

ON THE FISHES OF LI-KIANG

By

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The fishes dealt with in this article were collected from Yangso (陽朔) in Li-Kiang (潯江) or Kwei Kiang (桂江) from January to December 1938 and in its tributary streams at Sui-Jon (修仁) in June of the same year. They represent in general the ichthyological fauna of this river.

Most of the fishes were bought from the fishermen. Those of large size used as daily food by the local people were usually caught by means of domesticated cormorants or with hooks; those of small size bearing less economic value were hauled by means of different kinds of nets in day-time and at night; and those, as Cobitidae, usually burried themselves in sand and mud were caught with a sort of bamboo basket used as a trap.

Li-Kiang is a branch of Hsi-Kiang (西江). It rises from the same source and is connected with a canal with Siang-Kiang (湘水) which empties into Tung-Ting Lake (洞庭) and therefore, it renders as an important link between Hsi-Kiang and Yangtse. This topographical condition of Li-Kiang is deemed of interesting with the view point of the distribution of fishes in Yangtse and Hsi-Kiang.

The result of this investigation is that, one-eighth of the fishes here noted occurring commonly in Yangtse and Hsi-Kiang, two-eighths distributing in South China, another two-eighths being the endemic species of Kwangsi Province, and the last three-eighths considered as common species recorded nearly all over China.

The fishes grouped under the above-mentioned four categories are listed as follows:—

Occurring commonly in Yangtse and Hsi-Kiang	Occurance particularly in South China
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<i>Labeobarbus brevifilis</i> Peters	<i>Crassioides cantonensis</i> (Heincke)
<i>Sarcocheilichthys geei</i> (Fowler and Bean) *	<i>Matsya nigrodorsalis</i> (Oshima)
<i>Ochetobius elongatus</i> Kner	<i>Puntius semifasciatus</i> (Günther)
<i>Sinibrama wui</i> (Rendahl), gen. nov.	<i>Lissochilus hemispinus</i> Nichols
<i>Anabarilius rendahli</i> (Wu)	<i>Labeo decorus</i> Peters
<i>Hemibagrus macropterus</i> Blkr.	<i>Osteochilus salsburyi</i> Nichols & Pope
<i>Leicassis crassilabris</i> Günther	<i>Abbottina fukiensis</i> (Nichols)
<i>Siniperca roulei</i> Wu	<i>Cirrhina molitorella</i> (C. & V.)
<i>Siniperca schenkeri</i> Steindachner	<i>Garra orientalis</i> Nichols
	<i>Acanthorhodeus tokinensis</i> Vaillant
	<i>Hemiculter dispar</i> Peters
	<i>Vanmancina stenoma</i> (Boulenger) †
	<i>Beaufortia leueretti</i> (Nichols & Pope)
	<i>Liobagrus anguillicauda</i> Nichols
	<i>Glyptosternum fokiense</i> Rendahl
	<i>Ophicephalus maculatus</i> (Lacépède) ‡
	<i>Anguilla elphinstoni</i> Sypes
	<i>Siniperca undulata</i> Fang and Chong
	<i>Siniperca whiteheadi</i> (Boulenger)

Endemic species

Common species, distributed nearly all over China

<i>Cyprinus carpio</i> , var. <i>triangulus</i> , var. nov.	<i>Cyprinus carpio</i> L.
<i>Procypris niger</i> Herre and Lin	<i>Carassius auratus</i> (L.)
<i>Lissochilus longipinnis</i> , sp. nov.	<i>Hemibarbus labeo</i> Pall.
<i>Varicorhinus xarus</i> Lin	<i>Pseudorasbora parva</i> Schlegel
<i>Varicorhinus lini</i> , sp. nov.	<i>Sarcocheilichthys sinensis</i> Blkr.
<i>Parasilabeo mutabilis</i> (Lin), gen. nov.	<i>Sarcocheilichthys nigripinnis</i> (Gthr.)
<i>Futis vivus</i> Lin	<i>Sumogobio dabryi</i> Blkr.
<i>Pseudorasbora elongata</i> , sp. nov.	<i>Xenocypris argentea</i> Günther
<i>Discogobio tetrabarbatiss</i> Lin	<i>Hemiculter kneri</i> Waspachowsky
<i>Paracheilognathus argenteus</i> , sp. nov.	<i>Opsariichthys bidens</i> Günther
<i>Yaoshanicus arcus</i> Lin	<i>Culter recurviceps</i> (Richardson)
<i>Botia kwangsiensis</i> Fang	<i>Opsariichthys platypus</i> Schlegel
<i>Botia maculosa</i> , sp. nov.	<i>Gobio walterstorffi</i> Kegan
<i>Botia robusta</i> , sp. nov.	<i>Squaliobarbus curriculus</i> (Rich.)
<i>Botia pulchra</i> , sp. nov.	<i>Ctenopharyngodon idellus</i> (C. & V.)
<i>Botia zebra</i> , sp. nov.	<i>Aristichthys nobilis</i> (Richard.)
<i>Formosania yaoshanensis</i> , sp. nov.	<i>Hypophthalmichthys malitrix</i> (C. & V.)
<i>Sinigastromyzon wui</i> Fang	<i>Cobitis taenia</i> L.
<i>Siniperca loana</i> , sp. nov.	<i>Misgurnus anguillicaudatus</i> (Cantor)
<i>Ctenogobius filamentosus</i> , sp. nov.	<i>Parasilurus asotus</i> (L.)
	<i>Clarias fuscus</i> Lacépède §
	<i>Pelteobagrus fulvidraco</i> (Richard.)
	<i>Aplocheilichthys latipes</i> (Schlegel)
	<i>Macropodus opercularis</i> (L.)
	<i>Channa asiatica</i> (L.) §
	<i>Monopterus albus</i> (Zuiew)
	<i>Mastacembelus aculeatus</i> (Basil.)
	<i>Siniperca chuatsi</i> (Basil.)
	<i>Ctenogobius giurinus</i> (Rutter) §

* Recorded in Kiangsu and Kweichow

† Recorded in Chekiang and Kwangsi

‡ Recorded also from Tung Ting Lake

§ Probably not occurring in North China

Family Cyprinidae

1. *Cyprinus carpio* L.

Six specimens, Nos. 125-130, from Yangso (陽朔縣), total length 130-170 mm. Depth 3.5-3.7 in length without caudal, head 3.1-3.3; snout 2.8-3.2 in head, eye 3.3-4.8, interorbital space 2.9-3.3, length of caudal peduncle 2.0-2.2, its least depth 2.6-2.8, longest dorsal ray 1.6-1.9; D. 3, 19-21; A. 35. These fishes possessing the following peculiarities: body rather slender and head comparatively massive; mouth obliquely verticle, with the posterior point of the lower jaw prominent; lower pharyngeal bone narrow and elongate, about 3.5 longer than broad, pharyngeal teeth three rows, with two and rarely more grooves on the crown, inner series of the three often not developed; pectoral reaching beyond the base of ventral; air-bladder having the posterior portion shorter than the anterior portion, the ratio between them being 4:5.

Another specimen, No. 356, from Yangso, total length 150 mm. D. 3, 18; A. 3, 5; depth 3 in length without caudal, head 3.3; snout 2.8 in head, eye 2.7, interorbital space 4.5, longest dorsal ray 1.4; this specimen having the peculiarities of large eye, high dorsal fin, pharyngeal bone about 3.5 longer than broad, slightly oblique maxillaries, reaching below the anterior margin of the orbit, pectoral reaching beyond the base of the ventral, anal fin reaching slightly beyond base of caudal, and pharyngeal teeth with three grooves on the crown.

Another specimen, No. 179, from Yangso, total length 210 mm. D. 3, 18; A. 3, 5; depth 3.5 in length without caudal, head 3.2; snout 2.9 in head, eye 4.1; pharyngeal bone 2.6 longer than broad, teeth with two grooves on the crown; pectoral reaching base of ventral; length of caudal peduncle 1.9 in head.

The above-mentioned specimens are brought from a pond in which they are reared generation after generation; it leads us to think that such peculiarities rather being the variation under domestication than a valid different species. Such varied carps have never been seen in the rivers under wild condition by the local people.

2. *Cyprinus carpio*, var. *triangulus*, var. nov. (Plate I, fig. 1).

Three specimens, Nos. 206-207, 609, from Yangso, total length 215-310 mm. D. 3, 16-19; P. 1, 15; V. 1, 8; A. 3, 5; scales L. 1. 34-36, tran. $6\frac{1}{4}$ — $7\frac{1}{4}$ —7, 5-v.; depth 2.5-2.7 in length without caudal, head 3.5-3.7; snout 2.7 in head, eye 3.3-4, interorbital space 2.8-3, length of caudal peduncle 2.3-2.7, its least depth 2-2.2; predorsal length of body 2 times head.

Body deep, compressed; dorsal profile from the nape to the origin of the dorsal elevated, then sloping down towards the caudal peduncle; ventral profile somewhat horizontal from the posterior portion of the breast to the origin of the anal; snout blunt, somewhat knotted above in front of the nostrils which are close together and situated much nearer the anterior margin of the orbit than the tip of the snout; mouth subterminal, obliquely horse-shoe-shaped, lower jaw included; two pairs of barbels, subequal in length, slightly longer than the eye diameter; eye superolateral, postorbital length of the head shorter than the snout;

Pectoral nearly reaching the origin of the ventral in young specimen and extending beyond in old one; ventrals reaching the vent; dorsal originating in middle of the body length without caudal, with the third simple ray ossified and serrated behind, its base extending posteriorly above the 23rd—26th scale on the lateral line, its longest ray 1.5-1.7 in head; anal fin commencing a short distance behind the anus, its longest ray exceeding the base of the caudal, its third simple ray ossified and serrated behind.

Gill-rakers much shorter than the filaments, pointed, 15 in the lower part of the first arch; pharyngeal teeth three rows, 3.1.1, most of them in form of molar, except the upper two in the outer series being slightly compressed and with obliquely truncated grinding surface; all teeth, except the lower one in the outer series, with only one groove on the crown; scales large, 16 rows surrounding the base of the caudal; about 16 in the predorsal distance; lateral line complete, passing the middle of the tail; lower pharyngeal 2.5-2.8 longer than broad.

Color of the small fish in fresh condition dusky, breast and ventral surface of the head white, upper surface of the head dark, every scale with dusky margin, fins blackish; of larger fish light brown tinged with golden.

The pharyngeal teeth appear similar to that of *Cyprinus micristius** Regan from which it is easily distinguished by the possession of more dorsal rays and deeper body. It differs from the typical *Cyprinus carpio* in having one groove on the grinding surface of the pharyngeal teeth and deeper and more compressed body. Owing to the shape of the body it is known by the local fishermen as "triangular carp" (三角鲤). They appear in the market especially abundant in the late spring when the water in the river is suddenly raised after heavy rainfalls or storms.

3. *Procypis niger* Herre and Lin

One specimen, No. 277, from Yangso, total length 300 mm, D. 4.17; A. 3.6; P. 1.20; V. 1.9; Scales L. 1. 43, tran. 8/8, 5-v., 16 surrounding the caudal peduncle at the lowest point, 16 in the predorsal distance; depth 3, head 3.7 in length without caudal; snout 2.3, eye 4, interorbital space 3.1 in head; first dorsal branched ray equal to the head in length, that of the anal slightly shorter; dorsal originating slightly in front of the base of the vental; pectoral reaching beyond the base of ventral which reaches the origin of the anal fin; first branched anal ray reaching the base of the caudal; the third simple ray of the anal and the dorsal greatly ossified, serrated behind, and shorter than the following branched ray; caudal peduncle 1.8 in head, its depth 1.9; pharyngeal teeth 3 rows, 2.3.4, except the lower one in the outer series, slightly hooked at tip in a lateral view, grinding surface oblique, with a central raised area which is incompletely surrounded by groove; lip fresh, densely papillose in appearance; caudal fin deeply forked, longest ray more than two times shortest ones;

*Regan, C. F.—Ann. Mag. nat. Hist. 1906, (7), XVII, p. 332.

This species differs from *Procypris rabaudi*. (Tchang)* in having the papillose lips.

4. *Carassius auratus* (L).

One specimens, No. 606, from Yangso, total length 115 mm.

5. *Carassioides cantonensis* (Heincke)†.

Two specimens, Nos. 227, 605, from Yangso, total length 165, 330 mm. D. 3, 19-20; P. 1, 15-16; V. 1, 8-9; A. 3, 5; scales L. 1, 31, tran. 7-8/9, 6-v.; depth 2.2-2.3 in length without caudal, head 3.5-3.8; eye 3.2-4 in head, snout 3.2-3.4, interorbital 2.7-3, length of caudal peduncle 2-2.2, its depth 1.8; pectoral nearly reaching or exceeding the origin of the ventral which extends to a point of two scales on the lateral line beyond the vent; longest ray of anal reaching the base of the caudal; origin of dorsal in the midway between the end of snout and the axilla of the anal; margin of the dorsal truncated; pharyngeal teeth two series, 4, 2, the upper three of the main series greatly compressed and the lower one slender; barbeles two pairs, short.

Color in fresh condition, brownish with metallic lustre, dorsal fin dusky, others reddish.

The fish No. 227, is a female and reaches the sexual maturity. The two ovaries are fully laden with matured eggs.

6. *Hemibarbus labeo* Pall.

Four specimens, nos. 116, 601-603, from Yangso, total length 155-245 mm. head 3.9-4 in length without caudal, depth 4.2-4.4; snout 2.3-2.5 in head, eye 3.4-4; postorbital 3-3.3; D. 3, 7; P. 1, 18-20; V. 1, 7-8; A. 3, 6; scales L. 1, 44-48, tran. 6-7/6-7, 4-5-v; dorsal with a strong spine, originating above the tip of the pectoral or behind the midway between the axil of the pectoral and the base of the ventral; ventral reaching somewhat the halfway to the origin of anal which extends to the vertical of the base of the caudal fin.

*Tchang, T. L.—Bull. Soc. Zool. France, 1930, LV, p. 47.

†Chu, Y. T.—Biological Bull. of St. John's Univ. No. 2, 1935 p. 9.

Color in fresh condition, olive above, white below; golden lustre appearing on the dorsal region; pectoral, ventral and anal pink; caudal and dorsal dusky with very small blackish spots; every scale on the lateral side of the body with the margin dusky.

7. *Matsya** *nigrodorsalis* (Oshima).

Spinibarbus nigrodorsalis Oshima, Annot. Zool. Japon, 1926, XI, p. 10 (Hainan); Myers, Lingn. Sci. Jour. 1931, X, p. 259 Tchang, Zool. Sinica, 1933, (B), II, p. 44, fig. 18 (Fukien); Lin, Lingn. Sci. Jour. 1933, XII, p. 208; Herre, Lingn. Sci. Jour. 1936, XV, p. 629, (Hainan);

Barbus caldwelli Nichols, Amer. Mus. Novit. 1925, 185, p. 2 (Fukien); Rendahl, Ark. f. Zool. 1927, 20 A, p. 135.

Spinibarbus hollandi, Koller, Ann. Naturhist. Mus. Wien, 1927, 41, p. 34 (Hainan).

Barbus nigrodorsalis Nichols and Pope, Bull. Amer. Mus. Nat. Hist. 1927, 54, p. 344, Fig. 14 (Hainan).

Mystacoleucus mandarinus Rendahl, Ark. f. Zool. 1926, 18 B, p. 1 (Fukien).

Mystacoleucus (*Spinibarbus*) *mandarinus* Rendahl, Ark. f. Zool. 1928, 20 A, p. 136.

Barbus (*Spinibarbus*) *caldwelli* Nichols, Bull. Amer. Mus. Nat. Hist. 1928, 58, p. 12.

Spinibarbus nigripinnis Wang, Cont. Biol. Lab. Sci. Soc. China, 1935, Vol. XI, p. 51. (Chekiang).

Mystacoleucus (*Spinibarbus*) *nigrodorsalis* Rendahl, Ark. f. Zool. 1927, 20 A, p. 137; Wu, Bull. Mus. Nat. Hist. Paris, 1931, III, p. 437. (Chekiang).

Spinibarbus mandarinus Lin, Lingn. Sci. Jour. 1933, XII, p. 209.

Mystacoleucus (*Spinibarbus*) *caldwelli* Wu, Cont. Biol. Lab. Sci. Soc. China, 1931, VII, p. 19 (Fukien).

Lissochilus Caldwelli Lin, Lingn. Sci. Jour. 1933, XII, p. 214.

*Hotta, S. I., Rec. Ind. Mus. 1937, 39, p. 311-319.

Seven specimens, Nos. 358, 600, 181, 182, 184-186, total length 54-375 mm. from Yangso. D. 3.9; P. 1,16; V. 1,8; A. 3.5; head 3.7-4, depth 3.8-4 in length without caudal; snout 2.9-3.1, eye 4.1-5 in head; predorsal distance 1.8-1.9 times head; scales L. 1. 26-27, tran. 4/4, 2-v. gill-rakers 8 in lower part of the first arch; pectoral reaching slightly beyond the halfway to the base of the ventral; ventral slightly beyond the halfway to the origin of anal which reaches the vertical of the base of the caudal fin; origin of the dorsal in front of the ventral and reaching the end of the latter or slightly behind, barbels two pairs; origin of dorsal with a recurrent spine, without spiny rays; pharyngeal teeth 3 rows, 5.3.2, most of them with curved and pointed tips.

Color in fresh condition: olive, washed with yellow above, white below; pectoral olive in adult and yellow in young; dorsal and caudal olive, washed with golden, their margins black; ventral and anal golden, the latter with blackish margin which is absent in the young fish. Young fish above 100 mm. in length with larger eye, 3.7 in head; those below 70 mm. in length, body much compressed and high; a black spot at the origin of dorsal and the base of caudal; dorsal with a blackish band across the middle of the most of the rays; ventral and anal each with a submarginal blackish band but not washed with orange.

This species is very likely to be synonymous with *Spinibarbus hollandi* Oshima which seems to be probably identical with *spinibarbus elongatus* Oshima, but for the present time I have kept it separate as there is no Formosan material for comparison. To the Chinese Cyprinoid fish with a procumbent dorsal spine, there come also *Matsya sinensis* (Blkr.)* and *Matsya denticulatus* Oshimiat. *Spinibarbus pingi* Tschang† will be regarded with little doubt, as a synonym of *M. sinensis* (Blkr.)

*Bleeker, Verh. Ak. Amst. 1871, p. 17.

†Oshima, Annot. Zool. Japan, 1926, XI, p. 11.

‡Tchang, Bull. Fan-Mem. Inst. Biol. 1931, II, p. 229, fig. 2.

8. *Puntius semifasciolatus* (Günther).

Several specimens, No. 228, from Yangso, total length 22-47 mm. D. 3,8; A. 2,5; P. 1,11; V. 1,7; Sq. L. 1. 22-23, tran. $3\frac{1}{4}/4$, 3-V; depth 2.9-3 in length without caudal, head 3.5-3.6; snout 3.2 in head, eye 2.8-3; dorsal with the third simple ray ossified and serrated behind, originating nearly in midway between the tip of the snout and the base of the caudal; pectoral reaching the origin of the ventral in males, but not so in females; ventral reaching the vent, commencing below the origin of the dorsal or slightly behind it; length of the caudal peduncle 1.7 in head; predorsal scales 9, 12 scales surrounding the caudal peduncle.

Coloration variable, a series of 4 to 8 elongate black spots or vertical stripes on the lateral line, a group of blackish spots on the dorsal surface of the body, two to three blackish spots on the ventral surface of tail, the first one on the origin of the anal; some specimens having a black spot at the base of the ventral; all markings appearing to be more distinct in young specimens than in old ones.

An observation of a series of specimens of this species leads us to think that *Puntius snyderi* Oshima, at least those recorded in the Chinese territory, is probably identical to this species. The large specimens have always a pair of maxillary barbels, but those below 35 mm. in length usually have a pair of tubercles representing the barbels which are so indistinct that one may overlook them.

9. *Labeobarbus brevifilis* Peters.

Two specimen, Nos. 210, 367, from Yangso, total length 253 mm. D. 3,8; P. 1,16; V. 1,8; A. 3,5; scales L. 1. 44-45 tran. $5\frac{1}{2}/6$, 4-v.; pharyngeal teeth 3 rows, slightly decurved at tips, 5.3.2; dorsal spine strong, serrated behind; two pairs of barbels, rostral pair very minute; depth 4.5-4.7 in length without caudal; head 3.8-4; snout 2.1-2.2 in head, eye 4.7, interorbital space 3.2 in head; dorsal commencing nearer the end of snout than the base of the caudal; pectoral extending below the origin of the dorsal; ventral commencing behind the vertical of the origin of the dorsal; anal not reaching

the base of the caudal; 16 scales in front of the dorsal to the nape and 16 surrounding the caudal peduncle which is longer than high, its least depth 2.9-3.2 in head. As the length of the rostral barbels varying to a great extent, *Barbus* (*Labeobarbus*) *szechuanensis* Tchang,* is identical to the present species.

10. *Lissochilus hemispinus* Nichols.

Four specimens, Nos. 142-143, 234-235, from Yangso, total length 130-205 mm.; D. 3,8; A. 3,5; P. 1,15-16; V. 1,8; scales L. 1. 37-38, tran. 5-5½/5, 3½-v. Depth 3.6-4.2 in length without caudal, head 3.7-3.8; snout 2.3-2.6 in head, eye 3.7-4.5, interorbital space 3-3.5 in head; predorsal distance 1.8-2 times head; pharyngeal teeth three rows, 5.3.2, lower second tooth in the main row enlarged; lower lips separated one from another by a furrow, not covering the lower jaw which has a smooth leathery margin.

Dorsal commencing in midway between the tip of the snout and the base of the caudal; pectoral reaching the 9th-10th scales on the lateral line, ventral reaching the 21st-22nd scales on the lateral line, extending about 4/5-7/9 to the origin of the anal which reaches nearly to the base of the caudal fin; snout much more prominent in adult male and furnished with warts; caudal peduncle 1.6-1.9 in head, its depth 2.2-2.6; predorsal scales 11-12, 16 scales surrounding the caudal peduncle; cross bands in the upper part of the body and a longitudinal band on the tail in the young specimens, these markings usually disappeared in adults in fresh condition.

11. *Lissochilus longipinnis*, sp. nov.

Three specimens, Nos. 191, 249, 604, from Yangso, total length 185-380 mm., D. 3,8; P. 1,16-17; V. 1,8; A. 3,5; scales L. 1. 42-44, tran. 6½-7/6-7 4-5-v.; head 4.3-4.5 in length without caudal, depth 3-3.2; snout 2.2-2.4 in head, eye 4.3-5.2, interorbital space 2.8-3, postorbital length of head 2.7-2.8; length of caudal peduncle 1.3-1.7, its least depth 2.1-2.2; pharyngeal teeth three rows, 5.3.2 or 1, most

*Tchang, Bull. Fan. Mem. Inst. Biol. 1932, II, p. 130, fig. 3.

with pointed and curve tips; gill-rakers minute, 6-8 in lower part of the first arc; body high and compressed, dorsal profile much convex; mouth inferior, maxillary reaching in front of the nostrils; two pairs of barbels, rostral pair shorter, $2/3$ to $1/2$ of the maxillary pair which is much shorter than the eye-diameter; interspace between two postlabial grooves comparatively broad, nearly equal to pupil diameter of the eye in female and less so in males or in small fishes; lower lip with horny coat; snout somewhat sharply pointed, slightly exceeding the lip, especially in the males; nostrils close together, nearly in midway between the tip of snout and the posterior margin of the orbit, a shallow knotch in front of them; eye superolateral and slightly posterior; predorsal distance 2-2.2 times head, having 14 scales; 16 scales surrounding the caudal peduncle; lateral line complete, in middle of the tail.

Dorsal fin originating slightly in front of the base of the ventral, nearer the tip of the snout than the base of the caudal, with a stout, osseous third simple ray serrated behind, its tip soft and with the first branched ray produced and forming a filament in some specimens, reaching above the origin of the anal, the posterior border emarginate, membrane not covering the rays; pectoral reaching the 9th or 10th scale on the lateral line, beyond the halfway to the origin of the ventral; the latter reaching the 23rd scale on the lateral line, beyond the halfway to the origin of the anal which reaches the 38th scale on the lateral line in the females and the 40th in the males; caudal fin deeply forked, longest rays 2.8-3.2 times the middle rays.

Coloration in fresh condition: olive, washed with metallic blue above, white below; five narrow light bands crossing the body, the width of the band 2-2.5 contained in the dark interval; each scale with a darker margin, especially those in the intervals of the cross band; fins dusky in females, reddish in males, especially the pectorals and the anal.

This fish is closely related to *Barbus barbodon* Nichols, and Pope, but it differs to have the third and the fourth dorsal rays produced, the dorsal fin originating nearer tip of the snout than the base of the caudal fin, and the caudal peduncle longer.

12. *Varicorhinus rarus* Lin*

Two specimens, Nos. 122, 180, from Yangso, total length 85.255 mm. D. 3.8; A. 3.5; P. 1.17; V. 1.8; scales L. l. 43-44, tran. 7/7, 4-v.; depth 2.9-3.5 in length without caudal, head 4.5; eye 2.7-3.5 in head, snout 3.3.1, interorbital space 2.2-2.9, length of caudal peduncle 1.1.3, its depth 1.8-2.1.

The young fish having very different coloration in fresh condition: body bluish, washed with yellow in the lower part of the side; about eight irregular dark cross bands on the lateral surface becoming spots at side of the caudal peduncle, three spots on the top of the latter; fins washed with orange.

13. *Varicorhinus limit*, sp. nov. .

Three specimens, Nos. 121, 137-138, from Yangso, total length 135-305 mm. D. 3.8; P. 1.15; V. 1.9; A. 3.5; scales L. l. 47, tran. 6/7-8, 4-v.; depth 4.1-4.5 in length without caudal, head 4.3-5; snout 2.6-3 in head, eye 3.4-4.6, interorbital space 2.7; predorsal distance 1.9-2.3 times head.

Body fusiform, somewhat compressed, dorsal profile of body moderately arched, head much higher than broad; snout prominent, equal to postorbital length of head; mouth inferior, horizontal, horse-shoe in shape, its width equal to the eye-diameter; lower lip not separated from the margin of the jaw which is covered by a horny coat but with rounded edge; rostral fold developed; postlabial groove extended from the corners of the mouth nearly to the vertical of the anterior margin of the orbit, anteriorly to behind the horny part of the lower jaw, where the width of the interspace being $\frac{2}{3}$ of the eye diameter; barbels two pairs, maxillary pair longer, less than eye-diameter; nostrils close together, nearer the anterior margin of the eye than the tip of the snout; pharyngeal teeth somewhat slender, tips hooked, 4.3.2; gill rakers minute, 9 in the lower part of the first arch.

*Lin, Lingnan Sci. Jour. 1933, Vol. XII, pp. 204, fig. 1.

†Name after Mr. S. Y. Lin.

Dorsal fin with the posterior margin emarginate, commencing nearer the tip of the snout than the base of caudal, its third simple ray enlarged, ossified and serrated behind, shorter than the head; pectoral fin pointed, its longest ray equal to the distance between its tip and the origin of ventral which commences behind the origin of the dorsal fin and reaches beyond the midway between its origin and that of the anal fin; the latter commencing nearer the base of the caudal than the origin of the ventral, reaching $2/3$ of the caudal peduncle which is twice longer than deep, its least depth 2.2 (2.7 in young fish) in head, scales moderate, 16 surrounding the least depth of the caudal peduncle, 15-16 in the predorsal distance; lateral line complete, running in middle of the tail.

Color in fresh condition: silvery, tinged with metallic blue above; pectoral, ventrals and anal reddish; caudal and dorsal dusky, washed with red; membranes between rays in the distal portion of the dorsal blackish; a dark oblique stripe in the shoulder region; every scale at side with a narrow dark border.

The new species is closely related to *V. rarus* Lin, but differs by having a more or less fusiform of body, more scales in the predorsal distance, narrower mouth and etc.

14. ***Labeo decorus*** Peters.

One specimen, No. 360, from Yangso, total length 320 mm. D. 3.11; A. 3.5; P. 1.18; V. 1.8; Sq. L. 1.43, tran. 8/11, 7-v.; depth 3.4, head 4.7 in length without caudal, snout 2.2, eye 4.9, interorbital space 2.5, postorbital 2.9 in head;

Body somewhat compressed, snout blunt, shortly beyond the mouth which is broad, inferior and slightly arched, extending to the lateral side of the head; rostral fold developed, lips flesh and thick, upper lip slightly expanded laterally and striated at margin, above the corner of the mouth; lower lip with free margin, its inner surface papillose, a crescent shallow groove separating its border from the mental region; postlabial grooves deep, mental portions nearly parallel; a pair of the maxillary barbels; eye supero-lateral; predorsal distance

2.3 times head; pharyngeal bone nearly triangular, teeth slender, compressed at tip, 5.4.2; gill-rakers small, numerous.

Pectoral extending to $\frac{2}{3}$ to the origin of the ventrals which reach nearly the anus; dorsal fin high, originating above the tip of the pectoral, slightly nearer the end of the snout than the base of the caudal, reaching beyond the vertical of the origin of the anal, its longest ray 1.2 times head, without ossified; anal fin reaching not quite to the base of the caudal; caudal peduncle high, its height equal to its length, or slightly greater than, its least height 1.5 times contained in head, surrounded by 24 scale-rows; caudal fin deeply forked, its longest rays 2.6 times in length the shortest ones.

Color in fresh condition: olive, tinged with green, white below, scale of the trunk in the neighbourhood of the lateral line with a reddish spot; dorsal, anal, and caudal greenish olive, pectorals and ventrals reddish olive.

15. *Osteochilus salsburyi* Nichols and Pope.

Two specimens, Nos. 229, 246, from Yangso, total length 110, 185 mm. D. 3.11-12; A. 3.5-6; P. 1.12-13; V. 1.8; Sq. L. 1.33, tran. 6/6, 4-v.; depth 3.4-3.5 in length without caudal, head 4.1-4.8; snout 2.5-2.7 in head, eye 3.7-3.8, interorbital bone 2.1-2.2; pharyngeal teeth slender, somewhat compressed in the main row, with ridges on the surface, 5.4.1; lower pharyngeal bone perforated; caudal peduncle slightly longer than deep, its least depth 1.6-1.7 in head; 8-10 scales in the predorsal distance, 16 surrounding the lowest part of the caudal peduncle; dorsal fin originating above the 8th scales on the lateral line; mouth typical.

Coloration in the fresh condition: dusky above with bluish metallic lustre, white below; fins dusky.

16. *Cirrhinia molitorella* (C. & V.)

One specimen, No. 361, from Yangso, total length 255 mm. D. 3.12; P. 1.15; V. 1.8; A. 3.5; Sq. L. 1.37, tran. 9/7, 5-v. depth 3.7 in length without caudal, head 5.1; snout 2.7 in head, eye 3.7, interorbital 2.1; predorsal distance 2.2 times head.

17. *Parasinilabeo mutabilis* (Lin).

Nine specimens, Nos. 150-158, from Yangso, and Suijon (修仁縣), total length 98-114 mm. D. 3.7; P. 1, 13-14; V. 1, 7-8; A. 3.5; Sq. L. 1. 39-42, tran. 4-5/6-7, 4-v; depth 4.5-5 in length without caudal, head 4.7-5; snout 2-2.2 in head, eye 4-4.8, interorbital 2.4-2.7, length of caudal peduncle 1.2-1.4, its least depth 1.8; predorsal distance 2.2-2.4 times head; pharyngeal teeth 4.2, the main row slender and somewhat compressed, with oblique grinding surface; bladder two divisions, posterior one much more slender than the anterior one; cheek, basal portion of the anal and the lower portions of the ventral and pectoral fins covered by minute and embedded scales.

Coloration in fresh condition blackish olive above, white below, lower part of sides of the body metallic yellow; in some specimens; one or more blackish olive stripes alternated with metallic yellow lines, on the lower part of sides of the body posterior to the ventral fins; fins light olive, dorsal with one faint blackish spot at the tips of the first and second branched rays.

Genus *Parasinilabeo*, g. n.

Body subcylindrical; snout prominent, without lateral lobe; upper lip continuous with the snout and continuous with the lower one at the mouth corner, covering the upper jaw or not; lower lip continuous with the throat and separated from the margin of the lower jaw by a groove only; lips covered by cornified papillae, margin of the upper jaw sharp, covered by cornified tissue; a prominence above the symphysis of the lower jaw; two pairs of minute barbels, rostral pair fit in a groove, anterior to the post-labial groove which is restricted to the mouth angle; dorsal fin with soft rays only, seven branched, originating in advance of the ventrals; anal with five branched rays, without ossified; caudal forked; pharyngeal teeth three rows, 5.4.2; branchial openings narrow; gill-membrane broadly united to isthmus. Type: *Epalzeorhynchus mutabilis* Lin.*

*Lin, Lingnan Sci. Jour. 1933, Vol. XII, p. 84, Pl. W, fig. 4.

The new genus differs from *Epalzeorhynchus* Blkr. to which Lin has referred the geno-type, in the absence of lateral lobes of the snout, and having the papillose lips. It seems to be closely related to *Sinilabeo** Rendahl but it differs from the latter by the upper lip united to the lower one, postlabial groove poorly developed, without "mental-furrow" and few dorsal branched rays.

18. *Garra orientalis* (Nichols).

Two specimens, Nos. 245, 247, from Yangso; total length 122, 135 mm. D. 2.8; A. 2.5; P. 1, 14-15; V. 1, 8; Sq. L. 1. 32-33, tran. 4/4, 2.5-v. Depth 4.2-4.5 in length without caudal, head 4.2; snout 1.9-2 in head, eye 4.6-5, interorbital space 2.5-2.8; barbels 4; 10 scales in front of the dorsal which originates nearer to the end of the snout than the base of caudal; 16 scales surrounding the caudal peduncle which is longer than deep; end of the pectoral 3-4 scales separated from the origin of the ventrals, tip of the latter 3 scales in front of the origin of the anal which reaches the base of the caudal fin; mental disk surrounded by an area of papillae; rostral fold crenulate and papillose near the margin.

Coloration in fresh condition, blackish above, blackish lines on the lower part of the caudal peduncle; iris of the eyes brown; fin dusky, dorsal, ventrals and anal tipped with orange.

This species of fish has its forehead projected and separated from the rest part of the snout by a deep longitudinal knotch; it agrees with *Garra schismatorynchus* Nichols and Pope. According to Lin,† this structure has something concerning the age and so he considers that *Garra schismatorynchus* is a synonym of the present species.

19. *Gobio walterstorffi* Regan.

Three specimens, Nos. 139-141, from Yangso, total length 127-130 mm. D. 3.7; A. 2.6; P. 1, 15-17; V. 1, 7 sq. L. 1. 37-39, tran. 4/3, 2-v. pharyngeal teeth with tips slightly hooked, 5.3; depth 4.5-4.8 in length without caudal, head 3.9-4.1; snout 2.9-3.0 in head,

*Rendahl, Arch. f. Zoologi, 1932, 24A, p. 81.

†Lin, Lingnan Sci. Jour. 1933, XII, p. 80.

eye 2.6-2.8, interorbital bone 4.0-4.2, postorbital about 3, pectoral 1.2-1.3, equal to longest dorsal rays, ventral 1.3-1.4, anal 1.3-1.7, caudal peduncle length 1.7, its least depth 2.6-2.8; predorsal distance 1.9 times head.

Body oblong in cross section, deeper than wide, dorsal and ventral profiles equal arched, snout blunt, slightly beyond the mouth which is subterminal and oblique, horse-shoe in shape; maxillary reaching below the anterior margin of the orbit, two maxillary barbels as long as two-thirds diameter of the eye which is supero-lateral in position; nostrils close together, nearer the orbit than the tip of the snout; dorsal without osseous rays, originating nearer tip of the snout than the base of the caudal and in front of the base of the ventrals; pectoral nearly reaching the vertical of the origin of the dorsal; distance between P-end and V-origin being 2.5-3.5 in the P-length; ventral reaching slightly beyond the vent; distance between the vent and the origin of the anal less than half distance between the base of the ventrals and the vent; anal reaching beyond middle of caudal peduncle; caudal forked, its shortest rays being 2.1 in the longest ones; 12 scales surrounding the caudal peduncle; 10-11 scales in the predorsal distance;

20. *Futis vivus* Lin.

Four specimens, Nos. 183, 297-299, from Yangso, total length 180-190 mm. D. 3,8; A. 3,5; P. 1,16-17; V. 1,9 sq. L. 1. 100-102, tran. 14.5/12-13, 8-v.; depth 6-6.3 in length without caudal, head 4.1-4.3; snout 2.8-3.1 in head, eye 4.2-4.4, interorbital space 3.1-3.4, length of the caudal peduncle 1.2-1.3, its depth 3.1-3.3; predorsal distance 2.0-2.2 times head; pharyngeal teeth slender, tips hooked, 4.4; gill membrane united to the isthmus below the pupil of the eye; gill-rakers minute, 10 in lower part of the first arch; rostral fold not covering the anterior part of the premaxillary, 32 scales in the predorsal space and 33 surrounding the least depth of the caudal peduncle.

Coloration in fresh condition, grayish silvery above, silvery below, median portion of the lateral side with golden lustre, a narrow

dark bluish band on the lateral line which terminates in a bluish spot not distant from the base of the caudal, paired fins orange.

21. *Pseudorasbora parva* Schlegel.

Two specimens, Nos. 187-189 from Yangso, total length 67-105 mm. D. 3.7; A. 2.6; P. 1, 12-13; V. 1, 7; sq. L. 1. 35, tran. 5/5, 4-v. depth 3.4-3.8 in length without caudal, head 4.3-4.5; length of caudal peduncle 1.1 in head, its depth 1-1.8. Males: with cornified pearl-like papillae on the snout, chin and suborbital region; each scale on the trunk with a blackish crescent-shaped patch; fin dusky, dorsal with blackish stripes on the basal portion of the membrane. Females: without cornified papillae; the blackish markings on the dorsal fin and the scales faint; fins whitish.

22. *Pseudorasbora elongata*, sp. nov. (Plate II, fig. 2.)

One specimen, No. 258, from Yangso, total length 107 mm. D. 2.7; A. 2.6; P. 1, 12; V. 1, 7; sq. L. 1, 44, tran. 5/5.5; 4-v. depth 5.2 in length without caudal, head 4.9; snout 2.5 in head, eye 4, interorbital bone 2.5; length of dorsal 1.2, pectoral 1.5, ventral 1.3 anal 1.7, depth of caudal peduncle 1.9, its length 1.1 times head, predorsal space 2.5 times.

Body elongate, somewhat cylindrical; head squarish, depressed anteriorly, higher than broad posteriorly; mouth somewhat superior, very small, transverse, lower jaw projected, maxillary not reaching below nostrils which are situated nearer the anterior margin of the eye than the tip of the snout; interorbital space somewhat flattened; gill-opening narrow, its membrane widely united to the isthmus; postorbital distance of the head shorter than the snout; pharyngeal teeth one row, 5--5, moderately compressed, with the tips hooked; predorsal scales 16, same number of scales surrounding the least depth of the caudal peduncle; lateral line complete, nearly straight, in middle of the caudal peduncle.

Dorsal fin originating slightly behind the origin of the ventrals, in midway between the tip of the snout and the base of the caudal,

without osseous rays; pectoral fin small, reaching the 7th scale in the lateral line, about halfway to the origin of the ventrals; ventral extending to the 21st scale of the lateral line and nearly in the midway between the base of the ventral and the origin of the anal; anal fin reaching the 34th scales in the lateral line; originating immediately behind the vent, above which reaches the end of the dorsal fin; caudal forked.

Coloration in fresh condition dark gray, every scale-row on the upper part of body and one below the lateral line each with a series of blackish spots, those three rows around the lateral line more or less forming a broad blackish band which enters anteriorly the head region, through the eye to the end of the snout; dorsal side of the head black; lower part of the body with scattered blackish dots.

This species is characterized in its elongate body and therefore having more scales on the lateral line as compared with *Pseudorasbora pava*. *Aphyocypris chinensis* Fowler,* lately named by Nichols† as *Pseudorasbora fowleri* possessing two rows of the pharyngeal teeth, must be different from the present species.

23. ***Sarcocheilichthys sinensis* Bkr.**

Four specimens, Nos. 197, 208-209, 211, from Yangso, total length 90-175 mm.; D. 3.7; A. 3.6; P. 1, 15-16; V. 1, 7; Sq. L. 1. 39-41, tran. $5\frac{1}{2}/6\frac{1}{4}$, 4-v. depth 3.3-3.5 in length without caudal, head 4.5-4.8; snout 2.6 in head, eye 4.1-4.3, interorbital bone 2.5-2.6; pharyngeal teeth two rows 5.1, inner row minute, easily torn away; a pair of minute maxillary barbels; dorsal originating nearer the tip of the snout than the base of the caudal; pectoral not quite reaching to the origin of the ventral, separated by a space of one scales; ventrals with their shortest rays reaching anus; predorsal distance slightly longer than the postdorsal distance (to base of caudal).

*Fowler, Bull. Amer. Mus. Nat. Hist. 1924, Vol. 50, p. 385.

†Nichols, Amer. Mus. Novit. 1925, No. 182, p. 5.

Coloration in fresh condition: light orange, with four dusky vertical bands, each covering 7-8 scales on the lateral line; caudal fin black with the tips of the lobes reddish; other fins blackish with at least distal portion of the longest simple ray reddish; ventral and anal fins margined white, blackish blotches on the breast and abdomen.

Males, having cornified papillae on check and snout, and the urogenital papilla conical; females without warts on the snout and cheek, urogenital papilla elongate to reach the origin of the anal.

24. ***Sarcocheilichthys geeli*** (Fowler and Bean).

One specimen, No. 414, from Yangso, total length 88 mm. D. 3.7; A. 3.6; P. 1.13; V. 1.7; Sq. L. 1. 38, tran. 4/5, 3-v.; depth 4.7 in length without caudal, equal to head; snout 3.2 in head, eye equal to snout, length of caudal peduncle 1, its depth 1.8; predorsal distance 1.2 times head, post dorsal 1.9 times; origin of dorsal in midway between the tip of the snout and the end of the anal; color in formalin dusk above, light below, a faint longitudinal dusky band on the lateral line; fins light brownish, dorsal with a series of blackish spots near the base.

25. ***Sarcocheilichthys nigripinnis*** (Günther).

Four specimens, Nos. 357, 553-555, from Yangso, total length 115-150 mm. D. 3.7; A. 3.6; P. 1.16-17; V. 1.7; sq. L. 1. 41, tran. 4/5, 3.5-v; depth 4.4 in length without caudal, head 4.7, snout 2.7 in head, eye 3.7, interorbital bone 2.7; lower jaw with leathery round edge; lower lip confined to the posterolateral side of the jaw.

Coloration in fresh condition, dark olive above, washed with metallic blue above the lateral line and with orange below it; short irregular vertical blackish stripes on the side, a blackish oblique band on the shoulder; opercle golden; pectoral, ventrals and anal orange, the latter two with white tips; caudal fin yellowish.

The sexual dimorphism of this species in the breeding season is very distinct: the female has an elongate conical anal papilla, on the top of which is situated the anus, dorsal to the anal papilla, there

produces a long urogenital tube; In the males, numerous pearl-like cornified papillae on the snout; cheek and throat; iris of the eye orange; with very small anal papilla; without urogenital tube.

26. *Discogobio tetrabarbatus* Lin.

One specimen, No. 202, from Yangso, total length 190 mm. D. 3.8; A. 3.5; P. 1.14; V. 1.8; Sq. L. 1. 40, tran. 5/6, 3-v; depth 5 in length without caudal, head 5.2; snout 2.2 in head, Eye 5.3, interorbital space 2; 14 predorsal scales, 16 scales surrounding the lowest portion of the caudal peduncle which is longer than deep, its length 1.3 in head and its depth 1.5; lower jaw sharp and horny; end of the pectoral extending to a distance of six scales apart from the origin of the ventrals, the 5th branched ray longest; dorsal originating four scales in front of the ventrals, nearer the end of the snout than the base of the caudal;

Color in formalin blackish above, dusky below; some scales above and below the lateral line with a coral spot to each.

27. *Abbottina fukiensis* (Nichols).

Many specimens, Nos. 164, 166-169, 170-172, 174-178, from Yangso, total length 50-125 mm. D. 3.7, A. 3.6; P. 1.12-14; V. 1.7; sq. L. 1. 33-36 tran. 3.5-4, 2-v; depth 5.3-7 in length without caudal (young fishes having much lower body), head 4.2-4.7; snout 2.1-3 in head; eye 3.2-4.2; interorbital bone 5.4-7.2, length of caudal peduncle 1.2-1.6, its depth 2.5-3; predorsal distance 1.8-1.9 times head; 9-11 scales in front of the dorsal, 12 surrounding the caudal peduncle; distance between ventral axil and the vent 2.3-3.7 in the distance between the vent and the origin of the anal fin; interorbital space concave in adult, plain in the young; the middle suborbital bone longer than high in young and higher than long in the adult; structure of the lip showing variation, a pair of enlarged papillae on the median portion of the upper lip and a pair of similar ones on the chin in the young fishes, while in the adults, these papillae usually subdivided into many small ones and with the lower lip extended much more posteriorly and laterally; horny coating usually

developed in the median portion of the jaws in adults; barbels in the young fishes usually simple and occasionally with some side-branches near the tip at adult; pectoral also variable, some fish reaching nearly to the origin of the ventral but most not so; in the young fishes, a series of blackish spots on the lateral line and dorsal side of the body, in the adult these forming more or less cross bands on the dorsal side and the lateral patches connecting to them;

An observation of a series of specimen, it shows that the position of the vent is subjected to a wide range of variation and that the shape of the head in young and old fishes is also variable. Therefore, several species described in recent years will be synonyms. *Pseudogobio kiatingensis* Wu is one of them.

28. ***Saurogobio dabryi* Blkr.**

Six specimens, Nos. 221-223, 242-243, 608, from Yangso, total length 155-230 mm. D. 2,8; A. 2,6; P. 1,15-16; V. 1,7; sq. L. 1. 49-50, tran. 6/7, 3-v; head 4.3-4.7 in length without caudal, depth 5.5-6.1; snout 2.2-2.4 in head, eye 3.7-3.8, interorbital bone 5.1-5.7; predorsal distance 1.8 times head, postdorsal distance 2.1 times; one pair of maxillary barbels, lip covered with fleshy papillae; dorsal originating nearly in midway between the base of the pectoral and the origin of the ventral or slightly nearer the latter; pectoral extending to the fifth or sixth to the origin of the ventrals, males usually having longer pectoral; anus in the halfway of the length of the ventral, ventrals reaching the midway to the origin of the anal which is short, originating slightly in front of the middle of the postdorsal distance and in the midway between the vent and the base of the caudal; caudal peduncle longer than high.

Coloration in fresh condition: body brown, with golden lustre, a series of blackish blotches along the lateral line and on the opercle; dorsal side of the tail with three blackish blotches, one behind the dorsal base, one above anal origin and one near the vertical of the base of the caudal; one similar blotch on the nape above the base of the pectorals. Females seems to have more distinct markings than the males; breeding season is usually in March in this particular district.

Saurogobio longirostris Wu and Wang seems to be identical with the present species.

29. *Xenocypris argentea* Günther.

Three specimens Nos. 233, 135-136, from Yangso, total length 200-240 mm. D. 3.7; A. 3.9; P. 1.16; V. 1.8; sq. L. 1. 55-59, tran. 9.5-10/8, 5-v; depth 3.8-4.2 in length without caudal, head 4.8-5 snout 3.1-3.3 in head, eye 3-3.4, interorbital bone 2.5-2.7; dorsal originating above base of the ventral, nearer the tip of the snout than the base of the caudal, with the second simple ray ossified; pectoral reaching $3/5-2/3$ to the origin of the ventral; pharyngeal teeth 6.3 or 4.2, the main row compressed.

Color in formalin silvery; pectoral, ventrals and anal yellowish, dorsal and caudal gray.

30. *Sinibrama wui* (Rendahl).³

Chanodichthys sp. Wu, Sinensia, 1930, I, p. 73 (Szechuan).

Megalobrama macrops Wu (not Günther), Bull. Mus. Nat. Hist. Paris, 1931, III, p. 437 (Chekiang); Wu, Cont. Biol. Lab. Sci. Soc. China, 1931, p. 13 (Foochow).

Chanodichthys wui Rendahl, Arch. f. Zoologi, 1932, 24B, p. 105.

Chanodichthys wui Lin, Lingnan Sci. Jour. 1932, p. 516 (Kweichow).

Six specimens, Nos. 117-120, 123-124, from Yangso, total length 110-230 mm. D. 2.7; A. 2.22-2.4; P. 1.15; V. 1.8; scales L. 1. 53-56, tran. 9-10/7, 5-v. depth 2.9-3.3 in length without caudal, head 3.8-4.1; snout 3.5-3.8 in head, eye 2.4-2.8, interorbital space 3.1-3.3, postorbital length equal to eye; length of caudal peduncle 2.3-2.5 in head, equal to its height; air-bladder two divisions; the abdomen keel confined to the region behind the ventrals; in this species, the depth of the body, scale rows above the lateral line and the number of the anal rays seems to be variable; paryngeal teeth, slender, with the cutting edges compressed and sharp, tips decurved. Coloration in fresh condition: silvery, dark above, fins washed with yellow, the longitudinal band and blackish line on the lateral line seen in the young.

Megalobrama hoffmanni Herre & Myers* is considered by Lin† as a synonym of *Parabramis biamula*, but with point of view of the size of the eye, it is referable to the present species. Unfortunately, Herre and Myers did not mention the divisions of the air-bladder and therefore the verity of *Megalobrama hoffmanni* is still remained for future investigation.

Genus **Sinibrama**, gen. nov. is characterized by having the air-bladder in two divisions and an abdominal keel behind the base of the ventrals, other characters resemble *Parabramis* Blkr and *Megalobrama* Dybowski.

31. **Hemiculter kneri** Warpachowsky.

Two specimens, No. 377, 561, from Yangso, total length 107, 185 mm. D. 2.7; A. 2.13-14; P. 1.14-15; V. 1.8 sq. L. 1. 46-49, tran. 8.5-9/3.5-4, 2-v. Depth 4.2-4.4 in length without caudal, head 4.5; snout 3.5-3.6 in head, eye 3.3-3.5, interorbital bone 3.1, longest pectoral ray 1-1.2, predorsal distance 2.3-2.5 times head; distance between the end of the pectoral and the origin of the ventral 3.7-5.5 in head and 3.4-6 times in the length of the pectoral; snout pointed; mouth terminal and oblique; eye superolateral and anterior; dorsal and ventral profiles of the body equally arched; abdominal keel extending from vent to a short distance behind the base of the pectoral; pharyngeal teeth 4.4.2, with tips hooked; gill-rakers minute, 15 in lower part of the first arch; caudal peduncle longer than high.

Dorsal originating in small fishes, in midway between the base of the caudal and the tip of the snout, in large specimen nearer the former, behind base of the ventral, ending above the anus, with the second simple ray ossified; anal fin not reaching the caudal base; ventral extending beyond the midway between the base of the ventral and the origin of the anal.

Color in formalin silvery, tinged with olive above and white below, dorsal and caudal fins darker.

*Herre & Myers, Lingnan Sci. Jour. 1931, X, p. 241.

†Lin, Lingnan Sci. Jour. 1934, XIII p. 451.

32. *Hemiculter dispar* Peters.

Seven specimens, Nos. 131-133, 378-381, from Yangso, total length 145-260 mm. D. 2.7; A. 3, 14-17; P. 1, 14; V. 1, 8; sq. L. 1. 50-53, tran. 8/3, 2-v; depth 4.2-5.3 in length without caudal, head 4.2-4.5; snout 3-3.2 in head, eye 3.6-4, interorbital bone 3.2-3.6, pectoral 1.2-1.3, length of caudal peduncle 1.5-1.7, its depth 2.9-3; predorsal distance 2.2-2.3 times head; pharyngeal teeth 4.3.2, tips hooked; abdominal keel confined to behind the base of the ventrals; distance between end of pectoral and origin of the ventrals, 2.5-4.8 contained in the length of pectoral; snout pointed; mouth terminal, oblique; eye superolateral and anterior; ventral profile of the body more convex than the dorsal one; dorsal originating nearer the base of the caudal than the tip of the snout, behind the base of the ventrals, tip reaching the origin of the anal, with the second simple ray ossified; ventral reaching $2/3$ or less to the origin of the anal.

Large fishes usually have deep body and more anal rays.

33. *Culter recurviceps* (Richardson).

Two specimens, Nos. 382, 383, from Yangso, total length 220-260 mm. D. 3.7; A. 3, 25-26; P. 1, 14-15; V. 1, 8; Sq. L. 1. 65-69.

34. *Anabarilius rendahli* (Wu).

One specimen, No. 384, from Sui-jon, total length 140 mm. D. 2.7; A. 2, 11; P. 1, 13; V. 1, 8; Sq. L. 1. 50, tran. 8/3.5, 1.5-v. Depth 4.3 in length without caudal, head 4.2; snout 3.5 in head, eye 3.2, interorbital space 3.1, length of caudal peduncle 1.4, least depth of same 2.6; predorsal distance 2.4 times head; gill rakers 12 on the first arch, small, no more than $1/4$ of the filament; 19 scales surrounding the highest part of caudal peduncle; ventral reaching $2/3$ of the distance between origins of ventral and the anal; caudal forked, lower lobe distinctly longer; abdomen keel behind the base of the ventral only.

35. *Paracheilognathus meridianus*, sp. nov.

Many specimens, Nos. 146, 148, 161, 159, 162, 163, 165, 556-557, 559, from Yangso, total length 70-85 mm. D. 2.9-11; A. 2.8-9; P. 1, 11-14; V. 1, 7; sq. L. 1. 35-37, tran. 5/5-6, 3.5-4-v.; 13-14 scales in the predorsal distance and 14 surrounding the caudal. Depth 2.8-3.6 in length without caudal, (males with lower body) head 4-4.5; snout 3-3.3 in head, eye 2.8-3, interorbital bone 2.5-2.9; predorsal space 1.8-2.2 times head; pharyngeal teeth, 5, compressed, crenulate; two maxillary barbels; mouth inferior, oblique, horses-shoe in shape; snout projected, knotted in front of the nostrils; maxillary extended nearly to the anterior margin of orbit; eye superolateral and anterior; dorsal profile of the predorsal space gently arched; lateral line complete, in middle of the tail; patches of warts on the snout present in males.

Dorsal originating nearly in midway between the tip of the snout and the base of the caudal, immediately behind the origin of the ventral; distance between end of the pectoral and origin of the ventral 1.8-2 contained in the length of the pectoral in females and 2-2.5 in males; ventral nearly reaching the origin of the anal which reaches the halfway of the length of the caudal peduncle, the latter being 1.0-1.3 in head and its least depth 1.7-2.0; the last simple rays of the dorsal and the anal fin ossified in the basal half, and flexible and articulated in the distal one.

Coloration in fresh condition: males, grayish olive, tinged with blue on the upper part and with rosy in the lower part, cheek and opercle also rosy; a greenish yellow longitudinal band above the lateral line; in the preserved specimen, this band becoming black, much broader and terminating at either end in a spot; ventral and caudal yellowish, distal part of the ventral, anal and caudal washed with red; dorsal pink, narrowly margined with black, with three series of blackish spots on the rays, separated by yellow space from each series. Females, coloration not so bright as the males, without rosy and red, dorsal blackish spots faint; the longitudinal band above the lateral line becoming black in the preserved specimens, much narrower than that in male, particularly tapering from above the base of the ventral.

This species seems to be closely allied to *Acheilognathus shibatae* Mori* and *Acheilognathus habatulus* Nichols†, but it differs from the former species by having more elongate body and different coloration; from the latter species in having smaller head and more elongate body.

36. ***Acanthorhodeus tonkinensis*** Vaillant.

One specimen, No. 145, from Yangso, total length 70 mm. D. 2,13; A. 2,10, P. 1,14; V. 1.8; sq. L. 1. 34 or 35, tran. 5/6, 4.5-v, 12 in front of dorsal and surrounding the caudal peduncle. Depth 2.4 in length without caudal, head 4; snout 3.5 in length of the head, eye 2.4, interorbital 2.7, longest dorsal ray 1.2; predorsal distance 1.8 times head;

Coloration in fresh condition: grayish olive, tinged with blue, shoulder, cheek, and dorsal and anal fins washed with red, pectoral ventrals and caudal yellowish, dorsal and anal fins with two series of black and white spots at their basal portion; scales in the median part of the body with dusky margins.

37. ***Acheilognathus argenteus***, sp. nov.

Two specimen, Nos. 160, 404, all female, from Yangso, total length 80-86 mm. D. 2,13-14; A. 2.9-10; P. 1,14; V. 1.7; sq. L. 1. 35, tran. 5/6, 4.5-v; depth 2.4-2.5 in length without caudal, head 4.2-4.3; snout 3.1-3.5 in head, eye 2.5-3.1, interorbital bone 2.5, length of caudal peduncle 1.3-1.5, its depth 1.9; predorsal distance 2-2.1 times head;

Body compressed, moderately deep; dorsal and ventral profile equally arched; top of the head decurved downward from the nape; snout somewhat pointed; region of nostrils being the highest point on the top of the head; mouth subterminal, arched; maxillary reaching below the nostrils; one pair of the maxillary barbels; eye superolateral; pharyngeal teeth single row, 5, compressed, not serrated; 12 scales in front of the dorsal, 14 scales surrounding the caudal peduncle; lateral line complete, in middle of the tail.

*Mori Jap. Jour. Zool. 1928, II p. 67.

†Nichols, Amer. Mus. Novit., 1926, p. 6.

Pectoral extending to a point two scales on the lateral line in front of the bases of the ventrals which reach the vertical of one scale row to the origin of the anal; dorsal fin originating nearly in midway between the tip of the snout and the base of the caudal, or immediately behind the base of the ventral, its base extending posteriorly to a short distance in front of the posterior end of the base of the anal fin; dorsal and anal with osseous spines, anal spine stronger; caudal forked.

Coloration in fresh condition grayish silvery, scales with somewhat dusky margin, dorsal fin with very faint blackish spots; a very narrow and faint blackish line above the lateral line in the tail-region in preserved material.

This species differs from *A. babatulus* Günther in having more dorsal and anal rays and more anterior in position of the dorsal fin. It is allied to *A. coreanus* Steind., but differs in having more elongate body and different coloration.

38. ***Opsariichthys bidens*** Günther.

One specimen, No. 129, from Yangso, total length 40 mm. D. 3.7; A. 3.9; P. 1, 14; V. 1.8; sq. L. 1. 43. Depth 3.8 in length without caudal, head equal to depth; snout 3 in head, eye 4, interorbital 3.1; pharyngeal teeth slender, hooked in tips, 5.5.1.

39. ***Opsariichthys platypus*** Schlegel.

Three specimens, Nos. 551, 552, 362, 386, from Yangso, and Sui-jon, total length 115-130 mm. D. 2.7; A. 3.9; P. 1, 12-13; V. 1.8; sq. L. 1. 40-45; tran. 7-8/4.5, 2-3-v. males with the anal fin elongate and with cornified papillae on the snout.

Coloration in fresh condition: silvery, with faint bluish cross bands at upper side of the body; pectoral, ventral and anal yellow, the membrane between rays of the dorsal fin dusky, especially in males.

40. ***Ochetobius elongatus*** Kner.

One specimen, No. 607, from Yangso, total length 365 mm. D. 3.9; A. 3.9; P. 1, 17; V. 1.9; depth 6.6 in length without

caudal, head 5; snout 3.4 in head, interorbital equal to eye, 5.3, sq. L. 1. 66, tran. 10/4-v.

41. **Yaoshanicus arcus** Lin.

Three specimens, Nos. 260-261, 385 from Yaoshan and Suijon total length 80-100 mm. D. 2.7; A. 2.7; P. 1, 12-13; V. 1, 7; Sq. L. 1. 37, tran. 5.5/5, 3-v, 16 scales in the predorsal space and 16 surrounding the highest portion of the caudal peduncle; depth 3.7-3.8 in length without caudal, head 3-3.2; snout 3.5-3.6 in head, eye 3.6-3.8, interorbital 2.1, length of caudal peduncle 1.2-1.3, its depth 1.9-2; predorsal distance 2.2-2.3 times head; pharyngeal teeth 4.4-2; abdominal keel behind the ventrals; dorsal originating behind the base of the ventrals, nearer the base of the caudal than the tip of the snout; pectoral extending to a point in the vertical of the 9th or 10th scales on the lateral line; ventrals reaching the vertical of the 17th scale, anal nearly to the halfway of the length of the caudal peduncle; air-bladder two divisions, posterior division twice or more larger than the anterior, with the end rounded.

Color in formalin dusky, three rows of scales from lateral line upwards each with a series of blackish spots, in living condition silvery, dorsal part of the body dark.

42. **Squaliobarbus curriculus** Richardson).

One specimen, No. 370, from Yangso, total length 290 mm.

43. **Ctenopharyngodon idellus** (C. & V.)

One specimen, No. 371, from Sui-jon, total length 260 mm.; reared in a pond.

44. **Aristichthys nobilis** (Richardson).

Two specimens, Nos. 372-373, from Sui-jon, total length 230, 270 mm.; reared in a pond.

45. **Hypophthalmichthys molitrix** (C. & V.)

Three specimens, Nos. 374-376, from Sui-jon, total length 120-140 mm. reared in a pond.

Family Cobitidae

46. *Cobitis taenia* L.

Four specimens, Nos. 273-276, from Yangso, total length 107-115 mm. D. 2.7-8; P. 1.8-9; V. 1.6; A. 2.5; suborbital spine bifid.

47. *Botia kwangsiensis* Fang.

Five specimens, Nos. 190, 198, 199, 269, 270, from Yangso, total length 140-180 mm. D. 3.9; A. 3.5; P. 2.12-13; V. 2.7; depth 6.3-7.5 in length without caudal, head 3.8-4.3; snout 2-2.2 in head, eye 6-6.7, interorbital space 5-6, length of caudal peduncle 1.8-2, its depth 2.3-2.6. All essential characters of these specimens tally with Fang's* description but it differs in coloration: one additional dark band at the nape beginning above the upper corner of the gill-aperture; two additional blackish cross stripes on the top of the head at occipital region in front of the above mentioned band, the anterior one connecting with the superciliary stripe. One longitudinal stripe runs from the anterior border of the eye to the end of the snout and it is separated from the dusky area in the cheek by an light longitudinal stripe.

48. *Botia maculosa*, sp. nov. (Plate III, fig. 6.)

Two specimen, Nos. 271-272, from Yangso, total length 170-210 mm. D. 2.9-10; P. 2.9-10; V. 1.7; A. 2.5; depth 7.3-7.7 in length without caudal, head 4.7-4.8; snout 1.1-1.2 in head, eye 6-6.5, interorbital space equal to eye or slightly broad, longest dorsal ray 1.5-1.7, equal to the longest pectoral rays, longest ventral ray 1.6-1.8, longest anal ray 1.7-1.9, length of the caudal peduncle 1.3-1.6, its depth 2.9-3; longest caudal rays 1.2-1.3 times head, shortest ones 1.7-1.8, predorsal distance 2.3.

Body cylindrical, tail slightly compressed; head somewhat triangular in cross section; snout produced, pointed at tip, much longer than postorbital distance of the head; mouth inferior and arched; lips continuous, free from the rostral fold which ends in four barbels, two maxillary

*Fang, "Sinensia," 1936, Vol. 7, p. 13.

barbels at the mouth-angles; lower lip slightly incident anteriorly in the middle, divided into a small central and large posterolateral portion by a transverse furrow beginning from the postlabial groove; upper rostral barbels longest, slightly shorter than the snout; nostrils situated nearly at the posterior $1/3$ of the snout; scales minute, those on the cheek, throat and abdomen embedded; lateral line straight; suborbital spine bifid.

Dorsal fin originating in front of the base of the ventral, in midway between the tip of the snout and the base of the caudal, its last ray reaching above the origin of the anal which is nearer the base of the ventral fin than the base of the caudal; ventral situated nearer the origin of the anal than the axilla of the ventral, the ratio being 4:5; distance between the tip of the pectoral and its axilla being shorter than that between the origins of the ventrals and pectorals, the ratio being approximately 2:5; posterior margin of the dorsal and of the anal truncate; caudal forked.

Color in formalin brownish, dark above and light below, trunk crossed by 14-15 blackish bands which are twice broader on the dorsal surface than below the lateral line, 5 being in front of the dorsal to the nape, one on the dorsal origin, 2-3 on the dorsal base, 6 on the tail region; these bands of both sides continuous on dorsal but interrupted ventrally; head covered with blackish rounded spots, without stripes; caudal fin crossed obliquely by 4 vertical blackish bands in the upper lobe and 5-6 in the lower one; a blackish elongate spot near the base of the caudal; dorsal rays with a series of spots, pectoral and ventral rays dusky at the middle portion; anal with a broad dusky patch. In fresh condition, yellowish with blackish markings.

The new species is closely related to *Botia kwangsiensis* Fang, but it differs in having more cross bands and a spotted head.

49: ***Botia robusta***, sp. nov. (Plate II, fig. 5.)

Eight specimens, Nos. 278-285 from Yangso, total length 70-105 mm. D. 2,8; P. 2,11-12; V. 1,6-7; A. 2,5; depth 3.7-4.7 in length without caudal, head 3.3-3.7; snout 2.1-2.3 in head, eye 4.3-5.

interorbital equal to eye, length of caudal peduncle 2.3-3, its depth 1.8-2, longest dorsal ray 1.4-1.8, anal ray 1.7-1.9, pectoral 1.4-1.7, ventral ray 1.7-2, shortest caudal ray 2.0-2.3; longest caudal ray 1-1.3 times head, predorsal distance 1.8.

Body compressed laterally, dorsal profile of head gently arched; snout pointed, provided with four rostral barbels at tip, outer pair longest, nearly equal to the eye-diameter; mouth inferior, lips flesh, striated in the median portions, continuous at the mouth-angle, interrupted on the lower jaw by a median groove; a pair of button-like papillae on the mental region, posterior to the inferior lip; a pair of the maxillary barbels, slightly longer than the eye-diameter; interorbital space arched; eye superolateral, nearer posterior margin of operculum than the tip of the snout; nostrils situated nearer the eye than the tip of the snout; suborbital spine with a proximal tooth of which the tip reaching below the anterior margin of the eye, while the tip of the spine itself extending nearly to below the posterior margin of the eye; scales minute, ventral side rudimentary and absent on the cheek; lateral line complete, in middle of the tail.

Origin of the dorsal nearer the base of the caudal than the tip of the snout, in front of the base of the ventral which is situated nearer the origin of the anal fin than the axilla of the pectoral; origin of the anal immediately behind the tip of the last dorsal ray, nearer the base of the caudal than the origin of ventral, reaching the base of the caudal; pectoral reaching the vertical of the origin of the dorsal or nearly so; distance between the tip of the pectoral and the origin of the ventral being 1.8 in large individual of females and nearly 4 in the small individual of the males, contained in the distance between the axilla and the tip of the pectoral; ventral reaching the vent or a short distance in front of it; anal reaching the base of the caudal, or nearly so; posterior margin of the dorsal and the anal obliquely truncate; caudal deeply forked.

Color in formalin brownish, ten vertical blackish bands, usually absent on the ventral surface, across the trunk and tail, in most cases, arranged in pairs, each pair united together on the dorsal surface; first

band single, in the region of the nape, followed by a pair in front of the dorsal, two pair crossing the base of the dorsal, another one pair on the base of the anal, an additional single broad band across the base of the caudal; that band across the base of the anal often linked with other band at side and with additional spot; one longitudinal blackish band on the top of the head, its posterior portion being divided into two by a narrow interval light yellow stripe; an oblique blackish band running from the tip of the snout to the eye, this being separated from that on the top of the head by a narrow light yellow stripe running from the superciliary region to the end of the snout; cheek and operculum covered by blackish spots and vermiform markings; dorsal fin with a broad oblique band on its distal portion, its base with one or two blackish patches; pectoral, ventral and anal each with one black band; two oblique bands on the lobes of caudal, the distal one continuous from one lobe to another and parallel to the posterior margin of the fin, the proximal one, sometimes represented merely by two patches on the upper and the lower margin of the fin. In fresh condition, greenish yellow with dark blue markings.

On the presence of the two button-like papillae on the mental region and the character of the suborbital spine, as Fang* indicated, it attributes to the subgenus *Sinibotia* Fang and shows a close alliance to *Botia superciliaris* Günther, from which it will be easily distinguished by the deep body, size of the eyes, coloration, and etc.

50. *Botia pulchra*, sp. nov. (Plate II, fig. 4).

Two specimens, Nos. 405, 406, from Yangso, total length 90 mm. D. 2, 8; A. 2.5-2.6; P. 3, 10-11; V. 1.7-2.6; depth 5.3-5.7 in length without caudal, head 3.4-3.7; snout 2.2-2.3 in head, eye 7-7.3, interorbital 6.2-7, length of caudal peduncle 2.4-2.8, its least depth 2.2.

Body elongate and compressed; dorsal profile of body more convex than the ventral one; depth of the head slightly less than two

*Fang, Sinensia, 1936, Vol. VII, p. 19.

times contained in its length, greater than the depth of the caudal peduncle; snout somewhat pointed, terminating in four barbels, the outer ones longest, longer than the eye diameter; mouth inferior; lips fleshy, striated or wrinkled, continuous at mouth angles, divided by a deep groove at the middle of the lower jaw, where a pair of button-like papillae situated immediately behind; a pair of maxillary barbels, equal to the outer pair of rostral barbels in length; nostrils close together, nearer the anterior margin of orbit than the tip of the snout; eye small, superolateral, slightly nearer the tip of snout than the posterior margin of the opercle; suborbital spine, with a basal tooth of which the tip reaches the anterior margin of the pupil of the eye, extending posteriorly to the hind rim of the orbit; lateral line complete, in middle of the tail; scales minute, rudimentary on the abdomen, absent on thorax and cheek.

Dorsal fin commencing above the base of the ventral or slightly in advance of the latter, in midway between the base of caudal and the eye, its posterior margin nearly truncated; anal fin originating immediately behind the tip of the last dorsal ray, in midway between the axilla of ventral and the base of caudal; not reaching the latter; pectoral small, reaching the halfway from the axilla of the pectoral to the origin of the ventral which does not reach the vent; caudal forked, upper and lower lobes about equal.

Color in formalin light brown, with 12-13 broad dark blue vertical bands or rings encircling the trunk and the tail, faint in ventral surface, these bands with very narrow interval stripes of $\frac{1}{4}$ - $\frac{1}{2}$ of its width, some bands forked or linked up to form an irregular appearance; upper part of the trunk and top of the head blue black, each side with a light brownish narrow longitudinal stripe running from the tip of snout across the nostrils and eye to above the upper angle of the gill opening; another median longitudinal light stripe on the top of head, beginning from internasal region to the nape; cheek with light brownish vermiform markings and spots; fin brownish, dorsal with a basal and a subterminal blackish bands; pectoral, anal & ventral each with two faint blackish bands; caudal lobes each with 2 to 3 vertical blackish bands and a continuous submarginal stripe.

The new species is allied to *B. superciliaris* Günther and the foregoing one, but it differs from them in the size of eye, coloration and etc.

51. *Botia zebra*, sp. nov. (Plate III, fig 9).

One specimen, No. 407 from Yangso, total length 94 mm. D. 2,8; A. 2,5; P. 3, 11; V. 2,6. Depth 7 in length without caudal, head 4; snout 2.6 in head, eye 10, interorbital 6.9, length of caudal peduncle 1.4, its depth 2.1; predorsal distance 2.3 times head.

Body elongate and compressed; dorsal profile of predorsal distance much convex than the ventral one; head much higher than broad, interorbital space narrow and convex; snout somewhat pointed, ending in four barbels, shorter than the post-orbital length of the head; nostrils close-together, in midway between the tip of the snout and the posterior margin of the eye; mouth inferior, a pair of maxillary barbels slightly longer than the eye-diameter; lips fleshy, continuous at mouth angles, their median parts striated; a pair of flesh button-like papillae at chin region, immediately behind the lower lip; suborbital spine simple, without basal tooth, its tip reaching beyond the posterior margin of the orbit; eye small, supero-lateral and slightly anterior; scales minute, somewhat embedded, those on the abdomen rudimentary and absent on the cheek; lateral line complete, in middle of the tail.

Dorsal fin commencing nearer the base of the caudal than the tip of the snout its posterior margin obliquely truncated; origin of the ventral (the left ventral fin deformed) below that of the dorsal, the longest ray reaching slightly beyond the halfway to the origin of the anal; pectoral small, occupying a distance about $\frac{1}{8}$ of the space between the axilla of the pectoral and that of the ventral; anal originating immediately behind the tip of dorsal, not reaching the midway of the length of the caudal peduncle.

Color in formalin, dull black above, white below, trunk and tail with many (about 17) irregular, narrow, vertical light stripes which become sometimes branched, decurved and connected one to another, and do not reach the median line in the predorsal distance

where a few light round spot in front of the dorsal and proceeded by a longitudinal median white line running until the internasal region; one longitudinal and undulating light stripe passing from the upper angle of the gill-opening through the orbit to the tip of the snout; cheek coarsely marbled; fins light, dorsal, pectoral and anal each with one basal and one submarginal blackish band; upper and lower margin of the caudal with 3 spots, the distal one continuous with a submarginal blackish band.

The new species resembles *Botia pratti* Günther in having the suborbital spine simple and the presence of button-like papillae at the chin region, but it differs from the latter by the more elongate body; shorter snout in comparing with the postorbital length of the head; smaller pectoral, and etc.

52. *Misgurnus anguillicaudatus* (Cantor).

Two specimens, Nos. 398, 399, from Yangso, total length 103, 130 mm.

Family Homopteridae

53. *Vanmanenia stenosoma* (Boulenger).

Two specimens, Nos. 262-263, from Yao-shan, (猪山, 修仁縣), total length 110-117 mm. D. 2.8; P. 1.15; V. 1.8; A. 2.5; scales in lateral line about 96; depth 5.5-5.7 in length without caudal; head 4.9; snout 1.6-1.7 in head, eye 5.7-6.3, interorbital 2.8-3, length of caudal peduncle 1.8-2.1, its depth 2.3-2.5; vent situated nearer origin of the anal than the axilla of ventral; anal reaching the base of caudal; ventral ending slightly beyond the anal papilla; pectoral extending to the midway between the axilla of pectoral and that of ventral; Coloration as figured by Fang*. As to the rostral barbels, one specimen, with a blunt snout, having 4 rostral fold between them; one specimen having the lobules of the rostral fold more elongate and pointed at tip in form of barbels.

*Fang, P. W.—Study on the Crossostomoid fishes of China. "Sinensia" 1934 VI, p. 60.

This species is distributed only in Chekiang Province and it is of first record of occurrence in this locality. Specimens from this locality appears not different from that of Chekiang except in larger size, those from different places of Chekiang as noted by Fang are below 100 mm. in length.

54. *Formosania yaoshanensis*, sp. nov. (Plate III, fig. 7).

Five specimens, Nos. 264-268, from Yao-shan (猪山, 修仁县), total length 58-98 mm. D. 2.8; A. 2.5; P. 1.15; V. 1.8; Depth 5.7-7 in length without caudal, head 4.2-4.5; snout 1.7-1.9 in head, eye 5.5-7, interorbital 2.5-2.7, length of the caudal peduncle 2-2.2, its depth 2.5-2.7, width of the mouth 5.1-6; longest dorsal ray 1.1-1.2, longest anal ray 1.3-1.5; shortest caudal ray 1-1.1; longest caudal ray 1.2-1.3 times head, predorsal distance 2.2.

Head depressed, suddenly becoming thin towards the tip of snout from the region of the nostrils; ventral surface in front of the ventrals flattened; tail region compressed; snout rounded; nostrils situated nearer the eye than the tip of the snout; interorbital space broad, gently arched; eye small, postocular distance of the head shorter than the snout; preoral portion of the snout being one and half times eye; mouth arched, its breadth less than $1/4$ of the width of the head; 7 minute rostral barbels, margin of the rostral fold in front of the rostral barbels irregularly divided into papilla-like lobules, 4-6 in number, more or less alternating in position with the former; jaws with the margin sharp and more or less cornified; lips finely papillose, free from the jaws, lower lip ornamented with pairs of papillae; maxillary barbels with swollen bases, as long as eye-diameter; gill-opening extending to the ventral surface in a very short distance; scales minute, 88-90 pores in the lateral line, those on the ventral surface of the thorax and the anterior half of the abdomen being embedded (median line of the latter naked); throat, ventral part of the cheek and chin covered with fine papillae.

Color in formalin brownish, with blackish markings above and white below; dorsal surface of the head marbled with black and brown, of the trunk and the tail black, with 5-6 squarish brown blotches; lateral line covered by a wormiform blackish band which is defined

dorsally and ventrally by brownish area in the most part of its length; a series of the black spots below the above-mentioned ventral brown area, in some specimens, these spots in the tail region united to the blackish band covering the lateral line; caudal fin transversely barred by 3 or 4 blackish bands, dorsal fin by 2 to 3 and the anal fin by one similar band; pectoral and ventral fins tinged with a few blackish patches dorsally.

The new species appears to be in close relation with the species of *Prasformosania** as noted by Fang and *Formosania stigmata*† but it differs from the latter in the coloration.

55. **Beaufortia leveretti** (Nichols and Pope).

Six specimens, Nos. 254-256, 286-288 from Yangso, total length 50-63 mm. D. 2.8; P. 1.23-25; V. 1.23-25; A. 2.5 (one fish with only three branched rays and the last one half united by a membrane to the caudal peduncle); depth 5.9-6 in length without caudal, head 3.7-4; snout 1.5-1.7 in head, eye 5-6, interorbital 2-2.3, depth of caudal peduncle 2.5-3; length of base of pectoral 1.1-1.2 times head, that of the ventral 1-1.2; vent situated above the tip of the 20th ray of ventral in small specimen and above the distal third in large specimen; the 20th or the 21st ray of ventral united to that of the other side by a membrane in the basal half, last 3 or 4 rays of the same free and reflected dorsally; barbels 3 pairs, two pairs of rostral and one pair of maxillary; lip not papillose; caudal somewhat obliquely truncate; scales small, 59-64 in lateral line.

Coloration in living condition light brown, with blackish rounded spots; fin yellowish with black spots which form more or less zigzag stripes on the dorsal, anal and caudal fins; pectoral and ventral margined with yellow and submargined with a series of blackish spots.

*P. W. Fang—Study on the Crossostomoid fishes of China. Sinensia, 1934, VI, pp. 71-79.

†Hora considers it as belonging to the genus *Crossostoma*, vide S. L. Hora—Classification, Bionomics and Evolution of Homalopterid Fishes. Mem. Ind. Mus. 1932, Vol. XII, No. 2, p. 308.

These fishes seems not different from that described by Nichols and Pope, except having more ventral fin-rays; it is probably that the last 3 or 4 rays reflected over the ventral disc are overlooked by these authors. Otherwise, these fishes are qualified to establish a new species. They are also referable to *Gastromyzon leveretti Kweichowensis* of Fang. According to Fang* the subspecies is differentiated in the position of the vent and coloration, but on my observation, the position of the vent is variable according to sizes of the fishes.

56. *Sinogastromyzon wui* Fang.

Seven specimens, Nos. 205, 257, 289-293, from Yangso, total length 50-67 mm. D. 2.8; A. 2.5; P. 13, 14; V. 7, 14; scales in lateral line 58-59, tran. 9/12; depth 5.5 in length without caudal, head 4; snout 1.7 in head, inter-orbital 2.8; predorsal distance 1.9 times head; 4 rostral barbels and 4 maxillary ones; upper lip with 11 elongate papillae; caudal fin emarginate; anterior third of the distance between axilla of the pectoral and origin of the ventral completely united to form a disc; anal simple rays coalescent; caudal peduncle slightly longer than deep.

Family Siluridae

57. *Parasilurus asotus* (L.)

Two specimen, No. 368, 388, from Yangso, and Suijon, total length 110, 220 mm. D. 5, A. 74, mandibular barbels two. Another specimen, No. 269, total length 50 mm. considered as a young fish of this species, having distinctly four mandibular barbels.

Tchang† referred a fish collected from Lunchow to Day's *Silurus wynaadensis*. It is not impossible a young fish of this species. Hora‡ renamed it as *Silurus sinensis* which was preoccupied by *S. sinensis* McClelland§, 1844, a synonym of *Parasilurus asotus*.

*Fang, "Sinensia" 1931, Vol. II, p. 44.

†Tchang, Bull. Fan. Mem. Inst. Biol. 1936, VII, p. 35.

‡Hora, Ree. Ind. Mus. 1937, 39, p. 341.

§McClelland Jour. Nat. Hist. Calcutta, 1844, IV, p. 397.

58. *Clarias fusca* Lacépède.

Two specimens, No. 244, 387, from Yangso and Sui-jon, total length 165 mm. D. 57; A. 46; V. 7; P. 1,8.

59. *Hemibagrus macropterus* Blkr.

One specimen, No. 147, from Yangso, total length 255 mm. D. 1,7; A. 5,10; P. 1,8; V. 1,5; head 4.2 in length without caudal; snout 3 in head, eye 5, depth of the body 2.5, interorbital bone equal to eye; dorsal spine weak, pectoral spine serrated in front and strongly barbed behind.

Genus *Aorichthys*, gen. nov.—A substitute for Jordan's *Aoria* which has been occupied by *Aoria* Baly (1863), named for a beetle.

60. *Pelteobagrus fulvidraco* (Richardson).

One specimen, No. 220, from Yangso, total length 215 mm. D. 1,7; A. 19; pectoral spine with anterior border feebly rough. Color in fresh condition, brownish yellow, with dusky blotches; fins blackish.

61. *Lelocassis crassilabris* Günther.

One specimen, No. 224, from Yangso, total length 165 mm. D. 1,7; P. 1,8; V. 1,6; A. 19; depth 4.6 in length without caudal; head 3.9; snout 3 in head, eye 4.8, interorbital space 3.2; predorsal distance 1.6 times head; preoral length of the snout less than eye-diameter; maxillary barbels longest, reaching subopercle; nasal barbel slightly shorter than the outer mandibular one which is equal to the width of the mouth, inner mandibular one shortest, equal to the eye-diameter; dorsal originating in midway between the upper angle of the gill-opening and the origin of ventral; pectoral reaching nearly to the origin of the ventral which extends to the commencement of the anal fin; dorsal and pectoral spines serrated behind; caudal peduncle 1.7 in head, its least depth equal to the snout; caudal deeply forked; base of adipose fin extending behind that of the anal.

62. *Pseudobagrus* sp.

Two specimens, Nos. 252-253, from Yangso, total length 140, 180 mm. D. 1,7; P. 1,7-8; V. 1,5; A. 22; depth 6.2-6.7 in length.

without caudal, head 4.8-5.4; snout 2.8-3 in head, eye 4.2-4.5, interorbital space 3.5-3.7, length of caudal peduncle 1.2-1.5, its least depth 3; predorsal distance 1.4 times head, length of the base of the adipose fin 1.2-1.4;

63. ***Liobagrus anguillicauda*** Nichols.

Five specimen, No. 217, 363-366 from Yangso, total length 65-80 mm. D. 1.6; P. 1.7; V. 1.5; A. 4.8; depth 5.2 in length without caudal, head 4.2; snout 2.8 in head, eye 17, interorbital space 4, breadth of head 1.1, width of the mouth 1.7, length of dorsal spine 4; pectoral spine less than half of the fin; premaxillary band of teeth $1/2$ broader than long; upper jaw much longer, caudal fin truncate; adipose 1.5 times head.

Color in living condition grayish, lighter below, fins tinged with orange, basal portion of dorsal and pectoral dusky, caudal fin dusky with orange margin.

64. ***Glyptosternum fokiense*** Rendahl.

Eight specimens, Nos. 212-216, 294-296 from Yangso and Sui-jon, total length 73-97 mm. D. 1.6; P. 1.8; V. 1.5; A. 4.7-8; depth 3.8-4.5 in length without caudal, head 3.5-3.8; snout 1.9-2.1 in head, eye 8-9, interorbital space 3.5-4.1, breadth of the head 1.1-1.2, breadth of the mouth 2.2-2.7, nasal barbels 3-4, length of caudal peduncle 2-2.4, its depth 2.5-2.7; adipose fin equal to the distance between its origin and base of the dorsal; thoracic skin furrowed.

Family Cyprinodontidae

65. ***Aplocheilichthys latipes*** (Schlegel).

Many specimens, No. 397, from Yangso, total length 37-33 mm.

Family Osphronemidae

66. ***Macropodus opercularis*** (L.).

Two specimens, Nos. 225, 226, from Yangso, total length 55, 75 mm. D. XIII, 7-8; A. XVII-XIX, 13-14; P. 10; V. 1.5; sq. L.

1. 30; caudal emarginate, the 5th ray in the upper or lower side greatly elongate in male, 9 reddish bands at side of body.

Family Ophicephalidae

67. *Ophicephalus maculatus* (Lacépède).

Two specimen, Nos. 390, 560, from Yangso, total length 210 mm. D. 41; A. 27; P. 16; V. 6; sq. L. 1. 52, tran. 5/8-9 to anal.

68. *Channa asiatica* (L.).

Four specimens, Nos. 393-396 400 from Sui-jon, total length 100, 305 mm. D. 43-45; A. 27-31; Sq. L. 1. 58, tran. 6-7/10-A. Young fishes of 35 mm. in length with an large ocellate blackish spot at the base of the caudal and behind the upper angle of the gill-opening, these spots disappeared in old one above 300 mm.; the vertical blackish bands at side of body also becoming faint in large specimen, in the latter, many, small rounded spots of light blue scattered on sides of body and vertical fins.

Family Synbranchidae

69. *Monopterus albus* (Zuiew).

Very common food fish, abundant in the rice field.

Family Anguillidae

70. *Anguilla elphinstonei* Sypes.

Two specimens, Nos. 391, 392, from Yangso, total length 435, 470 mm. Head 7.8-8.7 in length without caudal; snout 4.5-6 in head, gape of mouth 3.6-4, distance between origins of the dorsal and anal 1.2-1.5, teeth on jaws and the position of the origin of the dorsal typical.

Family Mastacembelidae

71. *Mastacembelus aculeatus* (Basilewsky).

Four specimens, Nos. 133-134, 250-251, from Yangso, total length 135-400 mm. D. XXXIII-XXXIV, 65-67; A. III, 63-68; large

fish almost black, small fish dusky, with light median longitudinal band above the snout, two light stripes from superciliary region passing backwards along the both sides of the back to the base of the caudal fin, numerous small light spots on the lower part of body, soft dorsal rays and on the caudal fins.

Family Serranidae

72. *Siniperca whiteheadi* (Boulenger).

Two specimens, Nos. 201, 204, from Yangso, total length 140-180 mm. D. XIII-XIV, 14-15; A. III, 10-12; P. 14; V. 1,5; depth 2.9-3.2 in length without caudal, head 2.6-2.7; pyloric caeca 3, gill-rakers 7-8; teeth villiform; posterior margin of the preopercle, lower margins of the subopercle and interopercle finely serrated; anal spines short, second one not longer than the third, slightly shorter than half-length of the longest soft ray; ventral spine being half of the ray; lower jaw slightly longer than the upper.

Coloration in fresh condition, three radiate blackish bands behind the eye very distinct, a black spot, anteriorly, margined with red on the posterior angle of the opercle; body blackish with light irregular lines.

73. *Siniperca roulei* Wu.

Two specimens, Nos. 203, 248, from Yangso, total length 115, 125 mm. D. XIII, 11; A. III, 6-8; P. 14, V. 1,5; depth 4.5-5.5 in length without caudal, head 2.7-2.8; snout 3.3 in head, eye 4.5-5; pyloric caeca 6-9; canines well-developed on the premaxillary and mandibles gill-rakers granular; subopercle and interopercle very finely serrated; pectoral reaching the end of the ventral spine which is slightly longer than half of the fin; 64-96 pores along the lateral line; the third anal spine longest.

74. *Siniperca loona**, sp. nov. (Plate II, fig. 3).

Seven specimens, Nos. 236-238, 231-232, 289, 415, from Yangso, total length 85-130 mm. D. XIII, 11; A. III, 8-9; P. 14-15;

*Name after Dr. Y. T. Loo.

V. 1.5; depth 2.8-3.5 in length without caudal, head 2.7-2.8, snout 3.7-4 in head, eye 3.3-3.8, interorbital bone 7-8.

Body compressed, rather high, deepest part being in the middle of the spinous portion of the dorsal fin, occipital region usually slightly concave, rarely straight; mouth terminal, lower jaw slightly longer, maxillary extending below the anterior margin of the pupil of the eye; nostrils immediately in front of the eye which is superolateral and anterior; interorbital space slightly concave, teeth villiform on the upper jaw, vomer and palatine, those on the posterior portion of the lower jaw cardiform, without well-developed canines; preopercle with 11-13 denticles, enlarged at the angle and on the lower limb, interopercle and subopercle with a few serratures in their lower borders, opercle ending in two or three spines (females usually with two); gill-rakers coarse, shorter than the filaments, 6-7 in the first arch; gill-membrane separated, free from isthmus; scales small and cycloid, those on the thorax, opercle and on the cheek embedded, 67-72 on the lateral line which is decurved and parallel with the dorsal profile, in middle of the caudal peduncle; pyloric caeca 12-14 (the posterior group 2-4).

Dorsal commencing above the base of the pectoral, the 5th or 6th spine being the longest, nearly equal to the postorbital length of the head, its first soft ray ossified at base, the length of the base of the fin being 1.9 times in the length without caudal; pectoral rounded, reaching the base of the 9th or 10th dorsal spine, but in the younger specimens, slightly posterior to it; ventral originating immediately behind base of pectoral, extending to below the 11th dorsal spine, a short distance before the vent, its spine nearly equal to $1/2$ of the fin; distance between the vent and the end of the ventral being equal to or two times the distance between the vent and origin of the anal; anal fin with the second spine longest, longer than the longest dorsal spine, extending to the vertical of the base of caudal and below the end of the dorsal; caudal peduncle longer than high, its length about 2.9-3 in head; caudal rounded.

Color in formalin, blackish above and dusky below, a few blackish large patches or sometimes forming rings on the lower part of the lateral

surface of the trunk and tail, a black patch or vertical band at base of caudal, fins dusky, ventrals with white margin.

These fishes are surely not young ones of some other known species because some females bear ovaries fully laden with well-developed eggs. This species is characterized by its small number of the pyloric caeca, and it comes immediately next to *Siniperca roulei*, whose caeca are 6-9 in number. *Coreoperca fortis* Lin* though its number of the caeca not given, is closely related to the present species, but it differs in having smaller eyes and uniform in coloration.

75. *Siniperca undulata* Fang and Chong.

Five specimens, Nos. 192-195, 200, from Yangso, total length 85-160 mm. D. XII-XIII, 11-12; A. III, 8; P. 14-15; V. 1,5; V. 1,5; Sq. L. 1. 82-83 pyloric caeca 46-78.

This species is characterized by the undulating light lines embedded in a dusky background on the lower half of the body. Young fishes have the upper part of the body, including the head, dusky, marbled with light markings and the undulating lines anastomosing by side-branches. This species seems to be not different from *S. obscura* Nichols, except the coloration.

76. *Siniperca chuatsi* (Basilewsky).

One specimen, No. 196, from Yangso, total length 210 mm. D. XII, 14; A. III, 9; P. 15; V. 1,5; sq. L. 1. 86; pyloric caeca 81; depth 3.2 in length without caudal, head 2.6; snout 3.1 in head, eye 5.2 interorbital 8.8; gill-rakers 6, maxillary extending below the posterior margin of eye, ventral spine longer than 1/2 of the fin; lower part of cheek scaly; canines not well-developed at the tip of the lower jaw.

Coloration similar to *S. kneri* as figured by Fang and Chong†, but on applying to the key made by the same authors, this fish will come to the species other than *S. kneri*, especially the length of the maxillary and the ventral spine.

*Lin, Lingnan Sci. Jour. 1932, XI, p.519.

†Fang and Chong, "Sinensia" 1932, Vol. II, p. 167, fig. 7.

77. ***Siniperca scheszeri*** Steindachner.

Four specimens, Nos. 230, 239-241, from Yangso, total length 175-415 mm. D. XI-XIII, 11-12; A. III, 9; P. 14-16; V. 1,5; Sq. L. 1. 102-104; depth 3.4 (laden with a pair of testes) to 4.2 in length without caudal, head 2.6-2.8; snout 3.5-3.8 in head, eye 5.6-6.2, interorbital bone 6.3-7.8; gill-rakers 4-5; pyloric caeca 88-141; teeth not exposed on the lower jaw in small specimens and exposed in large ones; lower jaw excessively longer than the upper in young and subequal in large individual; canines simple, or paired in the posterior part of lower jaw; blotches and annuli of black on the lower part of the body in the small specimen, these blotches and annuli in fresh condition becoming enlarged and surrounded by light brown interval reticulous line in large specimens; large blackish blotches at cheek and dorsal side of the body in small fishes and becoming small rounded spots in large ones.

78. ***Ctenogobius giurinus*** (Rutter).

Seven specimens, Nos. 416-422, from Yangso, total length 47-95 mm. D. VI/I, 8-9; A. I, 7-8; P. 17-19; Scales L. 1. 30-31, tran. 10-11; predorsal scales 10-12; depth 4.7 (female) -5.5 in length without caudal, head 3.3-3.7, caudal 3.7-4; snout 2.7-2.9 in head, eye 3.5-5 interorbital space $\frac{1}{6}$ to $\frac{1}{2}$ of eye diameter, length of caudal peduncle 1.3-1, its least depth 2.4-2.7.

Sexual dimorphism district: females, first dorsal not reaching origin of the second dorsal, of which the last ray not reach $\frac{2}{3}$ of the caudal peduncle; males, first dorsal with longest ray exceeding origin of the second dorsal of which the last ray produced, reaching the base of caudal.

79. ***Ctenogobius filamentosus***, sp. nov. (Plate III, fig. 8).

Three specimen, Nos. 423-425, from Yangso, total length 50-60 mm. D. VI/I, 9; A. I, 8-9; P. 15-16; Sq. L. 1. 30-33, tran. 10-13, 12 scale rows surrounding the lowest part of caudal peduncle. Depth 5-5.8 in length without caudal, head, 3.3-3.5, caudal 4-4.5; snout

4-4.3 in head, eye 4-4.5, interorbital $\frac{1}{2}$ - $\frac{3}{4}$ of eye diameter, breadth of head 1.2-1.3 in males & 1.5 in female, least depth of caudal peduncle 2.7-3.

The body subcylindrical, somewhat depressed anteriorly and compressed posteriorly; the back and top of the head flattened, not elevated; head broader than high, cheek tumid in males. Snout blunt; mouth terminal, jaw equal; maxillary extending to below the anterior margin of the orbit; eye superior and anterior; interorbit space very narrow and concave; teeth cardiform, in band, the outer series enlarged, in form of canines; scales ctenoid, smaller in the anterior region of body than those in the posterior, those in the lateral portion of abdomen and above the base of pectoral cycloid; median line of occipital region of head to short distance in front of the dorsal thorax and median portion of abdomen naked.

Spines of first dorsal in males filamentous, the 4th especially produced, reaching the base of 6th ray or the last one of the second dorsal, their lengths being 2.8-3.2 in length without caudal; in female, the middle spines nearly of equal length, not produced in filaments, length of the longest spines nearly 2 in head; second dorsal low in female, high in male, the last ray of the female 2.2 in head, reaching $\frac{3}{4}$ of the caudal peduncle, that of the male 1.7-1.3 in head, reaching more than $\frac{1}{2}$ of the caudal peduncle or to the base of the caudal; anal similar to the second dorsal, but slightly lower than the latter; caudal and pectoral rounded, the latter reaching not quite to the origin of the second dorsal in male and to the vertical of the base of the last spine of the first dorsal in female.

Color in formalin: male, uniformly dusky; fins blackish, caudal with vertical black stripes, dorsals and anal margined with white, second dorsal with black dots forming longitudinal series, first dorsal with a longitudinal band, cheek with a few oblique dark stripes, membrane of branchiostegals dusky with light spots; female brownish, marbled with black, caudal with blackish lines, second dorsal and anal margined with series of blackish dots, ventral disk white, cheek and throat uniformly dusky.

This species is characterized in the presence of the filamentous 4th and 5th dorsal spines, well developed canine teeth in the outer series on the jaws and the absence of scales on the top of head.

Explanations of Plates

Plate I

Figure 1. *Cyprinus carpio*, var. *triangulus*, sp. nov.

Plate II

Figure 2. *Pseudorasbora elongata*, sp. nov.

Figure 3. *Simiperca loona*, sp. nov.

Figure 4. *Botia pulchra*, sp. nov.

Figure 5. *Botia robusta*, sp. nov.

Plate III

Figure 6. *Botia maculosa*, sp. nov.

Figure 7. *Formosania yaoshanensis*, sp. nov.

Figure 8. *Ctenogobius filamentosus*, sp. nov.

Figure 9. *Botia zebra*, sp. nov.

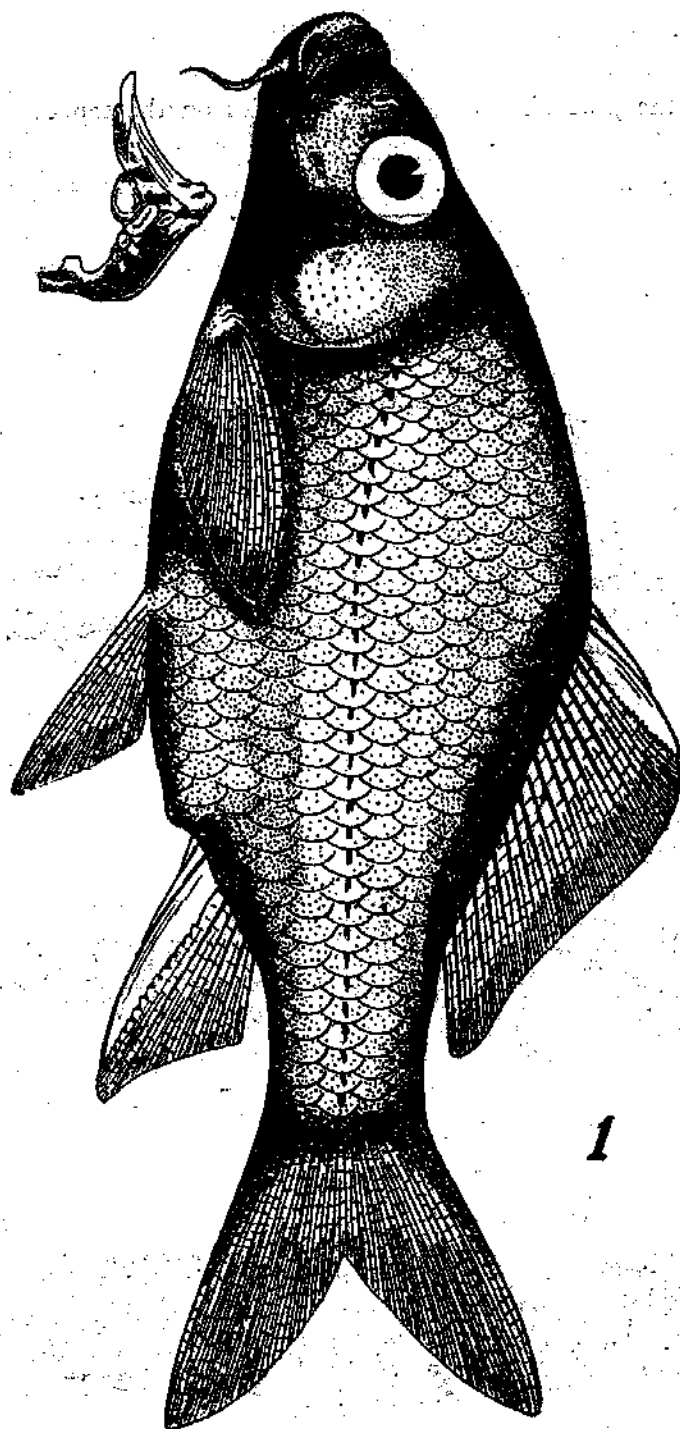


Plate I

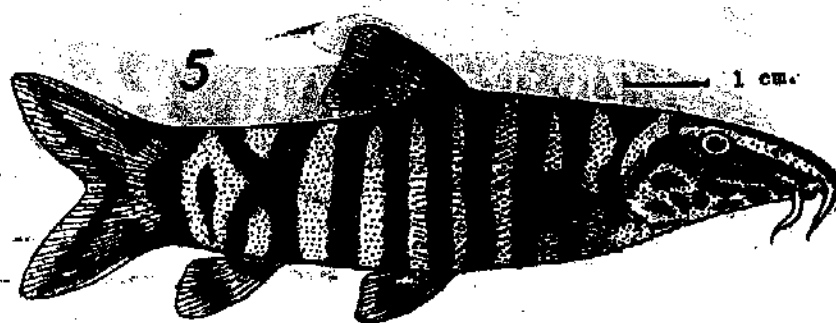
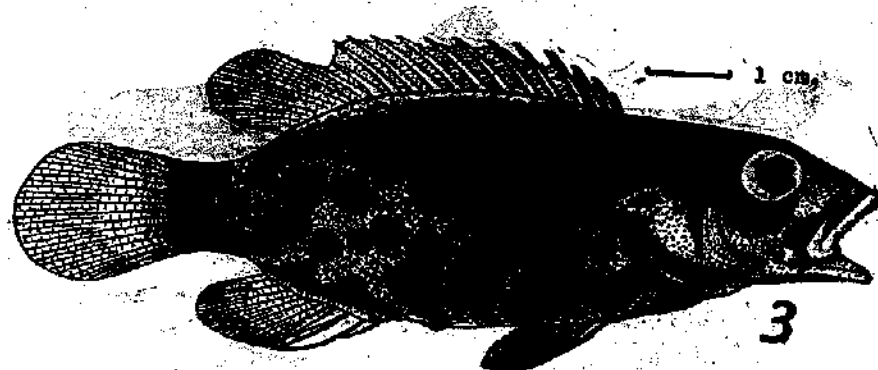
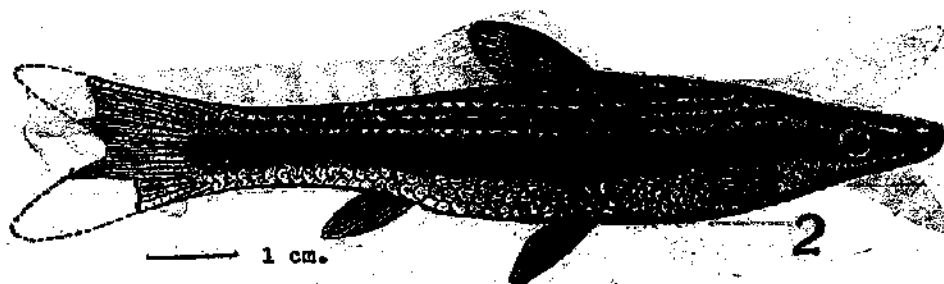


Plate II

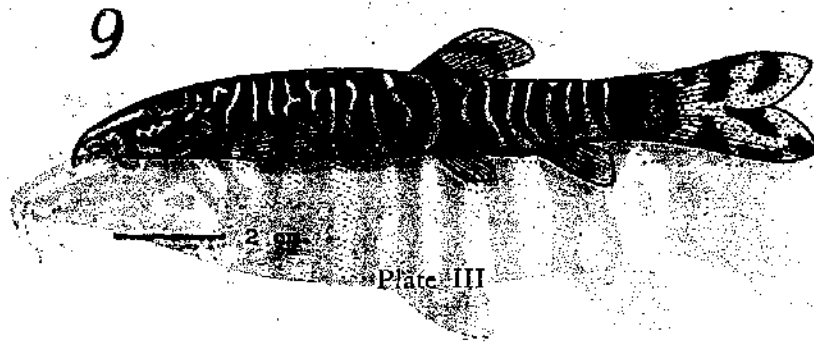
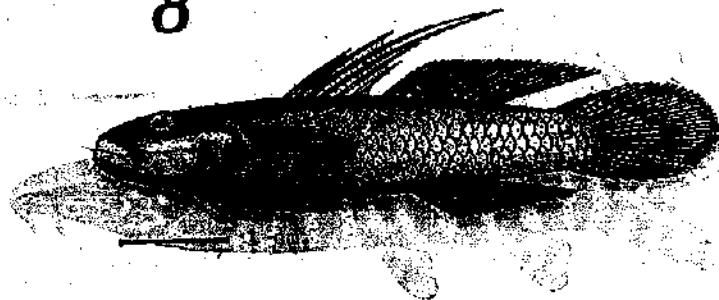
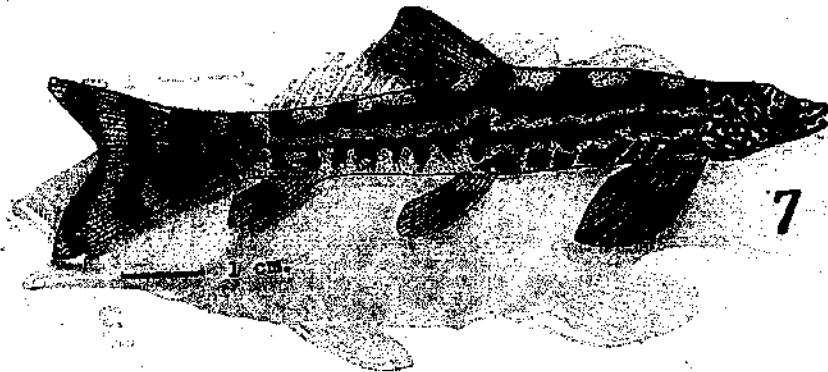
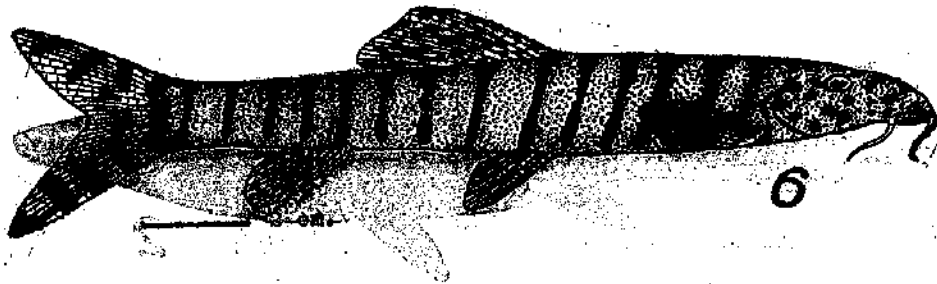


Plate III