base of caudal and middle of snout; ventral origin under first rays of dorsal. Lateral line complete.

Color purplish brown; yellowish below; a dark band across base of caudal; a few pale flecks on sides and dark flecks on dorsal; midline of back rather dark with a row of numerous small, close-spaced, rounded, pale blotches. Caudal faintly but distinctly mottled with dark. A sketch from life is orange in color, the center of the back dark gray; an orange stripe extends between the eyes and onto the back, behind which there are eight rounded orange spots in the midline of the back before the dorsal and nine behind it.

These five Chinese species of *Botia* may be conveniently differentiated as follows:

- 1.—Dorsal origin midway between base of caudal and eye.....2.  
Dorsal origin midway between base of caudal and middle of snout. Center of back dark with a series of close-spaced, rounded, pale marks. Slender. depth about 5.5.....*B. citrauratae*.  
Dorsal origin midway between base of caudal and end of snout. Dark saddles across the back, sides finely marked. Deeper, depth less than 4.5.  
*B. purpurea*.
- 2.—Eye very small, more than 3 times in the interorbital, and about 8 times in the snout. No dark cross-marks on back or sides. Eye in about the center of head. Depth about 5.....*B. pratti*.  
Eye somewhat larger, less than 3 times in the interorbital, about 4 or 5 times in the snout. Dark cross-marks on back which may be continuous downward, represented by blotches or absent across the sides. Eye behind the center of head. Depth about 4.5.....3.
- 3.—About 10 cross-marks on the back. Peduncle short and deep..*B. superciliaris*.  
About 5 to 7 cross-marks on the back. Peduncle moderate, its length 1.8 in head.....*B. rubrilabris*.

## II.—A NEW MINNOW-LIKE CARP FROM SZECHWAN

**CARASPIUS**, new genus

A small, active cyprinid, with the chubby blunt-headed appearance of the goldfish (*Carassius*), but with a long, slender peduncle. Dorsal and anal short, without spinous rays. Mouth very oblique, lower jaw projecting. No barbels. A short keel on the belly before anal. Scales moderately large; the lateral line incomplete. Name from *Carassius* and *Aspius*. Type: *Caraspius agilis*, new species.

This genus resembles European *Leucaspius*, which has a longer anal, smaller scales, etc., and may be more or less closely related thereto.

### **Caraspius agilis, new species**

DESCRIPTION OF TYPE.—No. 8414, American Museum of Natural History, Yen-ching-kao, near Wanhsien, Szechwan, January 1923, collected by Walter Granger.

Length to base of caudal, 41 mm. Depth in length, 3.3; head, 3.6. Eye in head, 3.5; snout, 3.5; interorbital, 2.5; maxillary, 3; depth of peduncle, 1.9; length of peduncle, 1.4; width of body, 1.5; pectoral, 1.3; ventral, 1.6; longest dorsal ray, 1.4; longest anal ray, 1.5; caudal, 0.8.

Dorsal, 9; anal, 9. Scales, 31. Teeth, 4.2 (in one of the cotypes), their tips narrowed and curved.

Vent immediately before anal origin, with a short, naked keel before it almost to ventral axil. Lower jaw projecting; mouth very oblique; maxillary barely to front of eye; no barbels; gill-membranes narrowly joined to isthmus under edge of preopercle. Dorsal and anal without spinous rays; dorsal origin equidistant from base of caudal and edge of preopercle, between ventral axil and anal origin, which latter is very slightly behind dorsal axil; pectoral reaching to over ventral origin; ventral not quite to anal origin; caudal forked, the upper lobe pointed. Scales with radiating striae; lateral line on about 3 anterior scales only.

Color dark above; paler, yellowish or reddish [rust from tins?], below and on fins; an indistinct blackish stripe from eye to caudal.

Two smaller specimens were taken with the type—"in a spring on the edge of a paddy field; cold water; very shy and active" (W. G.).

### III.—THE CHINESE SUCKER, *MYXOCYPRINUS*

The peculiar Chinese sucker with big sail-like dorsal fin appears to be widely distributed in central China, but nowhere common. The type of its genus (*Myxocyprinus* Gill, 1878, Johnson's 'Cyclopædia,' p. 1574) is *Carpiodes asiaticus* Bleeker, 1865, (?probably northern) China. A second species, *Carpiodes chinensis* Dabry de Thiersant, 1872, Yangtze; *Sclerognathus chinensis* Günther, 1889, Ichang, Yangtze (named independently), has since been described. A specimen from Anhwei is identified with the former form, which very likely actually came from the vicinity of Shanghai, and two specimens from Tungting, with the latter. The two forms appear to be racially, though not specifically, distinct. A tangible difference is to be found in the number of dorsal fin rays. A fourth individual to hand from Fukien does not agree with either of the above, and is here made the type of a third race. Unfortunately, it is too small for very satisfactory comparison.

#### ***Myxocyprinus asiaticus asiaticus* (Bleeker)**

*Carpiodes asiaticus* BLEEKER, 1865, Ned. Tijdschr. Dierk., II, p. 19.

Description of a specimen from Anhwei, bought 20 miles from Ning-kwo, on a clear-water river on the way to Wuhu, by C. H. Pope, follows.

Length to base of caudal, 220 mm. Depth in length, 2.4; head, 4.6. Eye in head, 6; snout, 2.3; interorbital, 2.2; maxillary, 2.3; width of mouth, 3; greatest width (the back of head), 1.5; depth of peduncle, 2.6; its length, 3; pectoral, 0.9; ventral, 0.9; longest dorsal ray, 0.6; longest anal ray, 1; lower caudal lobe, 0.8.

Dorsal, 52; anal, 12. Scales, 53.

Deep, compressed; lower surfaces broad, very slightly convex; pectorals and ventrals in a horizontal plane; head short and blunt; back before dorsal steep and very narrow. Interorbital slightly convex, mouth inferior, transverse, surrounded with thick striate lips; maxillary not reaching to below front of eye; eye lateral, with a free rim; gill-membranes joined to side of breast behind the edge of the preopercle. Dorsal and anal without spinous rays, the former elongate, much elevated in front; dorsal origin equidistant from tip of snout and first third of depressed ventral; ventral origin well behind that of dorsal; pectoral about reaching ventral origin; ventral reaching three-fourths the distance to anal; caudal forked, with narrow, pointed lobes, the lower decidedly the longer. Scales with conspicuous, rather close-spaced radiating striæ; lateral line complete, straight, in the center; pectoral and ventral without modified free axillary flap or scale.

Body and fins blackish; mouth to breast, a vague band from origin of dorsal to between pectoral and ventral bases, upper caudal lobe, and narrow inner margin of pectoral, pale; snout and opercle grayish.

This race differs from *M. a. chinensis* (Günther) from the Yangtze in having fewer dorsal rays, slightly lower body and dorsal lobe, and more striate scales.

***Myxocyprinus asiaticus chinensis* (Dabry de Thiersant)**

*Carpiodes chinensis* DABRY DE THIERSANT, 1872, 'Pisciculture en Chine,' p. 182, Pl. XL, fig. 1.

*Sclerognathus chinensis* GÜNTHER, 1889, Ann. and Mag. Nat. Hist., IV, p. 223.

Description of a specimen from Huping, Tungting Lake, Hunan, collected by C. H. Pope, follows.

Length to base of caudal, 200 mm. Depth in length, 2.3; head, 4.2. Eye in head, 5.5; snout, 2.5; interorbital, 2; maxillary, 2.6; width of mouth, 3.9; greatest width (the back of head), 1.6; depth of peduncle, 2.6; its length, 2.8; pectoral, 0.9; ventral, 0.9; longest dorsal ray, 0.6; longest anal ray, 1; lower caudal lobe, 0.8.

Dorsal, 57; anal, 14. Scales, 55.

Deep, compressed; lower surfaces broad, very slightly convex; pectorals and ventrals in a horizontal plane; head short and blunt; back before dorsal steep and very narrow. Interorbital convex; mouth inferior, transverse, surrounded with thick striate lips; maxillary not reaching to below front of eye; eye lateral, with a free rim; gill-membranes joined to side of breast behind edge of preopercle. Dorsal and anal without spinous rays; the former elongate, much elevated in front; dorsal origin equidistant from tip of snout and ventral origin; ventral origin well behind that of dorsal; pectoral passing ventral origin slightly; ventral extends  $\frac{2}{3}$  the distance to anal origin; caudal moderately forked, the lower lobe slightly the longer and the less pointed. Scales with a few radiating striae, less conspicuous than in typical *asiaticus*; lateral line complete, straight, in the center; pectoral and ventral without modified free axillary flap or scale.

Body and fins blackish; mouth to pectoral bases, upper caudal lobe, narrow inner margin of pectoral, and opercle, pale; snout, and origin of dorsal to belly in front of ventrals, grayish.

***Myxocyprinus asiaticus fukiensis*, new subspecies.**

DESCRIPTION OF TYPE.—No. 8415, American Museum of Natural History, collected near Yenping, Fukien, by H. R. Caldwell.

Length to base of caudal, 36 mm. Depth in length, 2.6; head, 3.6. Eye in head, 3.6; snout, 2.7; interorbital, 2.1; maxillary, 3.5; depth of peduncle, 3; its length, 3.3; pectoral, 1.2; ventral, 1; longest dorsal ray, 0.7; longest anal ray, 1.4; lower caudal lobe, 0.9.

Dorsal, 55; anal, 14. Scales, 47.

Head rather broad and blunt; back steeply elevated to dorsal origin; body strongly compressed; breast flattish, so that the bases of pectorals (placed low) and



ventrals are in a horizontal plane; belly rounded. Top of head slightly convex; front of snout deep, vertical; mouth small, horizontal, transverse, curved, inferior, protractile downward; entirely surrounded with thick ridged-papillose lips; no barbels; maxillary not reaching under front of eye; orbit with a free rim, lateral placed high; gill-membranes adnate to breast near its center, about half of the diameter of eye apart. Dorsal high, not falcate (in this small specimen), occupying most of the back; its origin nearer tip of snout than to anal origin; pectorals reaching ventral origin; ventral passing anal origin; anal passing caudal base; caudal deeply forked, with narrow pointed lobes, the lower a little the longer. Lateral line complete, straight, in the center.

Color black; anterior and posterior ends of head, a broad band slanting down and back from origin of dorsal and involving the inner edge of pectoral, a narrow, less perfect parallel band from middle of dorsal base, and caudal, pale.

