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NOTES ON THE FRESH-WATER FISHES OF THE SOUTHERN PART OF KIANGSU, I. CHINKIANG

江蘇南部淡水魚類誌 (一)

BY

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I. CHINKIANG

By

C. P. MIAO

CONTENTS

INTRODUCTION

The present paper is based on the materials from Chinkiang. Most of them were collected during the spring of 1930 by Mr. K. F. Wang of this Laboratory. Others were obtained in the summer of 1933 by Mr. Wang and the author himself. There are 60 species belonging to 19 families and 46 genera. The family Cyprinidae contains 34 species, of which 3 are found to be new to science. The family which ranks next to Cyprinidae in number of species is Bagridae, which contains 6 species as found in this locality. Out of them 4 are new species. Families Cobitidae and Eleotridae are considered to be next to Bagridae, the former having 3 species and the latter having 2. While all the rest families have each only one species found in our present collection from this particular region.

The author is deeply indebted to Dr. C. Ping for allowing him to use the working material and for his incentive guidance throughout the course of this study. His sincere thanks are also due to Dr. H. W. Wu, Messrs. P. W. Fang and K. F. Wang for their constructive criticisms, to Dr. T. L. Tchang for his courtesy in helping him to get literature and to Mr. Mengven

L. Y. Chang for his kind help and advice during their pleasant association at this laboratory.

DESCRIPTIONS OF THE SPECIES

Key to Families

A. Ventral fins absent.
  B. Pectorals absent; skin scaleless ....5. FLUTIDAE (p. 120)
  BB. Pectorals present; skin with minute scales.
    C. Dorsal and anal fins without spines. Body elongate and cylindrical .....7. ANGUILLIDAE (p. 124)
    CC. Dorsal and anal fins with spines. Body laterally compressed .....6. MASTACEMBELLIDAE (p. 122)

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  B. Body naked; head usually depressed.
    C. Caudal fin evidently heterocercal with fulcra ....1. POLYODONTIDAE (p. 113)
    CC. Caudal fin not evidently heterocercal.
      D. Barbels 4; dorsal fin spineless; anal fin very long; adipose absent .....10. SILURIDAE (p. 208)
      DD. Barbels 8; dorsal fin with a pungent spine; anal fin short or moderate; adipose present ....11. BAGRIDAE (p. 210)
  BB. Body with scales if not, head rather compressed than depressed.
    C. Barbels 6 or more .....9. COBITIDAE (p. 203)
    CC. Barbels if present, four at most.
      D. Lower jaw greatly elongated to form a long beak .....12. HEMIRAMPHIDAE (p. 222)
      DD. Lower jaw never forming a long beak.
        E. Adipose present ....4. SALANGIDAE (p. 118)
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          F. Abdomen scutate and serrated, barbels absent.
            G. Maxillaries freely movable behind the premaxillaries usually with large supplemental bones ....2. CLUPEIDAE (p. 115)
            GG. Maxillaries more or less firmly attached

to premaxillaries with narrow supplemental bones .....3. ENGRANLIDAE (p. 116)

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B. Eyes asymmetrical very small, both on left side of head, without distinct ridge between them; fins confluent.....13. CYNOGLASSIDAE (p. 223)

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C. Dorsal fins single, short or elongate.

D. Dorsal and anal fins spineless .....14. OPHICEPHALIDAE (p. 224)

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CC. Dorsal fins two, close to-gether.

D. Scales larger, caudal emarginate, origin of ventrals behind base of pectorals ..16. OLIGORIDAE (p. 229)

DD. Scales smaller, caudal rounded, origin of ventrals near to base of pectorals .....17. EPINPHELIDAE (p. 231)

CCC. Dorsal fins two, separate.

D. Ventral fins united forming a disk .....19. GOBIIDAE (p. 235)

DD. Ventral fins separate ...18. ELEOTRIDAE (p. 232)

Family **POLYODONTIDAE**

(Paddle-fishes)

Genus **Psephurus** GÜNTHER

Psephurus, GÜNTHER, 1873, Ann. Mag. Nat. Hist., (4) XII. p. 250.

Type: *Polyodon gladius* MARTENS.

1. **Psephurus gladius** (MARTENS).

Polyodon gladius MARTENS, 1862, Monatsber. Akad. Wiss. Berlin, 1861, p. 476; Yangtze.

Psephurus gladius GÜNTHER, 1873, Ann. Mag. Nat. Hist., (4) XII, p. 250; near Shanghai;—TCHANG, 1928, Contr. Biol. Lab. Sci. Soc. China, IV, 4, pp. 1-2, Fig. 1; Yangtze River, Nanking;—NICHOLS, 1928, Bull. Amer. Mus. Nat. Hist., LVIII, 1, p. 2; Shanghai;—WU, 1930, Sinensia, I, 6, p. 67; Chungking, Szechuan.

One specimen—No. 12320, Mus. Biol. Lab. Sci. Soc. China, June, 1933.

Length to base of caudal 94 mm. Depth in length 8.5; head1.7. Eye in head 68.7; snout 1.45; interorbital 6.1; longest ray: dorsal 6.87; pectoral 5.58, ventral 8.8, anal 7.44, caudal 4.9; length of caudal peduncle 14.5; height of caudal peduncle 14.5.

Dorsal 64; pectoral 33; ventral 36; anal 57. Barbels 2.

Body elongate, rather compressed. Head large, depressed anteriorly; eye lateral, extraordinarily small; snout produced into a very long, shovel-shaped process which is much narrower than the head, depressed, becoming thin and flexible on the

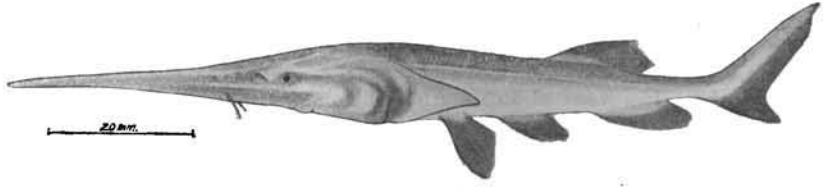

Fig. 1. *Psephurus gladius* (MARTENS).

sides; interorbital space very wide, convex. There are two grooves between the eyes; nostrils two, anterior and slightly superior to the eyes; mouth semicircular, inferior. Tongue and both jaws with minute teeth; one pair of short barbels present on the lower surface of the snout; opercle rudimentary with its flap tapering not reaching to the tip of pectoral. Gill-membranes continuous below the throat and free from the isthmus; gill-rakers in moderate number and distant one from another. Lateral line straight.

Dorsal fin approaching the caudal; pectoral truncate, not reaching the origin of ventral, which is near that of the dorsal

fin than that of the pectoral fin. Caudal heterocercal, with six large fulcra on the upper caudal.

COLOR in Formalin—Blackish its sides with two rows of greenish brown and reversed V-shaped stripes. Other parts white.

DISTRIBUTION—This species probably only occur in Yangtze-kiang. Peters (1880) recorded it in Ningpo is doubtful.

REMARKS—A specimen of such a small size is rather rare; it differs from the adult ones by having two, short barbels situated at the ventral surface of the basal of the shovel-like snout and the toothed jaws which become edentalous in adult.

Family 2. **CLUPEIDAE**

(Herrings)

Genus **Hilsa** REGAN

Paralosa (non BLEEKER), REGAN, 1916, Ann. Durban Mus., I, p. 167.

Hilsa REGAN, 1917, Ann. Mag. Nat. Hist., (8) XIX, p. 303.

Type: Paralosa durbanensis REGAN.

2. **Hilsa reevesii** (RICHARDSON).

For description see WU & WANG, 1931, Contr. Biol. Lab. Sci. Soc. China, VII, *Z. S.*, 6, p. 221; Szechuan.

Alosa reevesii RICHARDSON, 1846, Ichth. China, p. 305.

Alosa palasah RICHARDSON, 1846, Ichth. China, p. 306.

Clupea reevesii GÜNTHER, 1868, Cat. Fish. VII, p. 466;—WU & WANG, 1931, Contr. Biol. Lab. Sci. Soc. China, VII, *Z. S.*, 6, p. 221; Szechuan.

Hilsa reevesii REGAN, 1917, Ann. Mag. Nat. Hist., (8) XIX, p. 306; Shanghai; Kiu-kiang.

One specimen—No. 12301, Mus. Biol. Lab. Sci. Soc. China, June 8, or 9, 1933.

Length to base of caudal 490 mm. Depth in length 3.1; head 3.3. Eye in head 7.9; snout 3.73; interorbital 3.33; longest ray: dorsal ?, pectoral 1.7, ventral 2.64, anal 3.66, caudal ?; length of caudal peduncle 3.67; height of caudal peduncle 2.64.

Dorsal 17; pectoral 14; ventral 8; anal 18. Scales: Lateral line 42, Lateral transverse 16.

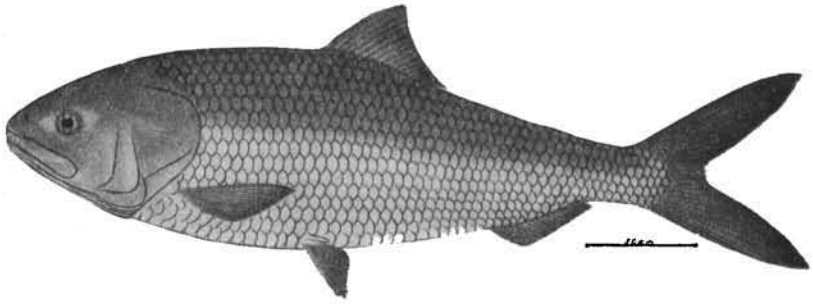

Fig. 2. *Hilsa reevesii* (RICHARDSON).

DISTRIBUTION—Our national seas; Yangtse-kiang; Ningpo and Newchaung.

REMARKS—It is a kind of food fish of high price.

Family 3. ENGRANLIDAE

(Anchovies)

Genus Coilia GRAY

Mystus, LACEPEDE, 1803, Hist. Nat. Poiss., V, p. 406.

Type: *Clupea mystus*, LINNAEUS, Not of GRONOW.

Coilia, GRAY, 1831, Zool, Misc. p. 9.

Type: *Engranlis* (*Coilia*) *hamiltoni* GRAY.

3. Cailia ectenes JORDAN AND SEALE.

For description see WANG, 1933, Contr. Biol. Lab. Sci. Soc. China, IX, *Z. S.*, 1, p. 10; Shangtung.

?*Coilia nasus*, GÜNTHER, 1868, part, Cat. Fish. B. M., VII.

Coilia ectenes JORDAN & SEALE, 1906, Proc. U. S. Nat. Mus., XXIX, p. 517; Shanghai;—JORDAN & STARKS,

1906, Proc. U. S. Nat. Mus., XXXI, p. 515—526, 5 figs;—EVERMANN & SHAW, 1927, Calif. Acad. Sci., (4) XVI, 4, p. 100; Hangchow, Chuchi, and Nanking;—TCHANG, 1928, Contr. Biol. Lab. Sci. Soc. China, IV, 4, p. 4, fig. 5; Nanking;—SHAW, 1930, Bull. Fan Mem. Inst. Biol., I, 10, pp. 166-168, Fig. 1; Soochow;—WU, 1931, Sinen., I, 11, p. 166; Tchou-San;—WU, 1931, Bull. Mus. Paris, (2) III, 5, p. 433; Tong Lu;—WANG, 1933, Contr. Biol. Lab. Sci. Soc. China, IX, *Z. S.*, 1, p. 10; Shangtung.

Coilia nasus, GRAMAN, 1912, Mem. Mus., Comp. Zool., Harv. Call., XL; Kiating.

One specimen—No. 3231, Mus. Biol. Lab. Sci. Soc. China, April 23, 1930.

Length to base of caudal 279 mm. Depth in length 6.0; head 6.6. Eye in length of head 7.0; snout 4.2; interorbital 4.6; longest ray: dorsal 1.3, pectoral filament 0.35, ventral 2.3, anal 3.8, caudal 1.4.

Dorsal I, 13; pectoral 6 (filaments), 12 (rays); ventral 7; anal 106. Scales 77 5 .

DISTRIBUTION—This species enter Yangtse & Chientang Rivers in early spring. It also appears in the lakes connected with these rivers, and has a north range to Korea.

REMARKS—The species in Yangtse is famous regarded as a valuable food-fish.

Other 38 specimens were collected: No. 12441-12472, 13205-13209.

MEASUREMENTS OF *COLLIA ECTENES* JORDAN & SEALE

Number in Mus. Biol. Lab. Sc. Soc. China		13205	13206	13207	13208	13209
Body length to caudal base in mm.		285	293	244	292	281
In length without caudal fin	Head	6.7	6.8	6.7	6.7	6.5
	Depth	6.0	5.7	6.5	6.6	6.5
	Eye	7.0	7.1	6.3	7.3	7.1
	Snout	4.2	4.3	4.3	4.4	4.3
	Interorbital space	4.6	4.7	4.8	4.4	4.7

In length of head	Longest ray	D.	1.1	1.1	1.2	1.1	1.1
		P.	0.38	0.41	0.39	0.46	0.4
		V.	3.3	2.3	2.4	2.4	2.3
		C.	1.5	1.6	1.0	1.5	1.5
		A.	3.8	3.5	3.5	3.6	3.6
Number of rays	Dorsal		1,11	1,11	1,11	1,11	1,11
	Pectoral		6,12	6,11	6,11	6,12	6,13
	Ventral		7	7	7	7	7
	Anal		116	111	109	103	102
Scales	L. lat.		72	74	75	75	75
	Transv.		5/7	5½/7	5½/7	5/7	5/7
Scutes			18/31	18/32	19/29	18/32	20/32

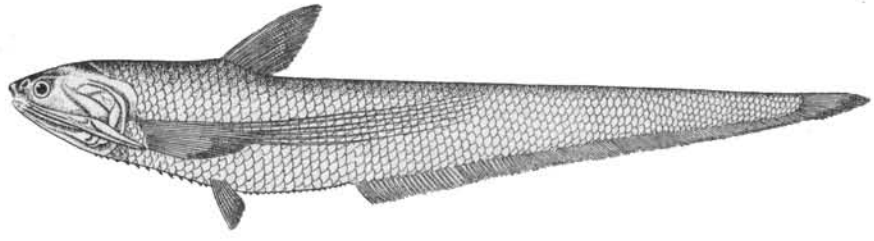

Fig. 3. *Collia ectens* JORDAN & SEALE.

Family 4. SALANGIDAE

(Chinese white-bait)

Genus **Hemisalanx** REGAN

Hemisalanx REGAN, 1908, Ann. Mag. Nat. Hist., (8) II, p. 144.

Type: *Hemisalanx prognathus* REGAN.

4. **Hemisalanx prognathus** REGAN.

Hemisalanx prognathus REGAN, 1908, Ann. Mag. Nat. Hist., (8) II, p. 145; Shanghai.

Salanx (*Hemisalanx*) *prognathus* NICHOLS, 1928, Bull. Amer. Mus. Nat. Hist., LVIII, 1, p. 4.

One specimen—No. 0019, Mus. Biol. Lab. Sci. Soc. China, April 22, or 23, 1930.

Length to base of caudal 108 mm. Depth in length 12.49; head 6.15. Eye in head 6.68; snout 2.97; postorbital portion of head 2.01; interorbital space 4.15; longest ray: dorsal 2.15, pectoral 1.23; ventral 2.20; anal 1.93; caudal 1.55; length of caudal peduncle 1.12; height of caudal peduncle 3.78.

Dorsal 12; pectoral 8; ventral 7; anal 27.

Body elongate, depressed anteriorly, somewhat compressed posteriorly, its greatest depth at about dorsal origin. Caudal peduncle compressed; its length about half the distance between origin of ventral and that of anal; its least height nearly 6 in head; ventral surface of body with distinct cutaneous folds. Base of anal with large scales. Head well depressed, nearly twice as broad as deep. Its greatest width less than one third

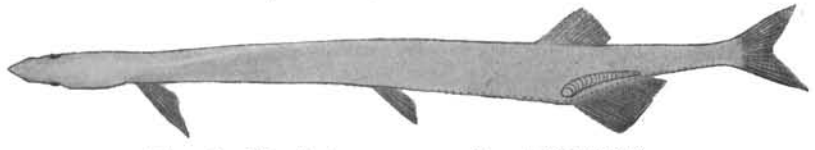

Fig. 4. *Hemisalanx prognathus* NICHOLS.

of its length. Eye rather small, ventral lateral in position; snout a little longer than one third of postorbital portion of head. Interorbital space broad, a little less than one fourth of head. Mouth horizontal, lateral, both jaws sharply pointed, lower one slightly projecting, its tip with a small movable flap; teeth conical, strong and curved, one row on upper jaw, palatine bands with a single row of fine teeth on each side, no teeth on vomer and tongue, those on lower jaw slightly smaller than that on upper one, two canines.

Dorsal fin commencing nearer origin of ventral than base of caudal. Adipose fin very low, inserted a little nearer base of dorsal than that of caudal. Pectoral fins less than one and half times of postorbital portion of head. Ventral fins commencing about midway, between tip of snout and base of caudal. Origin of anal being opposite to the anterior fourth ray of dorsal; its base longer than distance between anterior

margin of orbit and posterior margin of head. Caudal fin forked.

COLOUR in formalin: Uniform yellowish white.

DISTRIBUTION—Lower Valley of Yangtse.

Numerous specimens were collected during the spring of 1930.

Family 5. **FLUTIDAE**

Genus **Fluta** BLOCH & SCHNEIDER

Monopterus LACÉPÈDE, 1798, Hist. Nat. Poiss., p. 139.

Type: *Monopterus javanensis* LACÉPÈDE=*Muraena alba* ZUIEW.

Fluta, BLOCH & SCHNEIDER, 1801, Syst. Ichth., p. 525 (? or, 565?).

Type: *Monopterus javanensis* LACÉPÈDE=*Fluta alba* (ZUIEW).

Ophicardia McCLELLAND, 1844, Journ. Nat. Hist. Calcutta, V, p. 191.

Type: *Ophicardia pharyriana* McCL.

Apterigia BASILEWSKY, 1855, Nouv. Mem. Soc. Nat. Moscou, X, p. 247.

Type: *Apterigia saccogularis* BASILEWSKY.

5. **Fluta alba** (ZUIEW).

For description see TCHANG, 1928, Contr. Biol. Lab. Sci. Soc. China, IV, 4, p. 41; Nanking.

Muraena alba, ZUIEW, 1793, Nov. Act. Acad. Sc. Petropol, VII, p. 299, tab. 7, fig. 2; no locality;—JORDAN, TANAKA & SNYDER, 1913, Cat. Fish. Japan, p. 76; Japan.

Monopterus javanensis, LACÉPÈDE, 1798, Hist. Nat. Poiss., II, p. 139;—BLEEKER, Verh. Bat. Gen., XXIII, M. O. Java, p. 22; or XXV, Symbr. p. 59; or Atl. Ichthyol. Mur. p. 118, Pl. 47, fig. 1;—SCHNEIDER 1801, Syst. Ichth., p. 565; GÜNTHER, 1870, Cat. Fish., VIII, p. 14; —GÜNTHER, 1873, Ann. Mag. Nat. Hist., (4) XII, p. 250;—TCHANG, 1928, Contr. Biol. Lab. Sci. Soc. China, IV, 4, p. 41, fig. 48; Nanking.

Unibranchapertura laevis, LACÉPÈDE, 1803, Hist. Nat. Poiss., V, p. 658, Pl. 17, fig. 3.

Monopterus javanicus, SHAW, Zool. IV, p. 33;—CANT., Mal. Fish., p. 339; Pl. 5, figs. 6-8 (Head);—KANP, Apod., p. 123, Pl. 5, figs. 6-8.

Synbranchus eurychasma, BLEEKER, Verh. Bat. Gen. Muraen, XXV, p. 60.

Ophicardia pharyriana, McCLELL., 1844, Calc. Journ. Nat. Hist., V, pp. 191, 218, Pl. 12, fig. 1.

Synbranchus laevis, McCLELL., I. c. p. 230.

Synbranchus grammicus, CANT., Ann. Mag. Nat. Hist., IX, p. 30.

Monopterus laevis RICHARDSON, 1845, Voy. Sulph. Ichth., p. 116.

Monopterus cinereus, RICHARDSON, 1845, I. c., p. 117, Pl. 52, figs. 1-6. Synon. exclus; and Ichth. China, p. 315.

Monopterus? Vel Synbranchus? *xanthognathus*, RICHARDSON, 1846, I. c., p. 118, Pl. 52, fig. 7.

Monopterus marmoratus, TEMM. & SCHL., RICH., 1845, Ichth, China, p. 315.

Monopterus belvolus, RICHARDSON, 1845, Ichth. China, p. 316.

Ophicardia xanthognatha, RICHARDSON, 1845, Ichth. China, p. 316.

Apterigia saccogularis, BASILEWSKY, 1855, Nouv. Mém. Soc. Nat. Mosc., X, p. 247, tab. 8, fig. 2.

Apterigia nigromaculata, BASILEWSKY, 1855, Nouv. Mém. Soc. Nat. Mosc., X, p. 248, tab. 2, fig. 2.

Apterigia immaculata, BASILEWSKY, 1855, Nouv. Mém. Soc. Nat. Mosc., X, p. 248.

Fluta alba BLOCH & SCHNEIDER, 1801 Syst. Ichth., p. 525;—EVERMANN & SHAW, 1927, Proc. Calf. Acad. Sci., (4) XVI, 4, p. 101; Nanking;—NICHOLS & POPE, 1927, Bull. Am. Mus. Nat. Hist., LIV, p. 327; Hainan, China;—NICHOLS, 1928, Bull. Am. Mus. Nat. Hist., LVIII, p. 4; China;—WU, 1929, Contr. Biol. Lab. Sci. Soc. China, V, 4, p. 29, fig. 22; Amoy;—SHAW, 1930, Bull. Fan Mem. Inst. Biol., I, 10, pp. 167-168, 204, fig. 3;—CHU, 1932, Fish. of West Lake, p. 47, fig. 33;—WANG, 1933, Contr. Biol. Lab. Sci. Soc. China, IX, *Z. S.*, 1; p. 19; Shangtung coast;—FU & TCHANG, 1933, Bull. Honan Mus. Nat. Hist., I, 1, p. 2; fig. 2.

Monopterus albus, WU, 1930, Sinen., I, 6, p. 68; Luchow, Szechuan and Chungking;—WU, 1931, Bull. Mus. Paris, III, 5, p. 433; Tchekiang, China.

One specimen—No. 3211, Mus. Biol. Lab. Sci. Soc. China, April 23, 1930.

Length to base of caudal 457 mm. Depth in length 21.7; head 12.3. Eye in length of head 12.3; snout 5.2; interorbital 7.4.

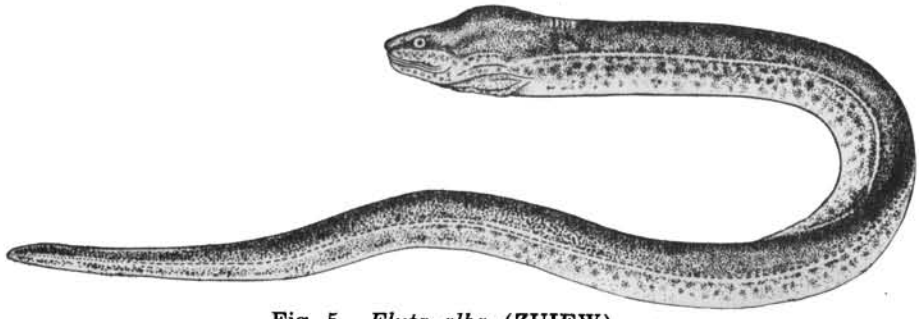

Fig. 5. *Fluta alba* (ZUIEW).

COLOUR in life—Yellowish brown; richly motted with brownish or blackish spots. Ventral surface faint.

DISTRIBUTION—Very common in ditches, ponds, rivers and lakes of this country.

REMARKS—This species is a common and important food fish in the northern and eastern parts of this country.

Two specimens were collected in 1930 and 1933; No. 12325.

Family 6. MASTACEMBELIDAE

Genus **Mastacembelus** SCOPOLI

Mastacembelus SCOPOLI, 1777, Int. Hist. Nat., p. 458, after GRONOW.

Type: *Ophidium simack* WALBAUM=*Phynchobdella haleppensis* BLOCH & SCHNEIDER.

6. **Mastacembelus aculeatus** (BASILEWSKY).

For description see TCHANG, 1928, Contr. Biol. Lab. Sci. Soc. China, IV, 4, p. 41.

Ophidium aculeatum BASIL., 1855, Nouv. Mem. Imp. Nat. Moscow, X, p. 215 and (addenda) 259; Peking.

Phynchobdella sinensis BLKR., 1870, Vensl. & Med. Akad. Amsterd., p. 249, fig.;—BLKR., 1872, Ned. Tijd. Dierk., IV, 4-7, p. 113; China.

?*Mastacembelus maculatus* DABRY, 1872, Pisc. Chine, Yang-tse-Kiang;—SAUVAGE & DABRY, 1874, Ann. Sci. Nat., (6), Zool. et Paleont, I, 5; China.

Mastacembelus sinensis SAUVAGE & DABRY, 1874, Ann. Sci. Nat., (6) I, 5; China;—GÜNTHER, 1873, Ann. Mag. Nat. Hist., (4) XII, p. 243; Neighbourhood of Shanghai;—GÜNTHER, 1889, Ann. Mag. Nat. Hist., IV, (6), IV, p. 218; Ichang;—KREYENBERG & PAPPENHEIM, 1908, Sitz. Ber. Ges. Natf. Frennde, p. 95;—KREYENBERG & PAPPENHEIM, 1909, Abh. Mus. Nat. Heimath. Magdeburg, II, p. 1; Fishmarkt Hankow;—FOWLER, 1924, Mem. Asiatic Soc. Bengal., VI, p. 503; near Soochow;—FOWLER, 1924, Bull. Am. Mus. Nat. Hist., L, p. 373; Ningkwo;—TCHANG, 1928, Contr. Biol. Lab. Sci. Soc. China, IV, 4, p. 41, fig. 47;—NICHOLS, 1928. Bull. Am. Mus. Nat. Hist., LVIII, p. 5;—SHAW, 1930, Bull. Fan Mem. Inst. Biol., I, 10, pp. 169, 204, fig. 4; Soochow.

Mastacembelus acutealus RENDAHL, 1927, Zool. Anz., LXXI, p. 175;—RENDAHL, 1928, Ark. Zool., A, XX, 1, p. 187; China;—WU, 1931, Bull. Mus. Paris, III, p. 438; Hang Tchou.

One specimen—No. 12321, Mus. Biol. Lab. Sci. Soc. China, June 8 or 9, 1933.

Length to base of caudal 162 mm. Depth in length 8.71; head 6.0. Eye in length of head 18.7; Snout 3.8; interorbital 9.78; longest ray: dorsal 2.81; pectoral 3.75.

Dorsal XXXII, 56; pectoral 23; anal III, 55; caudal 8. Scales very small.

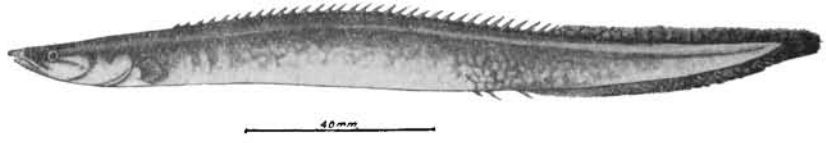

Fig. 6. *Mastacembelus aculeatus* (BASILEWSKY).

COLOUR in life—Dark yellowish-brown generally with dark reticulations on dorsal and ventral surfaces, and with a series broad darky-brown band laterally from tip of snout to

base of caudal, here the band broadening, more dark spots arranged on this line. In formalin—Markings and spots faded.

DISTRIBUTION—Common in the Eastern part of this country.

Family 7. ANGUILLIDAE

(True Eels)

Genus **Anguilla** SHAW

Muraena sp. ARTEDI, 1738, Genera, p. 13.

Anguilla SHAW, 1803, Gen. Zool. or Syst. Nat. Hist., IV, p. 15.

Type: *Anguilla vulgaris* SHAW (*Muraena anguilla* Linnaeus).

Anguilla (*Thunberg*) CUV. 1829-1830 Rêgne Anim.

Muraena BLEEKER, Atl. Ichth. Mur., p. 1.

7. **Anguilla japonica** TEMMINCK & SCHLEGEL.

For description see TCHANG, 1928, Contr. Biol. Lab. Sci. Soc. China, IV, 4, p. 31.

Anguilla japonica TEMMINCK & SCHLEGEL, 1846, Fauna Japonica, p. 258, Pl. CXIII, fig. 2; Nagasak;—JORDAN, TANAKA, & SNYDER, 1913, Cat. Fish. Japan, p. 76;—NICHOLS & POPE, 1927, Bull. Am. Mus. Nat. Hist., LIV, p. 326; Hainan, China;—EVERMANN & SHAW, 1927, Proc. Calf. Acad. Sci., XVI, 4, p. 101; Shanghai, Hangchow;—TCHANG, 1928, Contr. Biol. Lab. Sci. Soc. China, IV, 4, p. 31, fig. 36; Nanking;—NICHOLS, 1928, Bull. Am. Nat. Hist., LVIII, p. 5; Tungting lake (Hunan), Fukien, Hainan Island;—SHAW, 1930, Bull. Fan Mem. Inst. Biol., I, 10, pp. 169; 171, 204, fig. 5; Soochow;—CHU, 1932, Fish. West. Lake, p. 46, fig. 32;—WANG, 1933, Contr. Biol. Lab. Sci. Soc. China, IX, *Z. S.*, I, p. 17; Shangtung coast;—FU & TCHANG, 1933, Bull. Honan Mus. Nat. Hist., I, 1, p. 3, fig. 3; Kaifeng, Honan.

Muraena pekinensis BASILEWEKY, 1855, Nouv. Mém. Soc. Nat. Mosc., X, p. 246, Pl. III, fig. 2; Peking.

Anguilla japonica, SCHLEGEL, Fauna Japon. Poiss., p. 258, Pl. 113, fig. 2 (Mouth not good);—BLEEKER, Verb. Bat. Gen., XXV, Nalez. Japan, p. 51;—KNER, 1867, Novara Fisch., p. 370;—WU, 1929, Contr. Biol. Sci. Soc. China, V, 4, p. 29, fig. 23; Amoy.

Anguilla valgaris MITCH., Lit & Trans. New York, I, p. 360; —ISHIKAWA, 1897, Prel. Cat. Fish., p. 7.

Muraena bostoniensis BLEEKER, 1872, Ned. Tijd. Dierk, IV, 4-7; Shanghai.

Anguilla bostoniensis LESUEUR, Jour. Ac. Nat. Sc. Philad., I, p. 81;—GÜNTHER, 1870, Cat. Fish. B. M., VIII, p. 31; —GÜNTHER, 1898, Ann. Mag. Nat. Hist., (7) VII, 4, p. 263;—MORRISON, 1898, Ann. Mag. Nat. Hist., (7) VII, 4, p. 263; Newchwang.

Muraena anguilla SCHÖPFF, Beobacht. Ges. ntrf. Freund. Berlin, VIII, p. 138.

Muraena rostrata LESUEUR, Journ. Ac. Nat. Sc. Philad., I, p. 81.

Muraena argentea LESUEUR, Journ. Ac. Nat. Sc. Philad., I, p. 82.

Muraena macrocephala LESUEUR, Journ. Ac. Nat. Sc. Philad., I, p. 82.

Anguilla lutea (*Rafin.*) KIRTLAND, Bost. Journ. Nat. Hist., IV, p. 234, Pl. XI, fig. 2.

Anguilla tenuirostris DE KAY, New York Faun. Fish., p. 310, Pl. LIII, Fig. 173;—?KAUP, Apod., p. 44, fig. 34;— ?KNER, Novara Fisch., p. 370.

Anguilla bostoniensis AYRES, Boston Journ. Nat. Hist., IV, p. 279;—STORER, Mem. Am. Acad., VIII, p. 408, Pl. XXXIII, fig. 1.

Anguilla novae orleanensis KAUP, Apod., p. 43, fig. 33.
Anguilla punctatissima KAUP, Apod., p. 44.
Anguilla cubana KAUP, Apod., p. 44.

Anguilla bengalensis and *manritiana* ISHIKAWA, 1897, Prel. Cat. Fish., p. 7.

One specimen—No. 12322, Mus. Biol. Lab. Sci. Soc. China, June 8 or 9, 1933.

Length to base of caudal. 269 mm. Depth in length 19.4; head 9.24. Eye in length of head 10.9; snout 5.32; interorbital 5.88. longest ray: dorsal 5.5, pectoral 3.8.

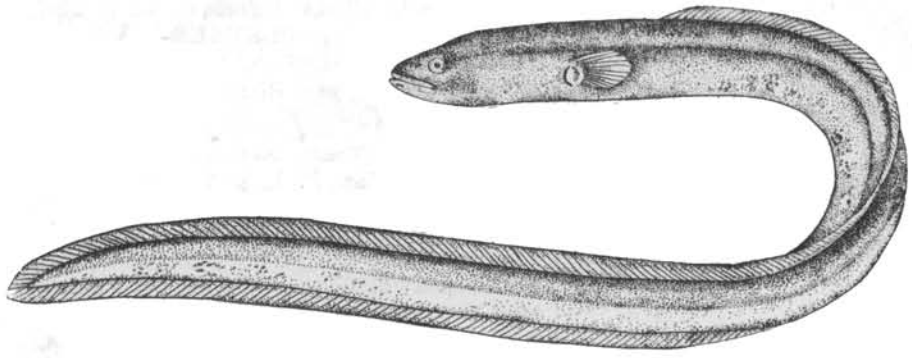

Fig. 7. *Anguilla japonica* TEMMINCK & SCHLEGEL.

COLOUR in life—Grayish dark above, pale whitish below. In formalin—Colour faded.

DISTRIBUTION—This species is a common food fish in the lower Yangtze Valley, and south China.

Other two specimens were collected during the summer of 1933: No. 12323-12324.

Family 8. **CYPRINIDAE**

Key to Genera

A. Position of eye normal. Supra-branchial organ wanting.

B. Anal fin short or of moderate length, at most with 14 branched rays. Abdomen without keel or keel-like substance.

C. Anal fin without serrated bony spine. Dorsal fin short or moderately long, never with more than 14 branched rays.

D. Anal fin with 7-14 branched rays.

E. Margin of lower jaw without horny coating.

F. Dorsal and anal without spine; origin of anal ordinarily behind base of dorsal. D. 7-12; Pharyngeal teeth 1 or 2 rows rarely 3 rows; intestine short. (Sub-family LEUCISCINAE.)

a. Pharyngeal teeth in 1-, or 2-rows.

b. Pharyngeal teeth in 1-row, 5-4, molar-like, surface flattened and smooth .....*MYLOPHARYNGODON* p. 129.

bb. Pharyngeal teeth in 2-rows, 5.5-2.4, comb-like, surface folded .. ..*CTENOPHARYNGODON.* p. 131.

aa. Pharyngeal teeth in 3-rows.

b. Premaxillary not bill-like; mouth small, not reaching eye.

c. Scales in lateral line 60 or more; barbels absent ....*OCHETOBIUS.* p. 133.

cc. Scales in lateral line 40-48; barbels present ....*SQUALIOBARBUS.* p. 135.

bb. Premaxillary bill-like; mouth reaching eye ....*ELOPICHTHYS.* p. 138.

FF. Either dorsal and anal spine usually present or sometimes absent; 10-14 branched ray in dorsal; origin of anal opposite posterior margin of dorsal. Pharyngeal teeth 1-row; intestine long; body oval and strongly compressed ....(Sub-family RHODEINAE).

a. Lateral line incomplete. No spine in dorsal and anal.

b. Pharyngeal teeth 5-5 not serrated; more than 7 branched rays in anal .....*RHODEUS.* p. 176.

bb. Pharyngeal teeth 5-4 slightly serrated..*PARARHODEUS.* p. 179.

bbb. Pharyngeal teeth 5-5 deeply serrated ....*PSEUDOPERILAMPUS.* p. 182.

aa. Lateral line complete. Spine in dorsal and anal present or absent.

b. No spine in dorsal and anal.

c. Pharyngeal teeth 5-5 not serrated ....*ACHEILOGNATHUS.* p. 182.

cc. Pharyngeal teeth 5-5 deeply serrated .... *PARACHEILOGNATHUS*

bb. Spine in dorsal and anal always present ....*ACANTHORHODEUS.* p. 185.

EE. Margin of jaw with sharp horny edge; a smooth spine in dorsal; barbels absent. D. 7-8, A. 8-12. Pharyngeal teeth 1-, 2-, or 3-rows ....(Sub-family CHONDROSTOMINAE).

a. Pharyngeal teeth 3-rows. Scales in lateral line 50 or more; not keeled or with an incomplete one before anal, but not reaching ventral .....*XENOCYPRIS.* p 139.

aa. Pharyngeal teeth in 1-row. Scales in lateral line about 44-50; abdomen keeled behind ventral .....*PSEUDOBRAMA.* p. 142.

DD. Anal fin with 6-7 (rarely 8,) branched rays; barbels ordinarily present; pharyngeal teeth 1- or 2-rows ....(Sub-family GOBIONINAE).

a. Mouth terminal or subterminal; barbels usually present, no more than 2; pharyngeal teeth 1- or 2-rows.

b. Lower jaw not sharp and not covered by horny coat; barbels present.

c. Anus midway between ventral base and origin of anal or slightly behind.

e. Pharyngeal teeth 2-rows; no spine in dorsal ....*GOBIO*. p. 144.

ee. Pharyngeal teeth 1-row .....*COREIUS*. p. 147.

cc. Anus nearer ventral-base than origin of anal.

e. Dorsal inserted posteriorly. Throat scaleless; pharyngeal teeth 1- or 2-rows .....*PSEUDOGOBIO*. p. 149.

ee. Dorsal inserted anteriorly; throat with only its middle portion scaly or obscure; pharyngeal teeth 1-row; snout prominent .....*SAUROGOBIO*. p. 151.

bb. Lower jaw with a rather sharp horny coat; mouth inferior, small; barbels flat, indistinct or wanting; pharyngeal teeth 1- or 2-rows .....*SARCOCHEILICHTHYS*. p. 154.

aa. Mouth superior; pharyngeal teeth 1- or 2-rows ....*PSEUDORASBORA*. p. 156.

CC. Anal fin with serrated spine; dorsal fin long, usually with not less than 14 branched rays ...(Sub-family CYPRINIDAE).

a. Pharyngeal teeth in 3-rows, the outer molar-like, broad truncate; mouth moderate, terminal with four barbels; dorsal rays 17-22 ....*CYPRINUS*. p. 193.

aa. Pharyngeal teeth in 1-row, the outer molar-like, but compressed; mouth terminal without barbels .....*CARASSIUS*. p. 196.

BB. Anal fin mostly elongate; abdomen ordinarily keeled, if not, the anal fin with 19-21 branched rays (but not in *Hemiculter bleekeri* WARP.) .....(Sub-family ABRAMIDINAE).

a. Mouth terminal or subterminal, but never superior; abdomen keel; air blader 3 division .....*PARABRAMIS*. p. 158.

aa. Mouth superior.

b. Lateral line only gently or anteriorly curved which never forms an angle; pharyngeal teeth 3 rows; anal fin with more than 17, sometimes more than 20 branched rays; scales in lateral line more than 60 .....*CULTER*. p. 163.

bb. Lateral line abruptly bent downwards above the pectoral.

c. Pharyngeal teeth 3 rows; anal fin with more than 20 branched rays; dorsal fin without spine ....*PARAPELECUS*. p. 168.

cc. Pharyngeal teeth 3 rows; anal fin less than 10 branched rays; dorsal fin with spine .....*HEMICULTER*. p. 171.

AA. Position of eye deeply downward in head and near the angle of mouth; supra-branchial organ present ....(Sub-family HYPOPHTHALMICHTHYINAE).

a. Gill rakers free; pharyngeal teeth with a smooth mastigating surface. Post-ventral edge carinated .....*ARISTICHTHYS*. p. 202.

aa. Gill rakers continuous, forming a crescentic horny membrane; pharyngeal teeth with transverse striped mastigating surface; entire abdominal edge carinated .....*HYPOPHTHALMICHTHYS*. p. 200.

Genus **Mylopharyngodon** PETERS

Myloleucus GÜNTHER, 1873, Ann. Mag. Nat. Hist., (4) XII, p. 247.

Type: *Myloleucus aethiops* GÜNTHER=*Leuciscus aethiops* BASILEWSKY. (Preoccup.).

Mylopharyngodon PETERS, 1880, Monatsber, Akad. Wiss. Berlin, p. 926.

Type: *Mylopharyngodon aethiops* PETERS.

8. **Mylopharyngodon aethiops** (BASILEWSKY).

Leuciscus aethiops BASILEWSKY, 1855, Nouv. Mem. Soc. Nat. Moscow, X, p. 233, Pl. VI, fig. 1; North China, (Chihli);—BLKR., 1871, Verh. Akad. Amsterd., XII, p. 1; Yang-tze-kiang; Peking;—BLKR., 1873, Ned. Tijdschr. Dierk., IV, p. 113; "Peculiar to North China."

Myloleucus aethiops GÜNTHER, 1873, Ann. Mag. Nat. Hist., (4) XII, p. 247; Shanghai;—SAUVAGE & DABRY, 1874, Ann. Sci. Nat., (6) I, 5;—GÜNTHER, 1889, Ann. Mag. Nat. Hist., (6) IV, p. 218; Kiu-kiang.

Mylopharyngodon aethiops PETERS, 1880, M. B. Akad. Berlin, XLV, p. 921; Ningpo;—RENDAHL, 1928, Ark. Zool., XX, A, 1, p. 54; Tang-tu-hsien, Anhui; Kiang-ning-hsien, Kiangsu;—CHU, 1930, China. Journ, XIII, 3, p. fig. 1, 1 A; Shanghai;—WU, 1930, Contr. Biol. Lab. Sci. Soc. China, VI, *Z. S.* 5, p. 46; Hunan;—CHU, 1932. Fish. West Lake, p. 8, fig. 2; West Lake.

Myloleucos aethiops KREYENBERG & PAPPENHEIM, 1908, Sitz. Ber. Ges. Natf. Preunde, p. 95;—KREYENBERG & PAPPENHEIM, 1909, Abh. Mus. Nat. Heimatk. Magdeburg, II, p. 1; Hankau.

Myloleuciscus atripinnis GARMAN, 1912, Mem. Mus. Comp. Zool. Harv. Coll., XL, p. 111; Hupei; Shasi;—FOWLER & BEAN, 1920, Proc. U. S. Nat. Mus., LVIII, p. 307; Soochow.

Myloleuciscus aethiops EVERMANN & SHAW, 1927, Proc. Calf. Acad. Sci., (4) XVI, 4, p. 104; Shanghai; Nanking;—TCHANG, 1928, Contr. Biol. Lab. Sci. Soc. China, IV, 4, p. 20, fig. 24; Nanking;—NICHOLS, 1928, Bull. Amer. Mus. Nat. Hist., LVIII, 1, p. 16; Tungting Lake (Hunan);—SHAW, 1930, Bull. Fan. Mem. Inst. Biol., 1, 10, pp. 173, 204; Soochow.

One specimen—No. 12329, Biol. Lab. Sci. Soc. China, June 8 or 9, 1933.

Length to base of caudal 125 mm. Depth in length 3.48; head 3.41. Eye in head 4.6; snout 3.9; interorbital space 2.6; longest ray: dorsal 1.2, pectoral 1.67, ventral 1.6, and 1.6, caudal 1.0; length of caudal peduncle 2.5; height of caudal peduncle 2.4.

Dorsal 3,7; pectoral 1,20, ventral 2,8; anal 3,8. Scales $\frac{43}{6}$ $\frac{}{5\text{-}v}$.

Body elongate, compressed; abdomen rounded; head broad, depressed anterior. Eye rather small; snout depressed, rather obtuse, its length two-third of its width. Interorbital space broad, depressed, but slightly convex. Mouth terminal; maxillary not reaching to below anterior margin of eye; lower

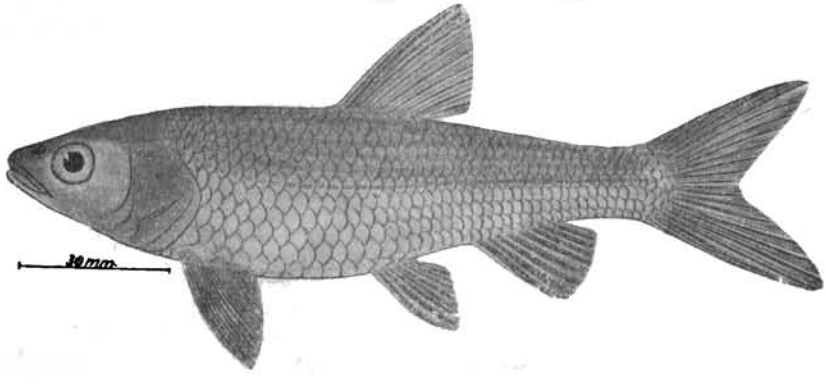

Fig. 8. *Mylopharyngodon aethiops* (BASILEWSKY).

jaw slightly shorter. Gill-opening wide, its membranes jointed at isthmus. Gill rakers rudimentary, fleshy, greatly shorter than filaments.

Dorsal without osseous ray, the first simple ray very short and covered with the skin, the simple ray longest, origin of the dorsal nearer base of caudal than the tip of snout, the tips of pectoral fin far from reaching the ventral, which is slightly shorter than the former. Origin of ventral slightly behind that of dorsal; its tips far from reaching the vent; origin of anal situated posteriorly at the tip of dorsal. Caudal fin forked, lobes equal.

Scales large; lateral line slightly decurved, extending along the middle of tail.

Pharyngeal teeth in 1 row, 4-5, strong, short, conic, all molar-like, with broad grinding surfaces.

COLOUR in formalin—Body dusky with distinct paler blotches. Ventral surface of head and abdomen light yellow. Fins blackish.

DISTRIBUTION—This species is a common and abundant in ponds, rivers and lakes of eastern China peculiar to north China (Mellendorff 1877).

REMARKS—This species is a common food-fish in our North and East China.

Another specimen was collected during the summer of 1933: No. 12328.

Genus **Ctenopharyngodon** STEINDACHNER.

Ctenopharyngodon STENDACHNER, 1866, Verh. Zool.-Bot. Ges. Wien, p. 782.

Type: *Ctenopharyngodon laticeps* STEINDACHNER= *Lenciscus idella* CUVIER & VALERCIENNES.

9. **Ctenophargngodon idella** (CUVIER & VALENCIENNES).

Leuciscus idella CUVIER & VALENCIENNES, 1844, Hist. Nat. Poiss., XVII, p. 362; (Chinese drawing);—RICHARDSON, 1846, Ichth. China, p. 297; Canton;—BLEEKER, 1871, Mem. Cyprin. China, p. 47; Canton, Yangtze-Kiang.

Leuciscus chiliensis BASILEWSKY, 1855, Nouv. Mem. Soc. Nat. Mosc., X, p. 233; Northern China.

Ctenopharyngodon laticeps STEINDACHNER, 1866, Verh. Zool.-Bot. Ges. Wien., Taf. XVIII, p. 782, fig. 1-5; Hongkong.

Ctenopharyngodon idellus GÜNTHER, 1868, Cat. Fish., VII, p. 261; China;—GÜNTHER, 1873, Ann. Mag. Nat. Hist., (4) XII, p. 247; Shanghai;—PETERS, 1880, Monatsb. Königl. Ak. Berlin, p. 926; China;—JORDAN & EVERMANN, 1903, Proc. U. S. Nat. Mus., XXV, p. 322; Taihoku, Formosa;—BERG, 1909, Ichth. Amur., p. 120; Amur;—SAUVAGE & DABRY, 1874, Ann. Sci. Nat., (6) I, 5;—GÜNTHER, 1888, Ann. Mag. Nat. Hist., (6) I, p. 430; Yangtze-Kiang;—GARMAN, 1912, Mem. Mus. Comp. Zool. Harv. Coll., XL, p. 111;—RENDAHL, 1928, Ark. Zool., XX, A, 1. p. 55; Tai-ping-fu, Anhui; Nei-Chiang; Yangtze-Kiang, Nanking, Kiangsu;—JORDAN & RICHARDSON, 1909, Mem. Carneg. Mus., IV, 4, p. 169; Formosa;—OSHIMA, 1919, Ann. Carnegie Mus. Formosa, XII, 2-4, p. 229; Formosa;—NICHOLS, 1928, Bull. Amer. Mus. Nat. Hist., LVIII, 1, p. 16; Tungting Lake (Hunan); near Canton;—SHAW, 1930, Bull. Fan. Mem. Inst. Biol., I, 10, pp. 174, 175, 204, fig. 8; Soochow;—CHU, 1930, Chin. Journ., XIII, 3, p. 142, Fig. 2, 2a; Shanghai;—CHU, 1932, Fish. West Lake, p. 9, fig. 3;—FU & TCHANG, 1933, Bull. Honan Mus., I, 1, p. 15; fig. 15; Kaifeng.

One specimen—No. 3243, Mus. Biol. Lab. Sci. Soc. China, April 23, 1930.

Length to base of caudal 192 mm. Depth in length 3.9; head 3.8. Eye in head 5.8; snout 3.2; interorbital space 1.9; longest ray: dorsal 1.4, pectoral 1.5, ventral 1.9, anal 1.9, length of caudal peduncle 2.2; height of caudal peduncle 2.0.

Dorsal 3,7; pectoral 1,19; ventral 8; anal 3,8. Scales $38\frac{6}{4\text{-v}}$.

Body moderately elongate and compressed; head depressed toward tip of snout, a little deeper than wide posteriorly, mouth horizontal and terminal; mouth angle below the anterior nostril which is located nearer to the eye than to the tip of the snout, provided with an oblong valve to cover the posterior one; eye lateral and anterior, interorbital space wide, distinctly arched.

Gill membranes confluent and then attached to the isthmus. Gill raker conical, 12 in lower part of anterior arc.

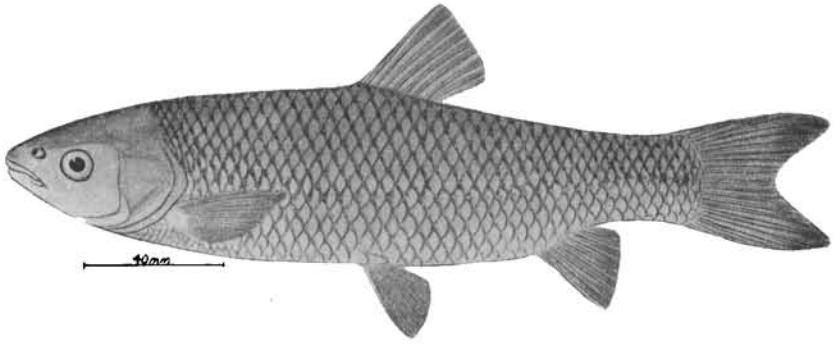

Fig. 9. *Ctenopharyngodon idella* (UVIER & VALENCLENNES).

Dorsal fin originated slightly nearer to the base of caudal than tip of the snout, without ossified ray, its posterior margin slightly convex. Pectoral fin with upper margin on the level of lower border of eye, extending nearly ½ to origin of ventral. Ventral fin commencing nearly below the middle of the base of dorsal, reaching 3/5 to origin of anal which is entirely behind the dorsal fin, not quite reaching to the base of the caudal fin. Caudal deeply forked.

The lateral line nearly straight, its anterior part slightly decurved upwards. Scales large, a scaly flap on the base of ventral.

Pharyngeal teeth compressed, serrated, 4.2—1.4.

COLOUR in formalin—Blackish above, scales in upper side with blackish margin, fins dusky.

DISTRIBUTION—The species is distributed along the coastal region of China; in the Yangtse River it seems to be rare further West from I-Chiang.

Another specimen was collected in June, 1933. No. 12319.

Genus **Ochetobius** GÜNTHER

Ochetobius GÜNTHER, 1868, Cat. Fish., VIII, p. 297.
Type: *Opsarius* (?) *elongatus* KNER.

10. Ochetobius elongatus (KNER).

Opsarius (?) *elongatus* KNER, 1867, "Novara", Fishe, p. 358, Pl. XV, fig. 1; Shanghai.

Ochetobius elongatus GÜNTHER, 1868, Cat. Fish. B. M., VII, (After KNER);—BLEEKER, 1871, Verh. Akad. Amsterd., XII, p. 1;—BLEEKER, 1873, Ned. Tijd. Dierk, IV, p. 113;—PETERS, 1880, M. B. Akad. Berlin, XLV, p. 1029; Hongkong;—GÜNTHER, 1888, Mag. Nat. Hist., (6) I, p. 429; Yangtse-Kiang;—KNEYENBERG & PAPPENHEIM, 1908, Sitz. Ber. Ges. Natz. Preunde, p. 95;—KREYENBERG & PAPPENHEIM, 1909, Abh. Mus. Nat. Heimatk. Magdeburg, II, p. 1; Tungting Lake, (Hunan);—FOWLER, 1924, Bull. Amer. Mus. Nat. Hist., L, p. 373; Ningpo.

Squaliobarius elongatus GARMAN, 1912, Mem. Mus. Comp. Zool. Harv. Coll., XL, p. 111; Yangtse-Kiang;—NICHOLS, 1928, Bull. Amer. Mus. Nat. Hist., LVIII, p. 17; Tungting Lake (Hunan); Anhwei.

Barilius (*Ochetobius*) *elongatus* (KNER), RENDAHL, 1927, Ark. Zool., XX, A, 1, p. 63;—WU, 1930, Contr. Biol. Lab. Sci. Soc. China, VI. *Z. S.*, 5, p. 47; Hunan.

One specimen.—No. 12333, Mus. Biol. Lab. Sci. Soc. China, June 8 or 9, 1933.

Length to base of caudal 160 mm. Depth in length 6.35; head 4.77. Eye in head 5.25; snout 3.86; interorbital space 3.40; longest ray: dorsal 1.27, pectoral 1.47, ventral 1.65, anal 2.12, caudal peduncle 0.83; length of caudal peduncle 2.47; height of caudal peduncle 2.23.

Dorsal 2, 9; pectoral 1,16; ventral 1,9; anal 2,9. Scales $71\frac{11}{5\frac{1}{2}\text{-V}}$.

Body greatly elongate, slightly compressed, dorsal and ventral profiles rounded. Head somewhat conical, also much elongate and compressed. Eye large, anterior, and superolateral. Snout pointed, its length a little longer than half of post-orbital portion of head; interorbital space broad and convex; nostrils close together of each side, a depression in median and front of eyes. Mouth terminal, oblique, its cleft extending to beyond anterior margin of eye; barbel absent. Gill-

membranes free from isthmus joining behind the vertical from the posterior margin of eye; gill rakers 8+22, the longest nearly equal its filaments; gill opening large.

Dorsal fin without spinous ray, its origin slightly nearer the tip of ventral slightly in front of dorsal; anal fin inserted nearer base of caudal than that of ventral; caudal fin deeply forked.

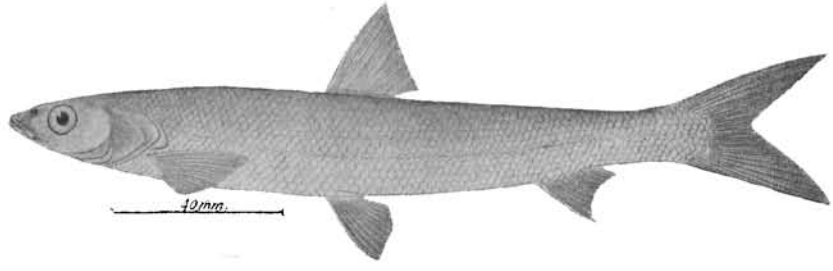

Fig. 10. *Ochetobius elongatus* (KNER).

Scales moderate, lateral line decurved, running low at the sides of the body, extending to the middle of base of the caudal.

Pharyngeal teeth in 2 rows, 5.4-, in left side.

COLOUR in formalin—Brownish scales in upper half of side with margins dusky.

DISTRIBUTION—Yangtse Valley; Ningpo; Hongkong.

Genus **Squaliobarbus** GÜNTHER

Squaliobarbus GÜNTHER, 1868, Cat. Fish., VII, p. 297.
Type: *Leuciscus curriculus* RICHARDSON.

11. **Squaliobarbus curriculus** (RICHARDSON).

For description see TCHANG, 1928, Contr. Biol. Lab. Sci. Soc. China, IV, 4, p. 7.

Leuciscus curriculus RICHARDSON, 1846, Rep. XV, Meet. Brit. Assoc., (1845), p. 299; Canton.

Leuciscus teretiusculus BASILEWSKY, 1855, Nouv. Mém. Soc. Imp. Nat. Moscow, X, p. 215, and (Addenda) 259.

Rasbora tereiuscula BLEEKER, 1864, Ned. Tijd. Dierk., II. p. 18; China.

Squaliobarbus curriculus GÜNTHER, 1868, Cat. Fish. B. M., VII; Canton; China;—BLEEKER, 1871, Verh. Akad. Amsterd., XII, p. 1; Ningpo; Yangtse-kiang; Kiu-kiang Lake;—GÜNTHER, 1873, Ann. Mag. Nat. Hist., (4) XII, p. 239; Shanghai;—BLEEKER, 1873, Ned. Tijd. Dierk., IV, p. 113;—MÖLLENDORFF, 1877, Journ. North-China Branch Roy. Asiat. Soc., Shanghai, n. s. 11, p. 105 ("The most widely distributed species of the Chinese leucisciui; it has been observed in Canton, Ningpo, Shanghai, Kiu-Kiang, Sse-ch'uan, Tientsin, Peking, and lately by Prshevalsky in Mongolia");—GÜNTHER, 1888, Ann. Mag. Nat. Hist., (6) I, p. 429; Ichang;—RUTTER, 1897, Proc. Acad. Nat. Sci. Philad., p. 56; Swatow;—KREYENBERG & PAPPENHEIM, 1908, Sitz. Ber. Ges. Natf. Grunde, p. 85;—KREYENBERG & PAPPENHEIM, 1909, Abh. Mus. Nat. Heinatk. Magdeburg, II, p. 1; Hankow;—GANMAN, 1912, Mem. Mus. Comp. Zool. Harv. Coll., LX, p. 111; Ichang;—RENDAHL, 1928, Ark. Zool., XX, A, 1. p. 63; Ching-shan-ho, Tang-tu-hsien, Anhui; Ping-lu-hsien, Shansi; Nanking, Kiangsu; Teichen;—TCHANG, 1928, Contr. Biol. Lab. Sci. Soc. China, IV, 4, p. 7, fig. 9; Nankng;—NICHOLS, 1928, Bull. Am. Mus. Nat. Hist., LVIII, 1. p. 16; Shansi; Tungting Lake (Hunan); Fukien;—CHU, 1930, China Journ., XIII, 3, p. 144, fig. 3, 3A; Shanghai;—SHAW, 1930, Bull. Fan. Mem. Inst. Biol., I, 10, pp. 1714, 175, 204, fig. 9; Soochow;—WU, 1931, Contr. Biol. Lab. Sci. Soc. China, VII, *Z. S.*, 1, p. 7; Foochow.

One specimen—No. 12367, Mus. Biol. Lab. Sci. Soc. China, June 8 or 9, 1933.

Length to base of caudal 96.6 mm. Depth in length 4.76; head 4.0. Eye 4.46 in head; snout 3.57; interorbital space 2.73; longest ray: dorsal 1.25, pectoral 1.38, ventral 1.6, anal 1.79, caudal 0.92; length of caudal peduncle 1.6; height of caudal peduncle 2.1.

Dorsal 2,7; pectoral 1,16; ventral 1,8; anal 3,8. Scales 48 $\frac{7}{3\frac{1}{2}\text{-v}}$ Barbels 2, each at the corner of its mouth.

DISTRIBUTION—This species is a common food-fish and widely distributed in China.

Other seven specimens were collected No. 3207 (in 1930), 12368-12369, 12413, 20004-20007 (in 1933).

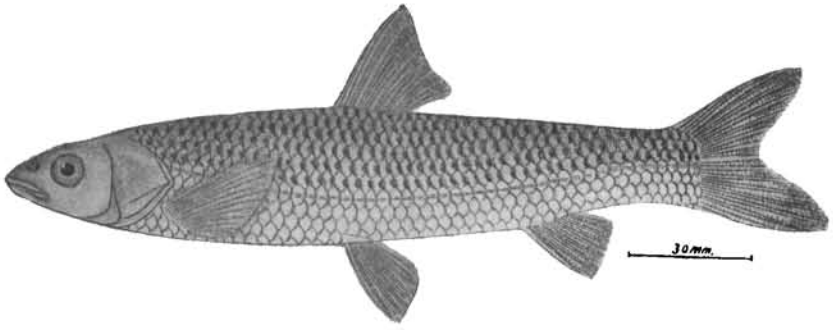

Fig. 11. *Squalibarbus curriculus* (RICHARDSON).

MEASUREMENTS OF *SQUALIOBABBUS CURRICULUS* (RICH.).

Number in Mus. Biol. Lab. Sci. Soc. China.			12413	20004	20005	20006	20007
Date			VI,'33	VI,'33	VI,'33	VI,'33	VI,'33
Total length in mm. (without caudal).			38.5	70	60.5	60.5	52.5
In length without caudal	Head		4.78	3.94	3.81	3.77	3.81
	Depth		4.615	4.57	4.89	4.84	4.85
In Length of Head	Length of snout		3.91	4.62	3.91	4.00	4.00
	Diameter of eye		3.83	3.40	3.78	3.72	3.62
	Interorbital space		2.80	2.70	2.77	2.64	2.84
	Longert rays	Dorsal	1.31	1.24	1.26	1.24	1.27
		Pectoral	1.61	1.37	1.34	1.30	1.40
		Ventral	1.60	1.62	1.66	1.54	1.71
		Anal	1.92	1.80	2.10	1.80	1.77
		Caudal	1.49	1.00	0.87	?	1.03
	Caudal peduncle	Length	1.81	1.50	1.52	1.59	1.54
		Height	2.46	1.91	2.05	1.77	1.16
Number of rays	Dorsal		2,7	3,7	3,7	3,7	3,7
	Pectoral		?	1,17	1,16	1,16	1,16
	Ventral		1,8	1,8	1,8	1.8	1,8
	Anal		3,8	3,8	3;8	3,8	3,8
Scales	Lateral		42	45+1	46	44	44
	Transverse		3/7-v	3/7-v	3/7-v	3/7-v	3/7-v
Pharyngeal teeth			3 rows 2.4.4				
Gill rakers							

Genus **Elopichthys** BLEEKER.

Elopichthys BLEEKER, 1859, Nat. Tijd. Ned. Ind., XX, p. 436.
Type: *Leuciscus bambusa* RICHARDSON.

12. **Elopichthys bambusa** (RICHARDSON).

For description see WU, 1931, Contr. Biol. Lab. Sci. Soc. China, VII, *Z. S.*, 1, p. 8.

Leuciscus bambusa RICHARDSON, 1844, Voy. Sulph. Ichth., p. 141. Pl. LXIII, fig. 2; Canton.

Nasus Dahuricus BASILEWSKY, 1855, Nouv. Mém. Soc. Imp. Nat. Moscou, X, p. 215, and (Addenda) 259; ("In Pekinum Hieme ex Mongolia et Mantschuria Congelatus apportatus").

Elopichthys bambusa BLEEKER, 1864, Ned. Tijd. Dierk., II, p. 19 and 27; China;—EVERMANN & SHAW, 1927, Proc. Calif. Acad. Sci., (4) IV, 4, p. 109; Nanking;—RENDAHL, 1928, Ark. Zool., XX, A, 1, p. 64; Tang-hu, Kiang-ning-hsien, Kiangsu;—NICHOLS, 1928, Bull. Amer. Mus. Nat. Hist., LVIII, I, p. 17; China;—CHU, 1930, China Journ., XIII, 3, p. 145, fig. 4, 4A; Shanghai;—NICHOLS, 1930, Peking Nat. Hist., Bull., V, 2, p. 20; China;—WU, 1931, Contr. Biol. Lab. Sci. Soc. China, VII, *Z. S.*, 9, p. 8; Foochow;—TCHANG & SHAW, 1931, Bull. Fan Mem. Inst. Biol., II, 15, p. 289, fig. 6; Hopei;—LIN, 1932, Lingn. Sci. Journ; XI, I, p. 66; Heungchow Bay, Canton;—FU & TCHANG, 1933, Bull. Honan Mus., I, 1, p. 16; Honan, Kaifeng;—WANG, 1933, Contr. Biol. Lab. Sci. Soc. China, IX, *Z. S.*, 1, p. 21; Shangtung.

Elopichthys danrigus BLEEKER, 1875, Proc. Zool. Soc. London, p. 534, Pl. IX;—MÖLLENDORFF, 1877, Journ. Roy. Asi. Soc., II, p. 109; Chihli.

Scombrocypris styani GÜNTHER, 1889, Ann. Mag. Nat. Hist., (6) IV, p. 226; Kiu-Kiang.

One specimen—No. 3244, Mus. Biol. Lab. Sci. Soc. China, April 22, 1930.

Length to base of caudal 282 mm. Depth in length 5.7; head 3.9. Eye in head 8.3; snout 3.3; interorbital space 3.9; longest ray: dorsal 1.7, pectoral 1.5, ventral 2.1, anal 2.2, caudal 1.0; length of caudal peduncle 1.9; height of caudal peduncle 2.4.

Dorsal 2,10; pectoral 18; ventral 10; anal 3,10. Scales 115 $\frac{19}{6\text{-v}}$.

Pharyngeal teeth 4.4.2—1.4.4. Gill rakers 10 in lower part of anterior arc.

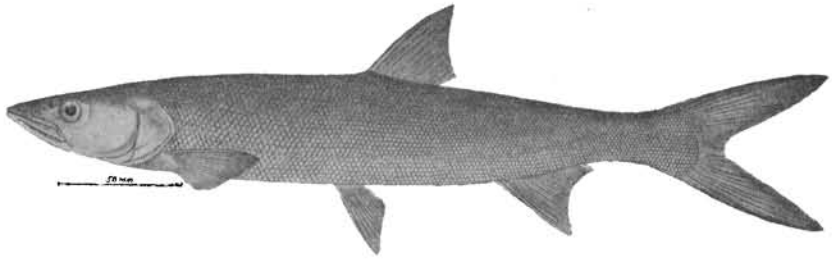

Fig. 12. *Elopichthys bambusa* (RICHARDSON).

DISTRIBUTION—It is very common in the southeastern and northeastern parts of China, it is probably also distributed in Indo-China recently. HERRE et MYERS consider that *Gymnognathus harmandi* of SAUVAGE is a synomym of this species.

Genus **Xenocypris** GÜNTHER

Xenocypris GÜNTHER, 1868, Cat. Fish., VII, p. 205.
Type: *Xenocypris argentea* GÜNTHER.

13. **Xenocypris argentea** GÜNTHER

For description see WU, 1931, Contr. Biol. Lab. Sci. Soc. China, *Z. S.*, VII, 1, p. 23.

Xenocypris argentea GÜNTHER, 1868, Cat. Fish. B. M., VII, p. 205; China;—BLEEKER, 1871, Verh. Akad. Amsterd., XII, p. 1; China;—BLEEKER, 1873, Ned. Tijd. Dierk., IV, p. 113; China;—PETERS, 1880, M. B. Akad. Berlin, XLV, p. 1029; China; Ningpo; Hongkong;—GÜNTHER, 188, Ann. Mag. Nat. Hist., (6) I, p. 430; Yangtse-Kiang;—GÜNTHER, 1889, Ann. Mag. Nat. Hist., (6) IV, p. 225; ("I am unable to distinguish from it *Xenocypris Davidi* BLEEKER."); Upper Yangtse Kiang;—RUTHER, 1897, Proc. Acad. Nat. Sci. Philad., p. 56; Swatow;—TCHANG, 1928, Contr. Biol. Lab. Sci. Soc. China, IV, 4, p. 14, fig. 17; Nanking;—NICHOLS, 1928, Bull. Amer. Mus. Nat.

Hist., LVIII, 1, p. 22;—TCHANG, 1930, Contr. Etud. Morph. Biol. Toxim. Cypr. Bass. Yangtse, p. 101; Sze-tchuan et Nanking;—NICHOLS, 1930, Peking Nat. Hist. Bull., V, 2, p. 20;—RENDAHL, 1928, Ark. Zool., XX, A, 1, p. 69; Chihli, Tungchow, Lai-Shui-Hsien, Hsiang-Chia-Wan; Kiangsu, Kiang-Ning-Hsien;—WU, 1931, Contr. Biol. Lab. Sci. Soc. China, VII, *Z. S.*, 1, p. 23; Foochow;—WU, 1931, Bull. Mus. Paris, III, 5, p. 434; Tchekiang.—WU, and WANG, 1931, Contr. Biol. Lab. Sci. Soc. China, VII, *Z. S.*, 6, p. 224; Upper Yangtse Valley, Wushan and Chungkiang;—CHU, 1932, Fish. West Lake, p. 15, fig. 7.

Xenocypris macrolepis BLEEKER, 1871, Verh. Akad. Amsterd., XII, p. 53, Pl. V, fig. 2; Yangtse-Kiang;—BLEEKER, 1873, Ned. Tijd. Dierk., IV, p. 113;—MÖLLENDORFF, 1877, Journ. North China Branch Roy. Soc. Shanghai, 1877, n. s. 11, p. 105, Chihli;—KREYENBERG & PAPPENHEIM, 1908, Sitz. Ber. Ges. Natf. Freunde, p. 95; Tungting Lake;—KREYENBERG & PAPPENHEIM, 1909, Abh. Mus. Nat. Heimatk. Magdeburg, II, p. 1.

Xenocypris güntheri SAUVAGE & DABRY, 1874, Ann. Sci. Nat., (6) I, 5; (nom. pro. *X. argentea* GÜNTHER), China.

Xenocypris tapeinosoma BLEEKER, 1871, Verh. Akad. Amsterd., XII, p. 53, Table XI, fig. 1; Yangtse-Kiang;—BLEEKER, 1873, Ned. Tijd. Dierk., IV, p. 89.

Xenocypris davidi BLEEKER, 1871, Verh. Akad. Amsterd., XII, p. 56; Yangtse-Kiang;—BLEEKER, 1873, Ned. Tijd. Dierk., IV, p. 113;—SAUVAGE & DABRY, 1874, Ann. Sci. Nat., (6) I, 5;—KREYENBERG & PAPPENHEIM, 1908, Sitz., Ber. Ges. Natf. Freunde, p. 95; Tungting Lake;—KREYENBERG & PAPPENHEIM, 1909, Abh. Mus. Nat. Heimatk. Magdeburg, II, p. 1; Tungting Lake;—FOWLER, 1924, Bull. Amer. Mus. Nat. Hist., L. p. 373; Ningkwo.

Xenocypris aenea SAUVAGE & DABRY, 1874, Ann. Sci. Nat., (6) I, 5, p. 8; China.

Xenocypris lampertii POPTA, 1908, Zool. Anz., XXXII, p. 243; Kaiserkanal.

Xenocypris nitidus GARMAN, 1912, Mem. Mus. Comp. Zool. Harv. Coll., XL, 4, p. 117; Hupeh, Shasi.

Xenocypris insularis, NICHOLS & POPE, 1927, Bull. Amer. Mus. Nat. Hist., LIV, 2, p. 363; ("This is very likely what OSHIMA (1926) has identified with the widely distributed *X. davidi* BLEEKER, to which it is close").

One specimen—No. 3241. Mus. Biol. Lab. Sci. Soc. China, April 22, 1930.

Length to base of caudal 88 mm. Depth in length 4.0; head 4.6. Eye in head 3.4; snout 3.4; interorbital space 2.7; longest rays; dorsal 1.0, pectoral 1.1, ventral 1.4, anal 1.9, caudal 0.9; length of caudal peduncle 1.8; height of caudal peduncle, 1.9.

Dorsal II, 7; pectoral 18; ventral 9; anal III, 9. Scales 58 $\frac{11}{5\frac{1}{2}\text{-v}}$.

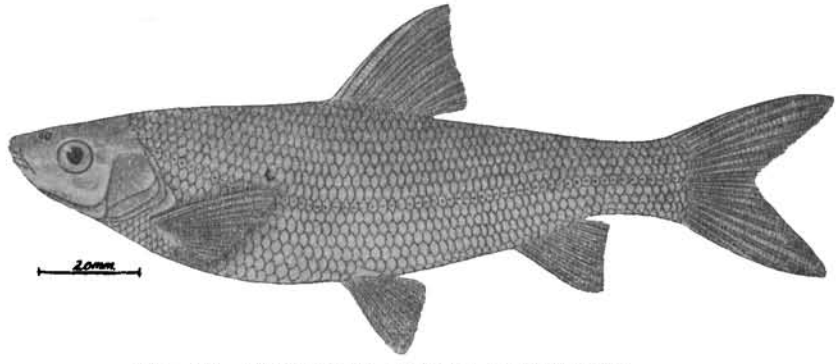

Fig. 13. *Xenocypris argentea* GUNTHER.

Dorsal fin commencing about in midway between tip of snout and base of caudal; pectoral fin short and inserted low, terminating far from the ventral which is also short and beginning posterior to the dorsal origin; anal fin commencing nearer base of caudal than that of the ventral; caudal fin deeply forked, the lower lobe slightly longer.

The lateral line slightly decurved anteriorly.

Pharyngeal teeth in 3-rows, compressed, with oblique chewing surface.

DISTRIBUTION—This species is very common in the lower Yangtse Valley. The specimen noted here is fairly typical.

Other two were collected in 1933: No. 12344, 12346.

Genus **Pseudobrama** BLEEKER

Pseudobrama BLEEKER, 1870, Versl. Akad. Amsterd., (2), IV, p. 253.

Type: *Pseudobrama dabryi* BLEEKER.

14. **Pseudobrama dumerili** BLEEKER.

Pseudobrama dumerili BLEEKER, 1871, Verh. Akad. Amst., XII, p. 1; Yangtse-Kiang;—BLEEKER, 1893, Ned. Tijd. Dierk., IV, p. 113;—SAUVAGE & DABRY, 1874, Ann. Sci. Nat., (6) Zool. & Paleont, I, 5, p. 1;—FOWLER, 1924, Bull. Amer. Mus. Nat. Hist., L, p. 373; Ningkwo;—RENDAHL, 1928, Ark. Zool., XX, A, 1, p. 71; Chihli, Lai-shui-hsien, Hsiang-chia-wan;—MORI, 1928, Japan. Journ. Zool., II, 1, p. 69; Tsinan, China.

?*Acanthobrama simoni* BLEEKER, 1864, Ned. Tijd. Dierk., II, p. 18; China.

?*Xenocypris simoni* BLEEKER, 1871, Verh. Akad. Amst., XII.

One specimen—No. 12347, Mus. Biol. Lab. Sci. Soc. China, June 8 or 9, 1933.

Length to base of caudal 100 mm. Depth in length 3.75; head 4.5. Eye in head 4.0; snout 3.3; interorbital space 2.6; longest ray: dorsal 1.0, pectoral 1.05, ventral 1.3, anal 1.8, caudal 0.79; length of caudal peduncle 1.4; height of caudal peduncle 1.7.

Dorsal III, 7; pectoral 15; ventral 18; anal 3,9. Scales $\frac{50}{8\frac{1}{2}\text{-v}}$.

Body elongate, compressed; abdomen round in front of ventral and keeled behind the latter. Head small, nape and back elevated. Eye large, anterior, lateral, its diameter equal to the length of snout which is bluntly pointed; interorbital space broad and convex. Mouth small, inferior, transverse; maxillary longer than mandible, extending below the anterior margin of the anterior nostril. Gill-membranes joining to isthmus under the posterior margin of preopercle; gill rakers thin, more than 50 in the anterior arc.

Dorsal fin with osseous spines, the first ray short the third one longest but soft at the tip; its origin nearer tips of snout than base of caudal. Pectoral pointed; upper rays longest, not reaching ventral about ¾ in the distance between origin of them. Origin of ventral slightly in advance of that of dorsal. Anal fin commencing just behind tip of dorsal. Caudal fin deeply forked.

Pharyngeal teeth in one rows, 5-5, compressed.

Scales thin, moderate; lateral line complete and decurved.

COLOUR in formalin—Yellowish brown, dorsal profile of head, caudal fin and dorso-lateral of body with dusky; pectoral, ventral and anal fins white.

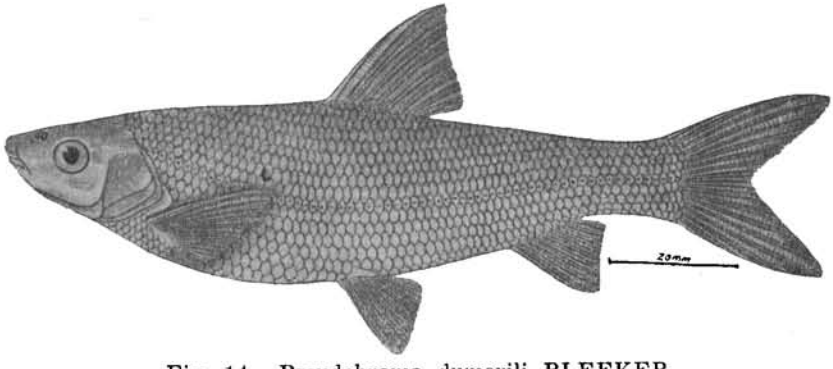

Fig. 14. Pseudobrama dumerili BLEEKER.

DISTRIBUTION—Yangtse Valley; Tsinan.

Other six specimens were collected in 1933.

MEASUREMENTS OF SPECIMENS OF *PSEUDOBRAMA DUMERILI* BLEEKER.

Number in Mus. Biol. Lab. Sci. Soc. China.		12343	12345	20000	20001	20002	20003
Date		VI,'33	VI,'33	VI,'33	VI,'33	VI,'33	VI,'33
Total length in mm. (without daudal)		101	115	94	85.5	75	65.5
In length without caudal.	Head	4.36	3.55	3.41	4.41	4.40	4.20
	Depth	3.61	3.22	3.62	3.20	3.15	3.53

In length of head	Snout		4.00	4.00	4.00	4.00	4.00	4.00
	Eye		3.23	3.31	3.24	3.30	3.30	3.60
	Interorbital		2.78	2.63	2.78	2.85	2.81	2.83
	Longest rays	D	0.99	1.02	1.09	1.04	1.10	1.03
		P	1.14	1.13	1.20	1.22	1.26	1.24
		V	1.35	1.34	1.38	1.35	1.42	1.39
		A	1.75	1.80	1.98	1.77	2.03	1.80
		C	0.75	0.79	0.81	0.81	—	0.82
	Caudal Peduncle	L	1.37	1.34	1.45	1.39	1.42	1.52
		H	1.65	1.52	1.68	1.50	1.77	1.82
Number of rays	Dorsal		II,7	II,7	II,7	II,7	II,7	II,7
	Pectoral			1,14				
	Ventral		1,8	1,8	1,8	1,8	1,8	1,8
	Anal		3,10	3,10	3,10	3,10	3,10	3,10
Scales	Lateral		45	48	45	44	44	46
	Transverse		9/4-v	9/4½-v	9/4-v	9/4½-v	9/4½-v	9/4½-v
Pharyngeal teeth			5-5					
Gill rakers.			more than 50					

Genus **Gobio** CUVIER

Gobio CUVIER, 1817, Regne Animal, II, p. 193.
Type: *Cyprinus gobio* LINNAEUS.

15. **Gobio argentatus** SAUVAGE & DABRY.

For description see WU and WANG, 1931, Contr. Biol. Lab. Sci. Soc. China, VII, *Z. S.*, 6, p. 226.

Gobio argentatus SAUVAGE & DABRY, 1874, Ann. Sci. Nat., (6) I, 5, p. 9; Yangtse-Kiang;—KREYENBERG & PAPPENHEIM, 1908, Sitz. Ges. Natg. Freunde, Berlin, p. 95; Tungting Lake; Hankau;—KREYENBERG & PAPPENHEIM, 1909, Abh. Mus. Nat. Heimatk. Magdeburg, II, p. 1; Tungting Lake; Hankau;—RENDAHL, 1928, Ark. Zool., XX, A, 1, p. 77; Honan, Yüan-chü-hsien, Ssu-shui-hsien;—WU, 1931, Bull. Mus. Paris, III, 5, p.

435; Tchekiang;—WU & WANG, 1931, Contr. Biol. Lab. Sci. Soc. China; VII, *Z. S.*, 6, p. 226; Katin.

Gnathopogon argentatus NICHOLS, 1928, Bull. Amer. Mus. Nat. Hist., LVIII, 1, p. 34; Tungting Lake (Hunan).

One specimen—No. 12391, Mus. Biol. Lab. Sci. Soc. China, June 8 or 9, 1933.

Length to base of caudal 75 mm. Depth in length 4.3; head 4.31. Eye in head 3.27; snout 2.81; interorbital space 3.23; longest ray: dorsal 1.07, pectoral 1.16, ventral 1.39, anal 1.56, caudal 0.92; length of caudal peduncle 1.27; height of caudal peduncle 2.2.

Dorsal 2,7; pectoral 16; ventral 1,7; anal 2,6. Scales 41 $\frac{4\frac{1}{2}}{2\text{-v}}$.

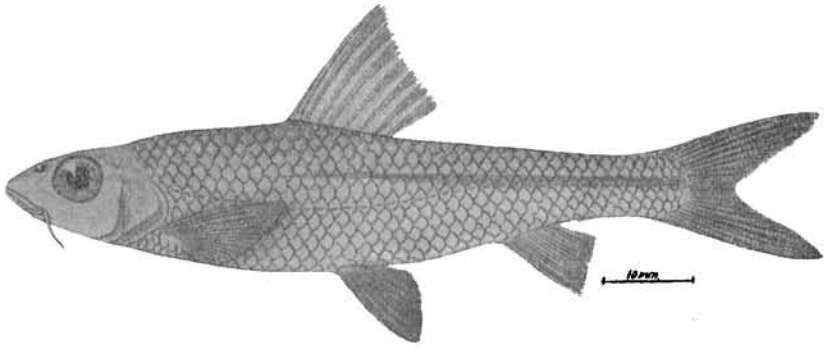

Fig. 15. *Gobio argentatus* SAUVAGE & DABRY.

DISTRIBUTION—Yangtse Valley and Honan.

Other eight specimens were collected in 1933: No. 12392, 12394-12400.

16. **Gobio (Leucogobio) imberbis** (NICHOLS)

Leucogobio imberbis NICHOLS, 1925, Amer. Mus. Novitates, 185, p. 6; Ningkow, Anhwei.

Gobio (*Leucogobio*) *imberbis* RENDAHL, 1928, Ark. Zool., XX, A, I. p. 82; Yüan-chü-hsien, Shansi.

Gobio (*Leucogobio*) *imberbis* NICHOLS, 1928, Bull. Amer. Mus. Nat. Hist., LVIII, I, p. 34.

One specimen—No. 3242, Mus. Biol. Lab. Sci. Soc. China, April 22, 1930.

Length to base of caudal 66 mm. Depth in length 3.78; head 3.87. Eye in head 4.24; snout 3.25; interorbital space 3.56; longest ray: dorsal 0.8, pectoral 1.3, ventral 1.4, anal 1.6, caudal 1.0; length of caudal peduncle 1.6; height of caudal peduncle 2.5.

Dorsal 2,7; pectoral 15; ventral 17; anal 2,7. Scales 35 $\frac{4\frac{1}{2}}{3\text{-v}}$.

Body slightly elongate, moderately compressed; back elevated. Head rather pointed, moderately large in size; its dorsal profile flat; the nape slightly gibbous. The eye large, anterior, supero-lateral; snout bluntly pointed, which is longer than eye; interorbital broad and flat, equal to snout. Mouth terminal, slightly oblique; maxillary extending to below the posterior nostril, but not reaching the eye. A. pair of short barbles, one on its side. Gill membranes narrowly jointed to the isthmus under the posterior margin of eye.

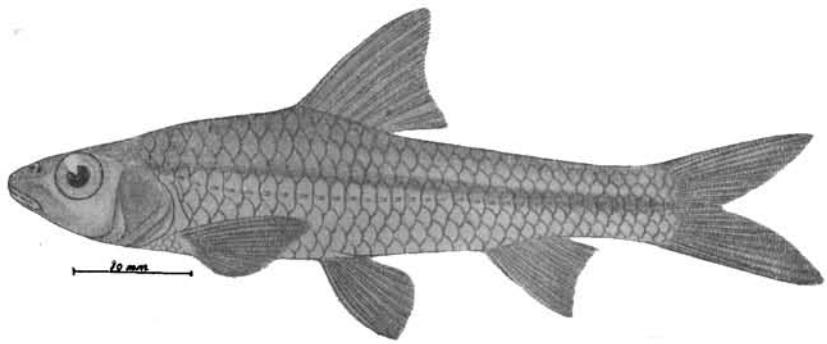

Fig. 16. *Gobio imberbis* NICHOLS.

Origin of dorsal about midway between tip of snout and base of caudal. Ventral fin situated posterior to the origin of dorsal. Anal fin commencing nearer the base of caudal than the origin of ventral. Caudal fin is deeply forked.

Lateral line nearly striaght.

Pharyngeal teeth 2 rows, 5.2 or 3, rather stout, slightly hooked.

COLOUR in formalin—Body grayish white, slightly dusky along the middle of the lateral surface; dorsal and caudal fins covered with oblique lines; anal and ventral fins are slightly dusky.

DISTRIBUTION—Yangtse-Kiang and Shansi.

Another one specimen was collected in 1933: No. 12482.

Genus **Coreius** JORDAN & STARKS

Coreius JORDAN & STARKS, 1905,Proc. U. S. Nat. Mus., XXVIII, p. 197.

Type: *Labeo cetopsis* KNER.

17. **Coreius styani** (GÜNTHER)

Pseudogobio styani GÜNTHER, 1889, Ann. Mag. Nat. Hist., (6) IV, p. 224; Kiu-Kiang.

Coripareius styani, NICHOLS, 1925, Amer. Mus. Novitates, 181, p. 1, Huping, Tungting Lake, Hunan;—RENDAHL 1928, Ark. Xool., XX, A, I, p. 88.

?*Zezera rathbundi* JORDAN & SEALE, 1906, Proc. U. S. Nat. Mus., XXIX, p. 518; Shanghai.

Coreius styani NICHOLS, 1928, Bull. Amer. Mus. Nat. Hist., LVIII, 1, p. 37; Tungting Lake (Hunan);—TCHANG, 1931, Bull. Fan Mem. Inst. Biol., II, 11, p. 233; Szechwan; —TCHANG, 1930, Contr. Etud. Morph. Biol. Toxin. Cypr. Bass. Yangtse, p. 88; Nanking, Kiang-Yin, Tchoung-King, Feng-Ton;—TCHANG, 1930, Sinensia, I, 7, p. 89; Tchoung King;—TCHANG, 1931, Bull. Fan. Mem. Instit. Biol., II, 11, p. 233; Szechuan.

One specimen—No. 12330, Mus. Biol. Lab. Sci. Soc. China, June 8 or 9, 1933.

Length to base of caudal 135 mm. Depth in length 4.8; head 4.72. Eye in head 7.0; snout 2.81; interorbital 2.81; longest ray: dorsal 0.84, pectoral 0.93, ventral 1.2, anal 1.2, caudal 0.92; length of caudal peduncle 1.26; height of caudal peduncle 1.8.

Dorsal 3,7; pectoral 20; ventral 1,7; anal 2,6. Scales 53 $\frac{7}{6\text{-v}}$. Barbels 2.

Body elongate, compressed behind the dorsal, and less so before it; breast broad and gently rounded. Vent much nearer origin of anal than the base of ventral. Head small, broad and depressed, the dorsal surface convex, the ventral surface flattened. Eye moderate, anterior and lateral, with broad circular rim. Snout elongate, subconical; interorbital space very wide, convex; nostrils large, close together, in front of eye. Mouth small, narrow, inferior, maxillary extending to below the margin of the anterior nostril; the lower jaw truncate at the end, with free lips at the side, the upper lips confluent with the lower one. Barbels two, long, as long as the distance from snout to posterior margin of eye, reaching slightly beyond edge of preopercle. Gill-membrane jointed to isthmus under the edge of preopercle.

Dorsal without spinous rays; its origin in midway between the tip of snout and base of the last anal ray. Pectoral extending to the ventral. Origin of ventral under middle of dorsal not reaching the vent. Anal fin without spinous rays, its origin much behind the base of dorsal, nearer origin of ventral than base of caudal which is deeply forked with pointed lobes.

Scales moderate size, lateral line complete, straight.

Pharyngeal teeth in 1 rows, 5-5.

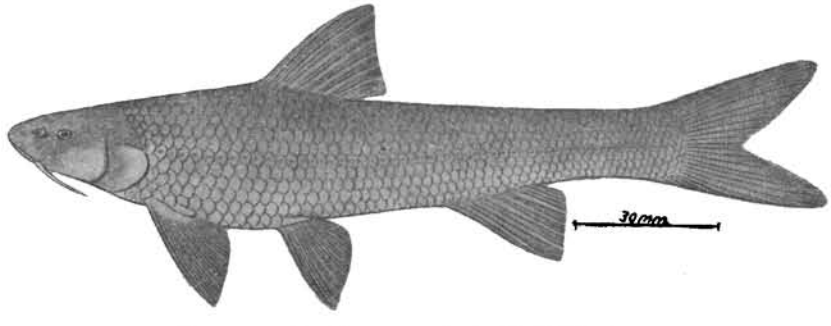

Fig. 17. *Coreius styani* (GÜNTHER).

COLOUR in formalin—Colour uniform dusky, dorsal and ventral surfaces lightly brownish, with blackish ting on the fins.

DISTRIBUTION—Kiu-Kiang (Hupei), Tungting Lake (Hunan), Szechuan, Kiang-Yin, Shanghai, Nanking, Chinchiang, Feng-Tou.

Another one specimens was collected in 1933; No. 12331.

Genus **Pseudogobio** BLEEKER

Pseudogobio BLEEKER, 1860, Prodr. Cypr., p. 215.
Type: *Gobio esocinus* TEMMINCK & SCHLEGEL.

Abbottina JORDAN & FOWLER, Proc. U. S. Nat. Mus., XXVI, p. 835.
Type: *Abbottina psegma* JORDAN & FOWLER.

18. **Pseudogobio rivularis** (BASILEWSKY).

For description see WU, 1931, Contr. Biol. Lab. Sci. Soc. China, VII, *Z. S.*, 1, p. 9.

Gobio rivularis BASILEWSKY, 1855, N. Mem. Soc. Nat. Moscou, X, p. 231; North China.

Tylognathus sinensis KNER, 1867, Zool. Teil, 1, Wien; Shanghai;—MARTERS, 1874, Zool. Abt., I, Berlin; Shanghai.

Pseudogobio rivularis BLEEKER, 1870, Versl. Med. Akad. Amsterd., IV, p. 253; China;—BLEEKER, 1871, Verh. Akad. Amsterd., XII, p. 23; Nord-China. Shanghai;—BLEEKER, 1873, Ned. Tijd. Dierk., I V, p. 113;—SAUVAGE & DABRY, 1874, Ann. Sci. Nat., (6) I, 5. p. ?—MÖLLENDORFF, 1877, Journ. North-China Branch Roy. Asiat. Soc., Shanghai, 1877, N. S. 11, p. 115;—BLEEKER, 1879, Verh. Akad. Amsterd., XVIII, p. ? Shanghai;—KREYENBERG and PAPPENHEIM, 1908, Sitz. Ber. Ges. Natf. Freunde, p. 95;—KREYENBERG and PAPPENHEIM, 1909, Abh. Mus. Nat. Heimatk. Magdiburg, II, p. 1; Hankau;—FOWLER, 1924, Mem., Asiafic Soc. Zengal., VI, p. 503; near Soochow;—FOWLER, 1924, Bull. Amer. Mus. Nat. Hist., I, p. 373; Hsing Lung Shan;—RENDAHL, 1928, Ark. Zool., XX, A, I, p. 91; Tungchow, Chihli; Tang-tu-hsien, Ching-Shan-Ho, Anhwei, Ching-Ho, Ssu-shui-hsien Honan;—MORI, 1928, Japan. Jour. Zool., II, 1, p. 63; Tsi-nan;—NICHOLS, 1928, Bull. Amer. Mus. Nat. Hist., LVIII, 1, p. 38; Chihli; Shansi;—SHAW, 1930, Bull. Fan. Mem. Inst. Biol., I, 10, pp. 184, 186, 205, fig. 21; Soochow;—TCHANG, 1930,

Contr. Etud. Morph. Biol. Toxin. Cypr. Bass. Yangtse, p. 83; Tche-Kiang; Nanking; Kiang-Yin; Tchen-Kiang; Shanghai; Yi-Hing;—TCHANG & SHAW, 1931, Bull. Fan. Mem. Inst. Biol., II, 15, p. 284, fig. 1; Hopei;—WU, 1931, Contr. Biol. Lab. Sci. Soc. China, VII, *Z. S.*, 1, p. 9; Foochow;—CHU, 1932, Fishes of the West Lake, p. 18, fig. 9; Chekiang;—WANG, 1933, Contr. Biol. Lab. Sci. Soc. China, IX, *Z. S.*, 1, p. 22; Shangtung;—FU & TCHANG, 1933, Bull. Honan Mus., I, 1, p. 13, fig. 12; Kaifeng.

Pseudogobio sinensis GÜNTHER, 1868, Cat. Fish. B. M., VII, p. 175; Shanghai;—GÜNTHER, 1873, Ann. Mag. Nat. Hist., (4) XII, p. 247; Shanghai;—SAUVAGE & DABRY, 1874, Ann. Sci. Nat., (6) I, 5, p. ?—GÜNTHER, 1888, Ann. Mag. Nat. Hist., (6) I, p. 430; Yangtse-Kiang;—ABBOTT, 1901, Proc. U. S. Nat. Mus., XXIII, p. 486; Pei-Ho, Tientsin;—FOWLER & BEAN, 1920, Proc. U. S. Nat. Mus., LVIII, p. 310; Soochow.

Abbottina psegma JORDAN & FOWLER, 1903, Proc. U. S. Nat. Mus., XXVI, p. 835, fig. 5; Yodo River at Osaka;—JORDAN, TANAKA & SNYDER, 1913, Cat. Fish. Japan, p. 69, fig. 43; Yodo River at Osaka; Chikugo River at Kurume; Iwai R. in Ichinoseki.

One specimen—No. 3212, Mus. Biol. Lab. Sci. Soc. China, April, 1930.

Length to base of caudal 77 mm. Depth in length 4.0; head 3.6. Eye in head 4.2; snout 2.1; interorbital space 4.2; longest ray: dorsal 1.2, pectoral 1.2, ventral 1.5, anal 1.8, caudal 1.1; length of caudal peduncle 2.1; height of caudal 2.6. Scales $35\frac{6}{4\text{-v}}$.

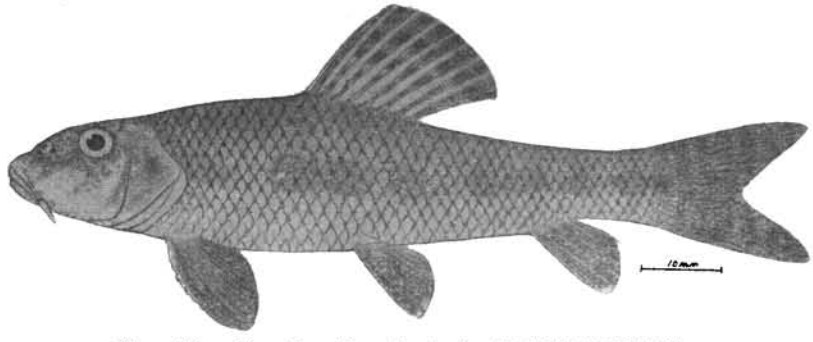

Fig. 18. *Pseudogobio rivularis* (BASILEWSKY).

DISTRIBUTION—This species is very common in the southeastern Provinces.

Sexual dimorphism is very distinct in this species, in spring breeding season the male fish with pearl organ at snout, lower surface of preopercle and spine of pectoral fin. The colour of the male fish in that season seems also much deeper than the female one.

Other 42 specimens were collected in 1930: No. 3233, 3238, 3248, etc., and in 1933: No. 12370-12379.

Genus **Saurogobio** BLEEKER

Saurogobio BLEEKER, 1870, Versl. Akad. Amst., (2) IV, p. 253.

Type: *Saurogobio dumerili* BLEEKER.

19. **Saurogobio drakei** (ABBOTT).

Pseudogobio drakei ABBOTT, 1901, Proc. U. S. Nat. Mus., XXIII, p. ? Tientsin;—TCHANG, 1932, Bull. Fan Mem. Inst. Biol., III, 8, pp. 112, 119; Ching-po Lake.

Saurogobio drakei RENDAHL, 1928, Ark. Zool., XX, A, 1, p. 96;—NICHOLS, 1928, Bull. Amer. Mus. Nat. Hist., LVIII, 1, p. 38; Tungting Lake (Hunan);—TCHANG & SHAW, 1931, Bull. Fan. Mem. Inst. Biol., II, 15, p. 286; Peiping; —TCHANG, 1931, Bull. Fan Mem. Inst. Biol., II, 11, p. 235; Sze-chuan;—TCHANG, 1930, Sinensia, I, 7, p. 89; Ho-Kiang.

One specimen—No. 3225, Mus. Biol. Lab. Sci. Soc. China, April 22, 1930.

Length to base of caudal 78 mm. Depth in length 6.0; head 4.8. Eye in head 4.0; snout 2.6; interorbital space 4.3; longest ray: dorsal 1.1, pectoral 1.3, ventral 1.6, anal 1.7, caudal 1.0; length of caudal peduncle 1.2; height of caudal peduncle 3.2.

Dorsal 3,8; pectoral 12; ventral 8; anal 2,6. Scales 42 $\frac{5}{3\text{-}v}$.

Body slender, slightly compressed, its ventral surface distinctly convex. Head subsquarish, nearly conical. Eye anterior,

supra-lateral; snout somewhat conical; interorbital space convex, slightly shorter than diameter of eye; nostrils close together, situated in front of eye. Mouth inferior, extending to the level of anterior margin of eye; a pair of short barbels, which are more than half diameter of eye, situated at corner of the mouth; maxillary projecting; mandible pointed. Gill-membranes jointed to isthmus below the posterior margin of preopercle; 15 rakers on the low part of anterior arc.

Dorsal fin beginning nearer the tip of snout than base of caudal. The pectoral fin inserted low. Ventral fin commencing behind the origin of dorsal. Anal fin commencing slightly nearer base of caudal than origin of ventral. Caudal fin deeply forked, the upper lobe slightly longer. Caudal peduncle twice longer than the depth.

Scales moderate; lateral line nearly straight along the midline of the body. Some spots appeared above the lateral line.

Pharyngeal teeth minute, 5-5.

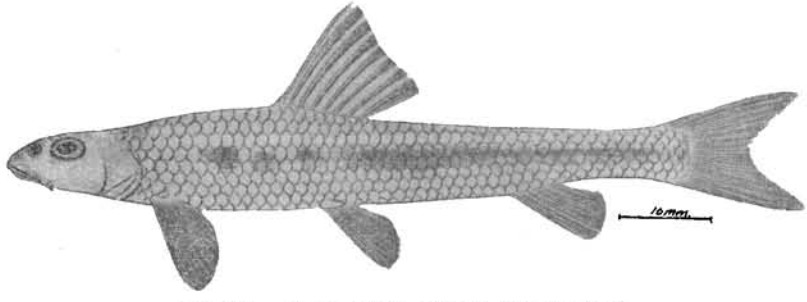

Fig. 19. *Saurogobio drakei* (ABBOTT).

COLOUR in formalin—Brightly brown on body; a series of blotches justly above lateral line.

DISTRIBUTION—Chinkiang; Pei-Ho; Tientsin; Tungting Lake, Hunan; Ching-po Lake, Kirin; Peiping; Szechuan.

Other 4 specimens were collected in 1930.

20. **Saurogobio dumerili** BLEEKER

For description see WU & WANG, 1931, Contr. Biol. Lab. Sci. Soc. China, VII, *Z. S.*, 6, p. 228.

Saurogobio dumerili BLEEKER, 1871, Verh. Akad. Wet. Amst. Nat., XII, p. 25, Pl. I, fig. 1; Yangtse-Kiang;—BLEEKER, 1873, Ned. Tijd. Dierk., IV, p. ?—BLEEKER, 1878, Versl. Akad. Amst., (3) XII, p. 209; China;—SAUVAGE & DABRY, 1874, Ann. Sci. Nat., (6) I, 5, p. ? Yangtse-Kiang;—GARMANN, 1912, Mem. Mus. Comp. Zool. Harv. Coll., XL. p. 111; Yangtse-Kiang;—EVERMANN & SHAW, 1927, Proc. Calif. Acad. Sci., (4) XVI, 4, p. 106; Chefoo; Hangchow;—RENDAHL, 1928, Ark. Zool., XX, A, 1, p. 96;—NICHOLS, 1928, Bull. Amer. Nat. Hist., LVIII, 1, p. 39; Tungting Lake, (Hunan);—MORI, 1928, Japan. Journ. Zool., II, 1, p. 64; Tsi-nan, China;—TCHANG, 1930, Contr. Etud. Morph. Biol. Toxin. Cypr. Bass. Yangtse, p. 97;—WU & WANG, 1931, Contr. Biol. Lab. Sci. Soc. China, VII, *Z. S.*, 6, p. 228; Wushan;—FU & TCHANG, 1933, Bull. Honan Mus., I, 1, p. 13; Kaifeng;—TCHANG, 1930, Sinensia, I, 7, p. 89; Yi-Tchang;—TCHANG, 1932, Bull. Fan. Mem. Institut. Biol., III, 14, p. 211; Kaifeng;—TCHANG, 1932, Bull. Fan. Mem. Institut. Biol., III, 16, p. 241.

One specimen—No. 12332, Mus. Biol. Lab. Sci. Soc. China, June 8 or 9, 1933.

Length to base of caudal 160 mm. Depth in length 7.1; head 5.55. Eye in head 4.8; snout 3.0; interorbital 3.3; longest ray: dorsal 0.87, pectoral 1.1, ventral 1.3, anal 1.6, caudal 1.0?; length of caudal peduncle 1.57?; height of caudal peduncle 2.6.

Dorsal 3,7; pectoral 1,4; ventral 2,7; Anal 2,6. Scales $61\frac{7}{3\frac{1}{2}\text{-v}}$.

Pharyngeal teeth having one part in form of molar and another part slightly compressed. One pair of barbels equal to diameter of eye.

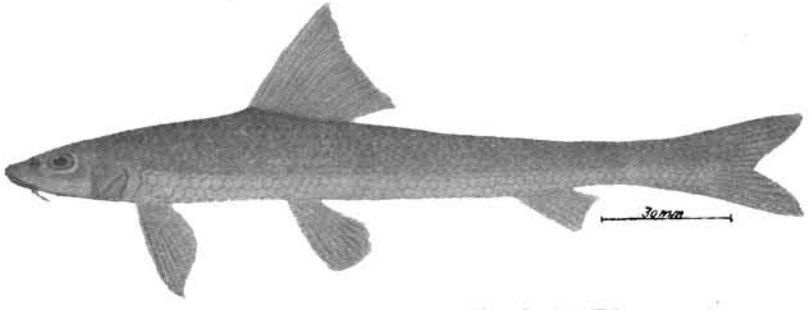

Fig. 20. *Saurogobio dumerili* BLEEKER.

DISTRIBUTION—Yangtse Valley; Shasi; Chefoo; Tsinan; Hangchow.

Genus **Sarcocheilichthys** BLEEKER.

Sarcocheilichthys BLEEKER, 1859, Nat. Tijdz. Ned. Ind., XX, p. 435.

Type: *Leuciscus variegatus* TEMMINCK & SCHLEGEL.

Barbodon DYBOWSKY, 1872, Verh. Zool. Bot. Ges. Wien, XXII, p. 216.

Type: *Barbodon lacustris* DYBOWSKY.

21. **Sarcocheilichthys sinensis** BLEEKER.

Sarcocheilichthys sinensis BLEEKER, 1871, Verh. Akad. Wet. Amst. Nat., XII, p. 31, Pl. IV, fig. 2; Yangtse ?—BLEEKER, 1873, Ned. Tijd. Dierk., IV, p. 113; ?—SAUVAGE & DABRY, 1874, Ann. Sci. Nat.; (6) Zool. et Paleont, I, 5;—BLEEKER, 1878, Versl. Akad. Amst., (2) XII, p. 209; China;—PETERS, 1880, B. B. Akad. Berlin, XLV, p. 921; Ningpo;—RENDAHL, 1928, Ark. Zool., XX, A, 1, p. 202;—TCHANG, 1930, Contr. Etud. Morph. Biol. Toxin. Cypr. Bass. Yangtse, p. 84;—TCHANG, 1930, Sinensia, I, 7, p. 89; Loo-Tcheou;—NICHOLS, 1928, Bull. Amer. Mus. Nat. Hist., LVIII, 1, p. 40; Tungting Lake (Hunan); Anhwei.

Sarcocheilichthys lacustris FOWLER, 1924, Bull. Amer. Mus. Nat. Hist., L, p. 381; Ningkwo.

Sarcocheilichthys variegatus EVERMANN & SHAW, 1927, Proc. Calif. Acad. Sci., (4) XVI, 4, p. 102; Nanking. (interorbital 2.1 vs. 3¼ in S. variegatus T. & S.).

Sarcocheilichthys sinensis NICHOLS, 1930, Peking Nat. Hist. Bull., V, 2, p. 22; China.

One specimen—No. 3224, Mus. Biol. Lab. Sci. Soc. China, April 22, 1930.

Length to base of caudal 112 mm. Depth in length 3.6; head 4.3. Eye in head 4.6; snout 2.5; interorbital space 2.5; longest ray: dorsal 0.8, pectoral 1.0, ventral 1.1, anal 2.1, caudal 0.8; length of caudal peduncle 1.0; height of caudal peduncle 1.6.

Dorsal III, 7; pectoral 16; ventral 8; anal II, 6. Scales $39\frac{6}{5\text{-v}}$.

Body oval elongate, moderately compressed. Head slightly small and short concave in front of nostrils; abdomen rounded. Eye superolateral; the distance from end of snout to anterior margin of eye nearly equal to that between the posterior margin of eye and that of head; upper profile of snout convex with two well developed groups of horny tubercles at each side; interorbital space wide and convex; nostrils close together, anterosuperior to eye. Mouth small, narrow, inferior; lower jaw protected by a sharp horny coat; upper lip thick and fleshy, the lower confined to the corners of mouth; barbels two, very minute, on maxillary. Gill-membranes rather thick and long, jointed to isthmus.

Dorsal fin single, its origin much nearer the tip of snout than the base of caudal, pre-dorsal distance slightly shorter than post-dorsal. Pectoral fin lower. Ventral fin commencing below third ray of the dorsal. Caudal fin deeply forked, lower lobe slightly longer. The length of the caudal peduncle longer than its height.

Scales moderate; lateral line slightly decurved.

Pharyngeal teeth in 1 rows, hooked at tips.

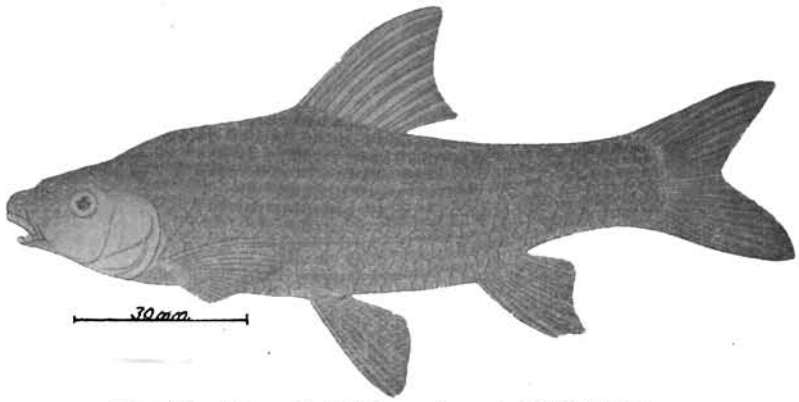

Fig. 21. *Sarcocheilichthys sinensis* BLEEKER.

COLOUR in formalin—Deep-brown on the series of scales, fins and dorsal profile of head, lighter on ventral.

DISTRIBUTION—Mid- and Lower- Yangtse Valley; Ningpo; Peking.

Another specimen was collected in 1930.

Genus **Pseudorasbora** BLEEKER

Pseudorasbora BLEEKER, 1859, Nat. Tijd. Nad.—Ind., XX, p. 435.

Type: *Leuciscus parvus* TEMMINCK & SCHLEGEL.

22. **Pseudorasbora parva** (TEMMINCK & SCHLEGEL).

For description see WU, 1931, Contr. Biol. Lab. Sci. Soc. China, VII, *Z. S.*, I, p. 10.

Leuciscus parva TEMMINCK & SCHLEGEL, 1846, Fauna Japonica Poiss., p. 215, Pl. CII, fig. 3; streams about Nagasaki.

Leuciscus pusillus TEMMINCK & SCHLEGEL, 1846, Fauna Japanica, Poiss., p. 216, Pl. CII, fig. 4; near Nagasaki.

Opsarus parvus KNER, 1867, Zool. Teil., I, Wien, p. ?

Pseudorasbora parva KNER, 1867, Zool., Teil., I, Wien, p. ?, Shanghai;—GÜNTHER, 1868, Cat. Fish. B. M., VII, p. 186; Japan and China; Belegex. von Tsi-kiang;—BLEEKER, 1871, Verh. Akad. Amst., XII, p. 11; Shanghai, Tsi-Kiang;—GÜNTHER, 1873, Ann. Mag. Nat. Hist., (4) XII, p. 247; Shanghai;—BLEEKER, 1873, Ned. Tijd. Dierk., IV, p. 113;—SAUVAGE & DABRY, 1874, Ann. Sci. Nat., (6) I, 5, p. ?—MARTERS, 1874, Zool. Abt., I, Berlin, Shanghai;—PETERS, 1880, M. B. Akad. Berlin, XLV, p. 925; Ningpo;—GÜNTHER, 1888, Ann. Mag. Nat. Hist., (6) I, p. 430; Yangtse-kiang;—KREYENBERG & PAPPENHEIM, 1908, Sitz. Ber. Ges. Natf. Freunde, p. 95; Nankanho;—KREYENBERG, & PAPPENHEIM, 1909, Abh. Mus. Heimatk. Magdeburg, II, p. 1? Nankanho;—FOWLER, 1924, Mem. Asiatic Soc. Bengal., VI, p. 503; Chihli, Hsinglung-shan and south of Hsing-lung-shan;—FOWLER, 1924, Bull. Amer. Mus. Nat. Hist., L, p. 373; near Soochow;—NICHOLS, 1925, Amer. Mus. Novitates, 182, p. 5; Szechuan;—JORDAN, TANAKA & SNYDER, 1913, Cat. Fish. Japan, p. 70; Fresh water of central and Southern Japan;—ISHIKAWA, 1875, Zool. Mag. Tokyo, VII, p. 128; Otsu; Maebara; Matsubara;—JORDAN & SNYDER, 1900, Proc. U. S. Nat. Mus., XXIII, p. 344; Lake Biwa;—JORDAN & FOWLER, 1903, Proc. U. S. Nat. Mus., XXVI, p. 840; Tsuchinra; Nagoya; Lake Yogo; Lake Biwa; Iwai River; Chikugo River; Yodo River;—SMITH & POPE, 1915, Proc. U. S. Nat.

Mus., XXXI, p. 461; Japan;—JORDAN & METZ, 1913, Mem. Carneg, Mus., VI, 2, p. 16; Snigen, Corea;—BERG, Ichtls Amur, p. 94; Amur. Province;—OSHIMA, 1919, Ann. Carn. Mus., XII, 2-4, p. 222; Tamusui River, Etc. Formosa;—RENDAHL, 1928, Ark. Zool., XX, A, 1, p. 107; Chihli, Tungchow, ostl. von Peking, Chihli, Tsun-Hua-Hsien, Tung-Ling, Anhwei, Tang-tu-hsien, Ching-shan-ho, Shansi, Tai-yuan-fu, Shansi, Yüan-chü-hsien;—TCHANG, 1928, Contr. Biol. Lab. Sci. Soc. China, IV, 4, p. 18, fig. 22; Nanking;—NICHOLS, 1928, Bull. Amer. Mus. Nat. Hist., LVIII, 1, p. 20;—MORI, 1928, Japan. Journ. Zool., II, 1, p. 63; Tsinan, China;—TCHANG, 1930, Contr. Etud. Morph. Biol. Toxin. Cypr. Bass. Yangtse, p. 85; Nangkin;—SHAW, 1930, Bull. Fan Mem. Inst. Biol., I, 10, pp. 174, 175, 205, fig. 10; Soochow;—WU, 1931, Contr. Biol. Lab. Sci. Soc. China, VII, *Z. S.*, 6 p. 232; Hochuan;—TCHANG & SHAW, 1931, Bull. Fan Mem. Inst. Biol., II, 15, p. 288; Hopei;—CHU, 1932, Fish. West Lake, p. 20; fig. 10; Chekiang, Hangchow;—WANG, 1933, Contr. Biol. Lab. Sci. Soc. China, IX, *Z. S.*, 1, p. 25; Shangtung;—FU & TCHANG, 1933, Bull. Honan Mus., I, 1, p. 14, fig. 14; Kaifeng.

Pseudorasbora altipinna NICHOLS, 1925, Amer. Mus. Novitates, VII-IX, 182, p. 5; Yen-ching-kao, Sze-chuan.

Pseudorasböra depressirostris NICHOLS, 1925, Amer. Mus. Novitates, VII-IX, 182, p. 5; Chin-Ssu, Shansi.

Pseudorasbora monstrosa NICHOLS, 1925, Amer. Mus. Novitates, VII-IX, 182, p. 6; Yenping, Fukien.

One specimen—No. 3234, Mus. Biol. Lab. Sci. Soc. China, April 22, 1930.

Length to base of caudal 56 mm. Depth in length 4.0; head 4.0. Eye in head 4.6; snout 2.8; interorbital space 2.8; longest ray: dorsal 1.1, pectoral 1.4, ventral 1.4, anal 1.7, caudal 0.9; length of caudal peduncle 1.1; height of caudal peduncle 2.3.

Dorsal 2,7; pectoral 1,12; ventral 1,6; anal 7. scales 35 $\frac{3}{3\text{-v}}$.

Pharyngeal teeth in one row, 5-5, slightly hooked at tips. Barbels absent.

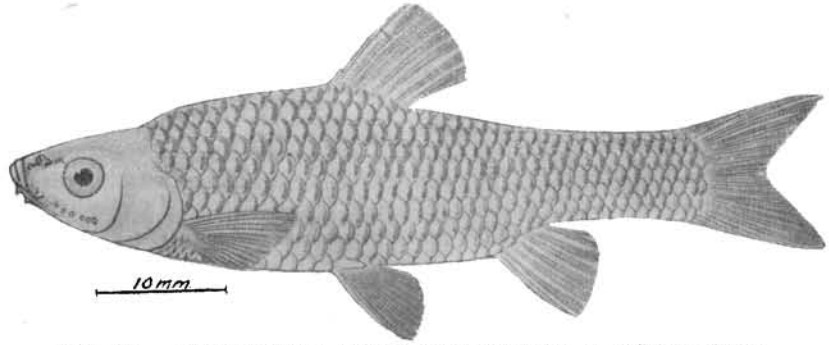

Fig. 22. *Pseudorasbora parva* (TEMMINCK & SCHLEGEL).

COLOUR in formalin—Dorso-lateral surface of body dark, ventral surface silvery. Edge of scales with a vertical black spot. Dorsal fin with an obligue blackish streak.

DISTRIBUTION—Very common in our country.

Other 38 (non Nos.) specimens were collected in 1930, and 5 in 1933: No. 12418-12422.

Genus **Parbramis** BLEEKER.

Parabramis BLEEKER, 1865, Ned.-Tijd. Dierk., II, p. 21.
Type: *Abramis pekinensis* BASILEWSKY.

23. **Parabramis bramula** (CUVIER & VALENCIENNES).

Leuciscus bramula CUVIER & VALERCIENNES, 1844, Hist. Nat. Poiss., XVII, p. 357; Chinese painting.

Abramis bramula RICHARDSON, 1846, Ichth. China, p. 294; Canton.

Abramis pekinensis BASILEWSKY, 1855, Nouv. Mém. Soc. Nat. Moscou, X, p. 239, Tab. 6, fig. 2; North China.

Parabramis pekinensis BLEEKER, 1864, Ned. Tijd. Dierk., II, p. 22; China;—BLEEKER, 1871, Mem. Cyprin. China, p. 15 and p. 80; Yangtse-kiang;—BLEEKER, 1872, Ned. Tijd. Dierk., IV, p. 146; Shanghai, Yangtse-kiang, North China;—MÖLLENDORFF, 1877, Journ. Roy. Asiatic North China Branch, New Ser. IX, p. 111; Chihli;—GRAMAN, 1912, Mem. Mus. Comp. Zool., Harv. Coll., XL, 4, p. 113; Ichang;—MORI, 1927, Journ. Chosen Nat. Hist. Soc., 5, p. 3 and 17; Amur River; Liao-ho; North

China;—EVERMANN & SHAW, 1927, Proc. Calif. Acad. Sci., (4) XVI, 4, p. 103; Hangchow; Shanghai; Nanking; —NICHOLS, 1928, Bull. Amer. Mus. Nat. Hist., LVIII, 1, p. 31; Tungting Lake (Hunan);—TCHANG, 1930, Contr. Etud. Morph. Biol. Toxin. Cyprin. Bass. Yangtse, p. 137; Changai; Nankin; Tai-Hou; Kiou-kiang; Setchuan;—TCHANG & SHAW, 1931, Bull. Fan Mem. Inst. Biol., II, 15, p. 293; Peiping; Tungchow; Chi-hsuan, Singan; Ting hsien; Pao-ting; Tien-tsin; Tsan-chow; Tangku.

Culter pekinensis KNER, 1867, Novara, Fish., p. 360, taf. XIV, fig. 4; Shanghai.

Parabramis bramula BLEEKER, 1870, Versl. Med. Akad. Amst., IV, p. 252; China;—BLEEKER, 1871, Mem. Cyprin. China, p. 14 and pp. 78-80; Yangtse-kiang; Canton; North China;—BLEEKER, 1872, Ned. Tijd. Dierk., IV, p. 146; Yangtse-kiang; Canton; North China;—BLEEKER, 1879, Verh. Akad. Amst., XVIII, p. 3; Shanghai;—SAUVAGE & DABRY, 1874, Ann. Sci. Nat., (6) Zool. and Paleont., I, 5; China;—PETERS, 1880, M. B. Akad. Berlin, XLV, p. 926; Ningpo;—KREYENBERY & PAPPENHEIM 1908, Sitz. Ber. Ges. Natf. Freunde, V; Tungting Lake, Hankau;—KREYENBERY & PAPPENHEIM, 1909, Abh. Mus. Nat. Heimath Mageburg, II, pp. 17-18; Tungting Lake, Hankau;—RENDAHL, 1928, Ark. Zool., XX, A, 1, p. 110; Chihli, Tungchow, Kiangsu, Nanking, Yangtse-kiang;—CHU, 1931, Chin. Journ., XIV, 2, p. 84; Shanghai;—WANG, 1933, Contr. Biol. Lab. Sci. Soc. China, IX, *Z. S.*, 1, p. 23; Shangtung.

Chanodichthys bramula BLEEKER, 1864, Ned. Tijd. Dierk., II, p. ? China;—GÜNTHER, 1868, Cat. Fish. B. M., VII, p. 326; China;—BLEEKER, 1871, Verh. Akad. Amst., XII, p. ? Yangtse-kiang; Shanghai; North China;—BLEEKER, 1873, Ned. Tijd. Dierk., IV, p. 113;—SAUVAGE & DABRY, 1874, Ann. Sci. Nat., (6) Zool. and Paleont; I, 5; China;—MÖLLENDORFF, 1877, Journ. Roy. Asiatic Soc., North China Branch, New Ser. (11), p. 111; Chihli;—GRAMAN, 1929, Mem. Mus. Comp. Zool. Harv. Coll., XL, 4, p. 113; Ichang;—FOWLER, 1924, Mem. Asiatic Soc. Bengal., VI, p. 503; near Soochow;—FOWLER, 1924, Bull. Amer. Mus. Nat. Hist., L. p. 373; Ningkwo.

Chanodichthys pekinensis GÜNTHER, 1868, Cat. Fish. B. M., VII, p. 327; Peking;—GÜNTHER, 1873, Ann. Mag. Nat.

Hist., (4) XII, p. 249; Shanghai;—GÜNTHER, 1888, Ann. Mag. Nat. Hist., (6) I, p. 430; Yangtse-kiang;—GÜNTHER, 1889, Ann. Mag. Nat. Hist., (6) IV, 21, p. 227; Upper Yangtsekiang;—SAUVAGE & DABRY, 1874, Ann. Sci. Nat., (6) Zool. and Paleont., I, 5; China;—KÁROLI, 1882, Term. füzetek, V, p. 147; Canton;—TCHANG, 1928, Contr. Biol. Lab. Sci. Soc. China, IV, 4, p. 19, fig. 23; Nanking.

Abramis terminalis SAUVAGE & DABRY, 1874, Ann. Sci. Nat., (6) Zool., and Paleont., I, 5; China;—GÜNTHER, 1868, Cat. Fish. B. M., VII, p. ? China;—RUTTER, 1897, Proc. Acad. Nat. Sci. Philad., p. 56; Swatow.

Chanodichthys stenzii POPTA, 1907, Zool. Anz., XXXII, 8, p. 248; Kaiserkanal, Kianchu;—OSHIMA, 1926, Ann. Zool. Japan, XI, 1, p. 18; Hainan.

One specimen—No. 3202, Mus. Biol. Lab. Sci. Soc. China, April 23, 1930.

Length to base of caudal 151 mm. Depth in length 2.1; head 4.3. Eye in head 3.8; snout 3.8; interorbital space 2.5; longest ray: dorsal 0.8, pectoral 1.0, ventral 1.3, anal 1.7, caudal 0.8; length of caudal peduncle 1.5; height of caudal peduncle 1.6.

Dorsal II, 7; pectoral 16; ventral 9; anal III, 28. scales $51\frac{11}{7\text{-v}}$.

Body rather deep, the abdomen strongly compressed, keeled in front and behind the ventral. Head rather small and pointed. Snout pointed; eye large, slightly in the anterior half of head. Interorbital space wide, slightly convex. Mouth small and terminal. The maxillary extends to vertical from the anterior margin of nostrils. Gill membranes reaching below posterior margin of eye; gill-rakers short.

Dorsal fin originating in midway between tip of snout and base of the caudal, over the interspace between base of ventral and origin of anal. Pectoral fin inserted low, reaching origin of ventral; ventral fin commencing in front of origin of dorsal. Anal fin elongated, originating below posterior end of the base of dorsal. Caudal fin deeply forked, lower lobe slightly longer.

Scales large. Lateral line slightly decurved anteriorly.

Pharyngeal teeth in three rows, 4.4.2—2.4.5, hooked at tips.

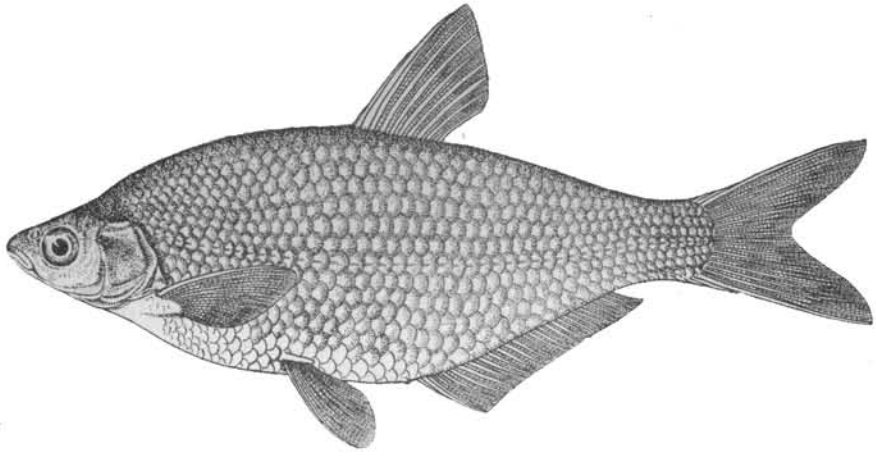

Fig. 23. *Parabramis bramula* (CUVIER & VALENCIENNES).

Pharyngeal teeth 4.4.2—2.4.5.

COLOUR in formalin—Body grayish yellow, upper half of side of body darker. Base of scale with small black spot.

DISTRIBUTION—Chihli; Tsinan; Kaiserkanal; Hangchow; Ningpo; Yangtse Valley; Canton; Hainan.

Other 8 specimens were collected in 1930: (no Nos.) and 4 in 1933: No. 12308-12310, 13151.

MEASUREMENTS OF An another specimen, Number 13151: Length to base of caudal 148 mm. Depth in length 3.0; head 5.0. Eye in head 3.8; snout 3.4; interorbital 2.5; longest ray: dorsal 0.8, pectoral 1.1, ventral 1.4, anal 2.0, caudal 1.0; length of caudal peduncle 1.6; height of caudal peduncle 1.8.

Dorsal II, 8; pectoral 1,18; ventral 1,8; anal 3,33. Scales $59\frac{12}{6\text{-v}}$.

24. **Parabramis terminalis** (RICHARDSON).

For illustration see WU & WANG, 1932, Contr. Biol. Lab. Sci. Soc. China, VIII, *Z. S.*, 10, p. 388, fig. 1-2; description see WANG, 1933, ditto, IX, I, *Z. S.*, p. 24.

Abramis terminalis RICHARDSON, 1846, Ichth. China, p. 294; Canton.

Chanodichthys terminalis GÜNTHER, 1868, Cat. Fish. B. M., VII, p. 326; China;—RUTTER, 1897, Proc. Acad. Nat. Sci. Philad., p. 59; Swatow.

Parabramis terminalis BERG, 1916, Poissons des Eaux Donces de la Russie, p. 319, fig. 252; Middle and Lower Amur, Ussuri, Sungari, Chanka Lake, Swatow, Canton;—CHU, 1930, China Journ., XIII, 6, p. 330, fig. 5; Shanghai;—CHU, 1932, Fish. West Lake, p. 23, fig. 12; Chekiang;—WANG, 1933, Contr. Biol. Lab. Sci. Soc. China, IX, *Z. S.*, 1, p. 24; Shangtung, Tsingtau.

Megalobrama terminalis NICHOLS, 1928, Bull. Amer. Mus. Nat. Hist., LVIII, 1, p. 30; Tungting Lake (Hunan), Anhwei.

Parasteobrama pellegrini TCHANG, 1930, Ctnr. Etud. Morph. Biol. Toxin. Cyprin. Bass. Yangtse, Paris, p. 135; Szechuan;—WU, 1931, Contr. Biol. Lab. Sci. Soc. China, VII, *Z. S.*, 1, p. 12; Foochow.

One specimen—No. 3204, Mus. Biol. Lab. Sci. Soc. China. April 22, 1930.

Length to base of caudal 175 mm. Depth in length 2.6; head 4.6. Eye in length 3.85; snout 3.6; interorbital space 2.7; longest ray: dorsal 0.9, pectoral 1.08, ventral 1.3, anal 1.8, caudal ? ; length of caudal peduncle 2.1; height of caudal peduncle 2.0.

Dorsal III, 7; pectoral 1,16; ventral 2,8; anal 3,29. Scales $54\frac{11}{7\text{-v}}$.

Pharyngeal teeth in three rows, 5.4.2—2.4.5, slightly hooked at tips.

DISTRIBUTION—Canton; Swatow; Fukien; Lower and Middle Amur River; Ussuri; Sungari; Chanka Lake; Tai-hu, and Lower Yangtse Valley.

Another specimen was collected in 1930: No. 3247.

Genus Culter BASILEWSKY

Culter BASILEWSKY, 1855, Nouv. Mem. Soc. Mat. Moscou, X, p. 236.

Type: *Culter alburnus* BASILEWSKY.

25. Culter dabryi BLEEKER

Culter dabryi BLEEKER, 1871, Mem. Cypr. Chine, p. 70, Tab. XII, fig. 2; Yangtse-kiang.

Culter hypselonotus BLEEKER, 1871, Mem. Cypr. Chine, p. 72, Tab. XII, fig. 3; Yangtse-kiang.

Culter abramoides KREYENBERG & PAPPENHEIM, 1908, Sitz. Ber. Ges. Natf. Freunde, 4, p. 104; Hankau.

One specimen—No. 12367, Mus. Biol. Lab. Sci. Soc. China, June, 1933.

Length to base of caudal 118 mm. Depth in length 4.02; head 3.88. Eye in head 4.00; snout 3.75; interorbital space 3.80; longest ray: dorsal 1.27, pectoral 1.36, ventral 1.5, anal 1.79, caudal 0.9; length of caudal peduncle 2.30; height of caudal peduncle 3.00.

Dorsal II, 7; pectoral 1,16; ventral 2,8; anal 3,29. Scales $68\frac{5}{4\text{-v}}$.

Body elongate and compressed. Edges Convexly rounded, except the post-ventral portion, where keeled to vent. Greatest depth at origin of dorsal. Head will compressed, dorsal surface flattish and slightly convex. Eye large, its posterior margin about the center of head. Snout a little longer than eye; interorbital space convex, slightly shorter than snout but nearer anterior margin of eye than to tip of snout. A series a mucous cavities surrounding the space including eye and nostrils. Mouth obligue, symphysis not trancate lower jaw relative thin; maxillary, not concealed by preorbital, reaching to the posterior margin of nostrils. Gill-openings large, extending beyond posterior margin of eye; its raker setiform, closely set, those in the middle longer. Caudal peduncle compressed.

Dorsal fin with two spinous rays, the second one longer; its origin in midway between tip of snout and base of caudal; first branched ray longest. Pectorals fin nearly reaching to origin of ventrals, their tips pointed. Ventral fins commencing in front of origin of dorsal, the distance from their origins to that of pectorals equal to that to vent, their tips not reaching to vent. Anal fin inserted under the depressed dorsal slightly nearer base of caudal than to origin of pectoral; its base longer than head. Caudal fin deeply forked, lobes equal.

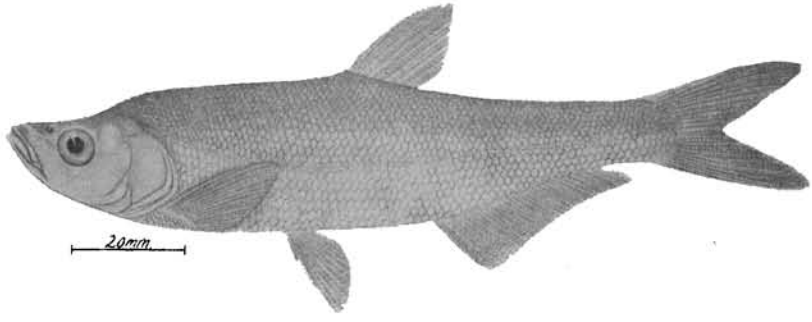

Fig. 24. *Culter dabryi* BLEEKER.

Scales cycliod, moderate under the dorsal and smaller on belly or dorsal profile. Lateral line continuous, depressed, straight in caudal peduncle.

Pharyngeal teeth 3 rows, 5.4.2-2.4.4, or 5.

COLOUR in formalin—Grayish above, whitish below. Dorsal, caudal fins with slightly dusky, others whitish.

DISTRIBUTION—Yangtze Valley, Tsinan.

Another specimen was collected in 1933: No. 12386.

26. **Culter erythropterus** BASILEWSKY.

For description see WU, 1931, Contr. Biol. Lab. Sci. Soc. China, VII, *Z. S.*, 1, p. 12.

Culter erythropterus BASILEWSKY, 1855, Mém. Soc. Nat. Moscou, X, p. 236, Tab. VIII, fig. 1; Pekin;—HERZENSTEIN und WARPACHOWSKY, 1887, Notizen über die Fischfauna des Amur-Beckens und der angrenzenden Gebiete, p. 42; Amur Bassin;—GÜNTHER, 1898, Ann.

Mag. Nat. Hist., (7) I, p. 263; Newchwang;—BERG, 1916, Poiss. Eau. Dou. Russ., p. 322; Middle and lower Amur, Sungari, Ussuri Rivers, Chanka Lake, North China;—TCHANG, 1928, Contr. Biol. Lab. Sci. Soc. China, IV, 4, p. 10, fig. 12; Nanking;—MORI, 1828, Japan. Journ. Zool., II, 1, p. 67; Tsi-nan;—TCHANG, 1930, Sinensia, I, 7, p. 93; Loo-tcheou, Upper Yangtse;—SHAW, 1930, Bull. Fan. Mem. Inst. Biol., I, 10, p. 179, 205; Soochow;—TCHANG, 1930, Contr. Etud. Morph. Biol. Foxin. Cyprin. Bass. Yangtse, Paris, p. 142;—CHU, 1931, China Journ., XIV, 2, p. 87, fig. 11, IIA., Chien-t'ang River, Hangchow.

Culter ilishaeformis BLEEKER, 1871, Mem. Cyrpin. China, p. 67, Tab. X, fig. 1, Yangtse-kiang;—BLEEKER, 1872, Ned. Tijdschr. Dierk, IV, p. 145; Yangtse-kiang;—SAUVAGE & DABRY, 1874, Ann. Sci. Nat., (6) Zool. and Paleont., I, 5; Yangtse-kiang;—PETERS, 1880, M. B. Akad. Wiss. Berlin, XLV, p. 926; Ningpo;—GÜNTHER, 1888, Ann. Mag. Nat. Hist., (6) I, p. 429; Yangtse-kiang;—GÜNTHER, 1889, Ann. Mag. Nat. Hist., (6) IV, 21, p. 227; Upper Yangtse-kiang, a large fish exceeding 3 feet in length;—RENDAHL, 1928, Ark. Zool., XX, A, 1, p. 114; WU, 1930, Sinensia, I, 6, p. 72; Kiating;—WU, 1931, Contr. Biol. Lab. Sci. Soc. China, VII, *Z. S.*, 1, p. 12; Foochow;—WU, 1931, Bull. Mus. paris, III, 5, p. 436.

Culter sieboldii DYBOWSKI, 1872, Verh. Zool-Bot. Ges. Wien., p. 214; Amur.

Culter alburnus KREYENBERG & PAPPENHEIM, 1908, Sitz. Ber. Natf. Freunde, p. 104; Tungting Lake; Hankow;—KREYENBERY & PAPPENHEIM, 1909, Abh. Mus. Nat. Heimatk, Maddeburg, II, p. 18; Tungting, Lake, Hankow;—FU & TCHANG, 1933, Bull. Honan Mus., I, 1, p. 18; Kaifeng.

?Culter aokii OSHIMA, 1919, Ann. Carn. Mus., XII, 2-4, p. 250, Pl. LII; Formosa.

Culter hypselonotus FOWLER, 1924, Mem. Asia. Soc. Bengal, VI, p. 515; Tai-hu, Kiangsu.

Erythroculter erythropterus NICHOLS, 1928, Bull. Amer. Mus. Nat. Hist., LVIII, 1, p. 29; Tungting Lake, Hunan;—TCHANG, 1932, Bull. Fan. Mem. Inst. Biol., III, 8, p. 115; Ching-po Lake, Kirin;—NICHOLS, 1930, Peking Nat. Hist. Bull., V, 2, p. 21; China.

One specimen—No. 12382; Mus. Biol. Lab. Sci. Soc. China, June 8, 1933.

Length to base of caudal 145 mm. Depth in length 4.2; head 4.1. Eye in length 3.7; snout 4.3; interorbital space 5.3; longest ray: dorsal 1.3 pectoral 1.4, ventral 1.6, anal 2.0, caudal 1.0; length of caudal peduncle 1.2; height of caudal peduncle 2.6.

Dorsal II, 7; pectoral 15; ventral 8; anal 3,23. Scales $87\frac{?}{7\text{-v}}$.

Pharyngeal teeth in 3 rows, 4.4.2—2.3.5, hooked at its tips.

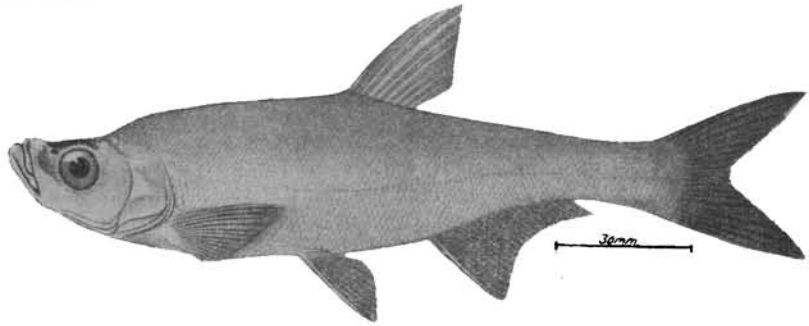

Fig. 25. *Culter erythropterus* BASILEWSKY.

COLOUR in formalin: White.

DISTRIBUTION—Peking; Newchwang; Tsinan; Middle and Lower Amur, Sungari, Ussuri rivers; Chanka Lake; Yangtse Valley; Tai-hu; Ningpo.

Other 4 specimens were collected in 1933: Nos. 12383-2385, and 12388.

27. **Culter brevicauda** GÜNTHER.

For description see WANG, 1933, Contr. Biol. Lab. Sci. China, IX, *Z. S.*, 1, p. 21.

Culter brevicauda GÜNTHER, 1868, Cat. Fish. B. M., VII, p. 329; Formosa;—BLEEKER, 1871, Verh. Akad. Amst., XII, p. 69, Tab. XI, fig. 8; Yangtse-kiang;—BLEEKER, 1872, Ned. Tijd. Dierk., IV, p. 145; Yangtse-kiang;—GÜNTHER, 1873, Ann. Sci. Nat. Hist., (6) XII, p. 250; Shanghai;—SAUVAGE & DABRY, 1874, Ann. Sci. Nat.,

(6) Zool. and Paleont., I, 5; China;—BLEEKER, 1879, Verh. Akad. Amst., XVIII, p. 3, Shanghai;—FOWLER & BEAN, 1920, Proc. U. S. Nat. Mus., LVIII, p. 313; Soochow;—FOWLER, 1924, Mem. Asi. Sci. Beng., VI, p. 516; Tai-hu;—OSHIMA, 1926, Ann. Zool. Japan, XI; 1, p. 19; Hainan;—OSHIMA, 1919, Ann. Carn. Mus., VII, 2-4, p. 251; Kagi, Formosa;—MORI, 1927, Journ. Chosen Nat. Hist., 5, special; Amur River, Liao-ho, W. Korea, North China;—MORI, 1928, Japan. Journ. Zool., II, 1, p. 66; Tsi-nan;—NICHOLS & POPE, 1927, Bull. Amer. Mus. Nat. Hist., LIV, 2, p. 371; Hainan;—NICHOLS, 1928, Bull. Amer. Mus. Nat. Hist., LVIII, 1, p. 30; China, IV, 4, p. 9, fig. 11, Nanking;—TCHANG, 1930, Contr. Etud. Morph. Biol. Toxin. Cyprin. Bass. Yangtse, p. 141;—SHAW, 1930, Bull. Fan Mem. Inst. Biol., I, 10, pp. 179, 180, 205; Soochow;—CHU, 1931, China Journ., XIV, 2, p. 86; Shanghai, Hangkow;—NICHOLS, 1930, Peking Nat. Hist., V, 2, p. 21;—TCHANG & SHAW, 1931, Bull. Fan. Mem. Inst. Ziol., II, 15, p. 293; Peiping, Tientsin;—TCHANG, 1932, Bull. Fan Mem. Inst. Biol., III, 8, p. 115; Ching-po Lake, Kirin;—CHU, 1932, Fish. West Lake, p. 25, fig. 13;—WANG, 1933. Contr. Biol. Lab. Sci. Soc. China, IX, *Z. S.*, i, p. 21; Shangtung.

Culter recurviceps RENDAHL (Not RICHARDSON), part, 1928, Ark. Zool., XX, A, 1, p. 114; Anhwei, Tang-tu-hsien; Kiangsu, Nanking.

Culter alburnus BASILEWSKY, 1855, N. Mem. Soc. Nat. Moscow, X, p. 236, Pl. 8, fig. 3; North China.

Culter tientsinensis ABBOTT, 1901, Proc. U. S. Nat. Mus., XXIII, p. 289, fig. 1; Tientsin.

One specimen—No. 12381, Mus. Biol. Lab. Sci. Soc. China, June 8 or 9, 1933.

Length to base of caudal 145 mm. Depth in length 3.4; head 4.3. Eye in head 3.3, snout 3.3; interorbital space 4.0; longest ray: dorsal 1.17, pectoral 1.09, ventral 1.25, anal 1.6, caudal? ; length of caudal peduncle 2.44; height of caudal peduncle 2.38.

Dorsal III, 7; pectoral 1,15; ventral 1,8; anal 3,27. Scales $66\frac{11\text{-}12}{5\text{-}v}$.

Pharyngeal teeth, 5.3.2-2.3.5.

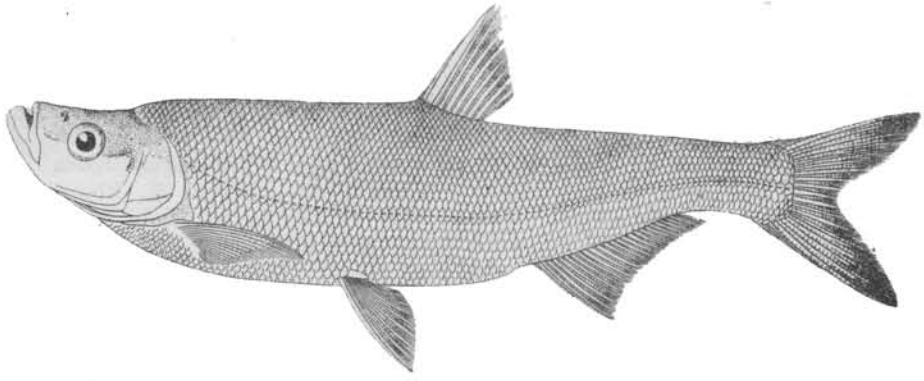

Fig. 26. *Culter brevicauda* GÜNTHER

COLOUR in formalin—White, with fine black dots on dorsal parts of head and body; fins dusky.

DISTRIBUTION—North China; Yangtse Valley; Tai-hu; Amur River; Liao-ho; Tsinan; Hainan; Formosa; W. Chosen.

Genus **Parapelecus** GÜNTHER

Parapelecus GÜNTHER, 1889, Ann. Mag. Nat. Hist., IV, p. 227.

Type: *Parapelecus argentus* GÜNTHER.

28. **Parapelecus machaerius** ABBOTT.

Parapelecus machaerius ABBOTT, 1901, Proc. U. S. Nat. Mus., XXIII, p. 488, fig.; Chihli, Tientsin, Peiho;—EVERMANN & SHAW, 1927, Proc. Calif. Acad. Sci., (4) XVI, 4, p. 109; Hangchow;—RENDAHL, 1928, Ark. Zool., XX, A, p. 118;—NICHOLS, 1928, Bull. Amer. Mus. Nat. Hist., LVIII, 1, p. 28;—TCHANG 1930, Contr. Etud. Biol. Toxin. Cyprin. Bass. Yangtse, p. 144; Szechuan.

?*Chela nicholsi* FOWLER, 1923, Amer. Novitates, 83, p. ? Ningkwo, Anhwei;—FOWLER, 1924, Bull. Amer. Nat. Hist., L, p. 373.

One specimen—No. 12356, Mus. Biol. Lab. Sci. China, June 8 or 9, 1933.

Length to base 135 mm. Depth in length 4.09; head 4.76. Eye in head 4.0; snout 3.37; interorbital space 3.7; longest ray: dorsal 1.68, pectoral 1.0, ventral 1.7, anal 2.23, caudal 0.82; length of caudal peduncle 2.1; height of caudal peduncle 2.59.

Dorsal 2,7; pectoral 1,15; ventral 1,7; anal 3,26. Scales $68\frac{11?}{3\text{-}v}$.

Body elongate, abdomenal keeled from thorax to vent and a little convex than dorsal; length of caudal peduncle short. Head compressed, slightly small, its contour nearly rhomboid. Eye large, anterior, but a little below, its dorsal margin paralled with the tip tip of upper lips; snout pointed, long; interorbital broad and convex; nostrils close together, in front of the eye, near the latter than tip of snout. Mouth terminal, narrow and obligue; maxillary reaching the anterior margin of eye; lower jaw sharply pointed. Gill-opening broad; gill-membranes jointed to isthmus, slightly in front of the posterior margin of preopercle; 11 short gill rakers in low part of the first arc.

Dorsal fin small, without spinous ray; its origin about in midway between the posterior margin of opercle and base of caudal. Pectoral pointed, inserted below posterior margin of opercle; its upper rays longest, about 2/3 of the distance between origins of pectoral and ventral, which is entirely in front of the dorsal, but not reaching vent. Anal elongate, equal the distance between origins of ventral and the former; its origin just behind base of dorsal; caudal deeply forked, its lower lobe longer than upper one.

Scales thin, large; lateral line bending downward over the pectoral, thence running low to over base of anal and finally ascending obliguely for a few scales and extending along the middle of caudal peduncle.

Pharyngeal teeth in 3 rows, 5.4.2-2.4.5, hooked at its tips.

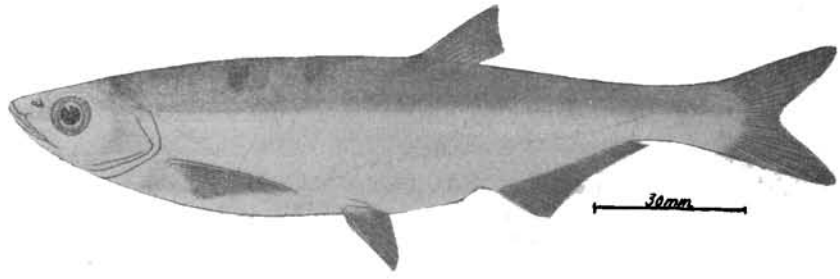

Fig. 27. *Paraelecus machaerius* ABBOTT.

COLOUR in formalin—Back, caudal fin and dorsal surface of head dusky, other parts white.

DISTRIBUTION—Tientsin; Hangchow; Yangtse Valley.

Other 4 specimens were collected in 1933: Nos. 12354-1235, 12357-12358.

29. **Parapelecus oligolepis** WU & WANG.

For description and figure see WU & WANG, 1931, Contr. Biol. Lab. Sci. Soc. China. VII, *Z. S.*, 6, p. 222, fig. 6.

Parapelecus oligolepis WU & WANG, 1931, Contr. Biol. Lab. Sci. Soc. China, VII, *Z. S.*, 6, p. 222, fig. 6; Wushan.

Three specimens—Nos. 12408, 12417, 12475, Mus. Biol. Lab. Sci. Soc. China, June 8 or 9, 1933.

DISTRIBUTION—Yangtsekiang; Wushan; Chinkiang.

Number in Mus. Biol. Lab. Sci. Soc. China.			12408	12417	12475
Body length to caudal base in mm.			76	73	78
In length without caudal fin	Head		4.36	4.28	4.16
	Depth		8.27	3.43	4.33
	Eye		4.87	4.60	4.49
	Snout		3.25	3.28	3.17
	Interorbital space		3.25	3.38	3.17
		Dorsal	1.61	1.56	1.58
		Pectoral	1.19	1.09	1.18

In length of head	Longest ray	Ventral	1.92	1.91	1.81
		Anal	2.39	2.30	2.12
		Caudal	0.95	0.88	0.92
	Caudal peduncle	Length	2.04	1.81	1.96
		Height	2.44	2.15	2.64
Number of rays	Dorsal		2,7	2,7	2,7
	Pectoral		16	16	16
	Ventral		1,7	1,7	1,7
	Anal		3,18	3,19	3,18
Scales	Lateral		44	46	45
	Transverse		8/2-v	9/2-v	9/2-v
Pharyngeal teeth			2.4.5	2.4.5	5.4.2

Genus **Hemiculter** BLEEKER

Hemiculter BLEEKER, 1859, Nat. Tijd. Ned.-Ind., XX, p. 432.
Type: *Culter leucisculus* BASILEWSKY.

30. **Hemiculter leucisculus** (BASILEWSKY).

For decription see WU, 1931, Contr. Biol. Lab. Sci. Soc. China, VII, *Z. S.*, 1, p. 14.

Culter leucisculus BASILEWSKY, 1855, N. Mem. Soc. Nat. Mosc., X, p. 238; North China;—KNER, 1867, Zool. Teil, I, Wien.

Chanodichthys leucisculus GÜNTHER, 1868, Cat. Fish. B. M., VII, p. China;—SAUVACE & DABRY, 1874, Ann. Sci. Nat., (6), Zool. et Paleont, I, 5;—MARTENS, 1874, Zool. Abteilung, I, Berlin; Shanghai.

Hemiculter leucisculus BLEEKER, 1870, Versl. Med. Akad. Amsterd., IV, p. 249; China;—BLEEKER, 1871, Verh. Akad. Amsterd., XII, p. 1? North China (Part);—GÜNTHER, 1873, Ann. Mag. Nat. Hist., (4) XII, p. 249; Shanghai;—BLEEKER, 1873, Ned. Tijd. Dierk., IV, p. 113.—SAUVACE & DABRY, 1874, Ann. Sci. Nat., (6) Zool. et Paleont, I, 5, p. ;—MÖLLENDORFF, 1877, Journ. North-China Branch Roy. Asiat. Soc., Shanghai, N. S., 11, p. 105-111; Chihli;—WARPACHOWSKY ut supra, 1887, Bull. Scad. Imp. Sci. St. Pétersb., XXXII, p. 430; Ichang; Upper Yangtse-kiang;—GARMAN, 1912, Mem. Mus. Comp. Zool. Harv. Coll., XL, p. 111; Shasi;—

TCHANG, 1928, Contr. Biol. Lab. Sci. Soc. China, IV, 4, p. 11, fig. 14; Nanking;—RENDAHL, 1928, Ark. Zool., XX, A, 1, p. 122; Chihli, Lai-shui-hsien, Hsiang-chia-wan;—NICHOLS, 1928, Bull. Amer. Mus. Nat. Hist., LVIII, p. 27; Shansi;—FOWLER, 1929, Proc. Acad. Nat. Sci. Philad., LXXXI, p. 602. Hong-kong;—TCHANG, 1930, Contr. Etud. Morph. Biol. Toxinom. Cyprin. Bass. Yangtse, p. 132;—SHAW, 1930, Bull. Fan. Mem. Inst. Biol., I, 7, p. 115; Ka-shing;—SHAW, 1930, Bull. Fan. Mem. Inst. Biol., I, 10, pp. 178, 179, 205, fig. 13; Soochow;—WU, 1930, Contr. Biol. Lab. Sci. Soc. China, VI, *Z. S.*, 1, p. 47; Hunan;—WU, 1930, Sinensia, I, 6, p. 75; Chungking, Kiating;—WU, 1931, Contr. Biol. Lab. Sci. Soc. China, VII, *Z. S.*, 1, p. 14; Foochow.—WU, 1931, Contr. Biol. Lab. Sci. Soc. China, VII, *Z. S.*, 6, p. 222; Hochnan, Szechuan;—TCHANG & SHAW, 1931, Bull. Fan. Mem. Inst. Biol., II, 15, p. 294; Tungchow, Hopei;—TCHANG, 1932, Bull. Fan Mem. Inst. Biol., III, 8, pp. 115; 119; Chingpo Lake (Kirin);—RENDAHL, 1932, Ark. Zool., XXIV, A., 16, p. 108, Amur. China von Tschili bis zum Jangtse-becken.—WANG, 1933, Contr. Biol. Lab. Sci. Soc. China, IX, *Z. S.*, 1, p. 22; Shangtung;—FU & TCHANG, 1933, Bull. Honan Mus., I, 1, p. 22; Kaifeng.

Hemiculter kneri WARPACHOWSKY, ut supra, 1887, Bull. Acad. Imp. Sci. St. Pétersb., XXXII, p. 13. (nach Kner's *leucisculus*);—KREYENBERG & PAPPENHEIM, 1908, Sitz. Ber. Ges. Natf. Freunde, p. 95; Hankau;—KREYENBERY & PAPPENHEIM, 1909, Abh. Mus. Nat. Heimatk. Magdeburg, II, p. 1; Hankau.

Hemiculter clupeoides NICHOLS, 1925, Amer. Mus. Novitates, 182, p. 7; Tungting Lake, Hunan.

One specimen—No. 3208, Mus. Biol. Lab. Sci. Soc. China, April 22, 1930.

Length to base of caudal 113 mm. Depth in length 3.89; head 4.5. Eye in head 3.6; snout 3.5; interorbital space 3.1; longest ray: dorsal 1.3, pectoral 1.2, ventral 1.5, anal 2.0, caudal 0.8; length of caudal peduncle 1.6; height of caudal peduncle 2.5.

Dorsal II, 7; pectoral 16; ventral 9; anal 16. Scales $40\frac{7}{3\text{-v}}$.

Pharyngeal teeth in 3 rows, 5.3.2-2.3.5. Gill rakers 16 in lower part of anterior arc.

MENSUREMENTS OF *HEMICULTER LEUCISCUSUS* (BASILEWSKY).

No. of Specimens in Mus. Biol. Lab. Sci. Soc. China.			12401	12402	12303	12473	12474	12476	12477	12478	12479	12480
When collected			VI,'33	VI,'33	VI,'33	VI,'33	VI,'33	VI,'33	VI,'33	VI,'33	VI,'33	VI,'33
Length without caudal in mm.			91.5	93.5	123	104	96	107	114	101	125.5	111
In length without caudal	Head		4.22	4.13	4.71	4.14	4.39	4.36	4.51	4.35	4.38	4.43
	Depth		3.83	3.90	4.29	3.80	4.14	4.00	4.51	4.16	4.62	4.50
In length of head	Eye		4.00	4.49	4.50	4.33	4.93	4.00	4.25	4.36	4.03	4.23
	Snout		3.83	3.31	3.17	3.38	3.40	3.26	3.31	3.30	3.46	3.55
	Interorbital		3.21	3.29	3.17	3.37	3.40	3.40	3.31	3.13	3.13	3.55
	Longest ray	D.	1.39	1.25	1.26	1.44	1.23	1.40	1.23	1.25	1.35	1.32
		P.	1.11	1.05	1.10	1.16	0 98	1.09	0.98	1.00	1.07	1.03
		V.	1.57	1.51	1.56	1.62	1.47	1.67	1.41	1.38	1.51	1.52
		A.	2.16	1.76	2.04	2.11	2.00	2.19	1.82	1.96	2.12	1.98
		C.	0.90	0 83	0.85	0.96	0.79	0.89	0.76	—.—	—.—	0.86
	Caudal peduncle	L.	1.76	1.63	1.56	1.65	1.37	1.61	1.53	1.31	1.51	1.52
		H.	2.24	2.25	1.89	2.11	1.83	2.27	2.08	1.82	2.12	2.03
Number of rays	Dorsal		II,7	II,7	II,7	II,7	II,7	II,7	II,7	II,7	II,7	II,7
	Pectoral		1,15	1,15	1,15	1,15	1,15	1,15	1,15	1,15	1,15	1,15
	Ventral		1, 7	1, 8	1, 8	1, 8	1, 8	1, 8	1, 8	1, 8	1, 8	1, 8
	Anal		3,12	3,12	3,13	3,11	3,12	3,11	3,12	3,11	3,12	3,12
Scales	Lateral		52	48	46	51	51	50	49+2	50	54	53
	Transverse		9/2–v	9/2–v	10/3–v	10/2–v	10/2–v	10/2–v	90/2–v	9/2–v	9/2–v	9/2–v
Pharyngeal teeth			5.4.2	4.4.2	5.4.2	5.4.2	5.4.2	5.4.2	5.4.2	5.4.2	5.4.2	5.4.2
Gill akers												

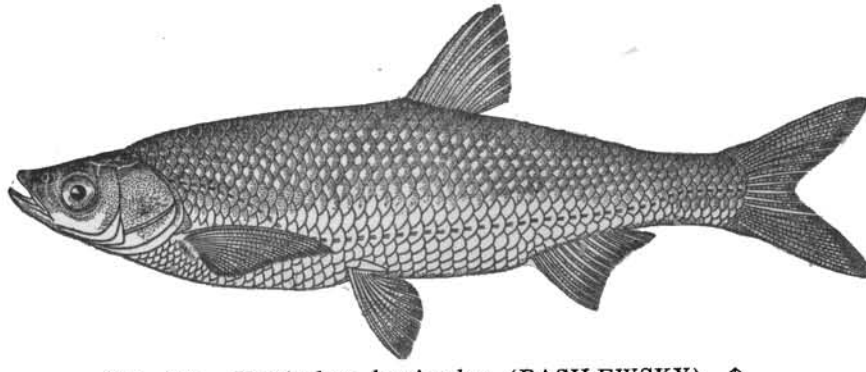

Fig. 28a. *Hemiculter leucisculus* (BASILEWSKY), ♂.

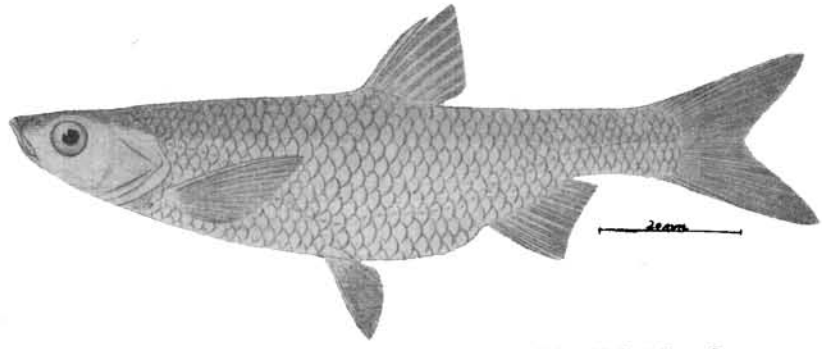

Fig. 28b. *Hemiculter leucisculus* (BASILEWSKY), ♀.

COLOUR in formalin—Slightly yellowish white, dorsal surface and upper half of body with very minute blackish dots. Fins white, tip of median rays of caudal dusky.

DISTRIBUTION—North China: Chihli, Honan, Shangtung, Kirin, Chingpo Lake, Shansi, Shensi; Yangtse Valley; Kashing; Foochow; Hongkong.

Other 10 specimens were collected in 1933: Nos. 12401-12303, 12473-12374, 12476-12480.

31. **Hemiculter bleekeri** WARPACHOWSKY.

Hemiculter leucisculus **BLEEKER, 1871, Verh. Akad. Amsterd., XII, p. ? Yangtse-kiang.**

Hemiculter bleekeri WARPACHOWSKY, 1887, Bull. Acad. Imp. Sci. St. Petersb., XXXII, p. 20. (After BLEEKER); —WU, 1930, Contr. Biol. Lab. Sci. Soc. China, VI, *Z. S.*, 5, p. 47; Hunan;—RENDAHL, 1928, Ark. Zool., XX, A, 1, p. 124; Shansi, Ping-lu-hsien, Chien-ho.

One specimen—No. 12481, Mus. Biol. Lab. Sci. Soc. China, June 8 or 9, 1933.

Length to base of caudal 95 mm. Depth in length 4.92; head 4.64. Eye in head 3.8; snout 3.8; interorbital 3.45; longest ray: dorsal 1.31, pectoral 1.1, ventral 1.61, anal 2.2, caudal 0.83; length of caudal peduncle 1.5; height of caudal peduncle 2.27.

Dorsal II, 7; pectoral 14; ventral 1,8; anal 15. Scales $42\frac{8}{2\text{-v}}$.

Body elongate, much compressed; thorax round and broad; abdomen from below base of pectorals to vent entirely keeled. Head compressed as well as the body. Eye moderate, anterior and supero-lateral; snout pointed anteriorly; interorbital space convex; nostrils close together, in front of upper margin of eye. Mouth terminal and obligue; jaws about equal, maxillary nearly reaching below anterior margin of eye. Barbels absent. Gill membranes jointed to isthmus. Gill rakers short.

Dorsal fin with two spinous rays, the second one longer; its origin nearer tip of snout than base of caudal, behind base of ventral. Pectoral fins not reaching ventrals, their length about 2.5, of the distance between their tips to origin of ventrals. Ventral fins commencing in midway origin of pectorals and that of anal. Anal fin inserted behind tip of dorsal. Caudal fin forked, its lower lobe longer than upper.

Scales thin, large; lateral line running low with three abrupt turns, slanting down over pectoral, thence horizontal to about anal axil than slanting up to central of peduncle.

Pharyngeal teeth in three rows, 3.3.3-2.4.5.

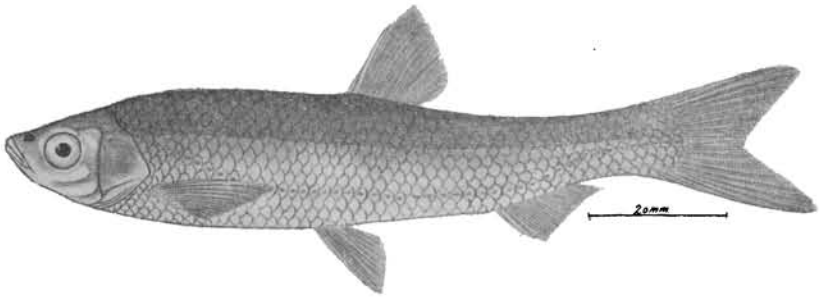

Fig. 29. *Hemiculter bleekeri* WARPACHOWSKY.

COLOUR in formalin—Olive-gray above, lower half of the body white.

DISTRIBUTION—Yangtse Valley; Shansi; Shasi on the Yangtse-kiang.

Genus **Rhodeus** AGASSIZ

Rhodeus AGASSIZ, 1835, Mem. Soc. Hist. Neuchat., I, p. 37.
Type: *Cyprinus amarus* BLOCH.

32. **Rhodeus pingi,** sp. nov.

Type specimen—No. 13200, Mus. Biol. Lab. Sci. Soc. China, April 22-23, 1930.

Length to base of caudal 49.7 mm. Depth in length 2.00; head 4.48. Eye in head 3.43; snout 3.01; interorbital space 2.40; longest rays: dorsal 1.14, pectoral 1.20, ventral 1.42, anal 1.14, caudal 0.81; length of caudal peduncle 1.14; height of caudal peduncle 1.16.

Dorsal ii, 11; pectoral 1,11; ventral 1,6; anal ii, 11. Scales $6+28\ \frac{6}{5\text{-v}}$.

Body deep, somewhat rhomboid, well compressed, thorax rather convex, greatest depth of body about in origin of dorsal. Head small, compressed, nape concave, back convex. Eye large, anterior; snout longer than diameter of eye; interorbital space broad and convex; nostrils close together, in front of upper margin of eye. Mouth small, terminal and obligue;

maxillary small, extending to anterior of nostrils; mandible included in upper jaw when closed. Gill-opening forwards to hind preopercle margin. Gill-rakers weak.

Dorsal fin commencing slightly nearer tip of snout than base of caudal; its simple rays more or less ossified, but with a flexible tip. Pectoral fin nearly reaching base of ventral which inserts in front of origin of dorsal. Anal fin commencing opposite the fourth or fifth of branched ray of dorsal. Caudal fin forked.

Scales large, rather narrowly imbricated, on sides of body, disposed in longitudinal series, and but slightly smaller on edge of body and breast. Lateral line consisting of only six short tubes at shoulder.

Pharyngeal teeth in one row, 5-5, much compressed, pointed, with slightly grinding surfaces with entire edges.

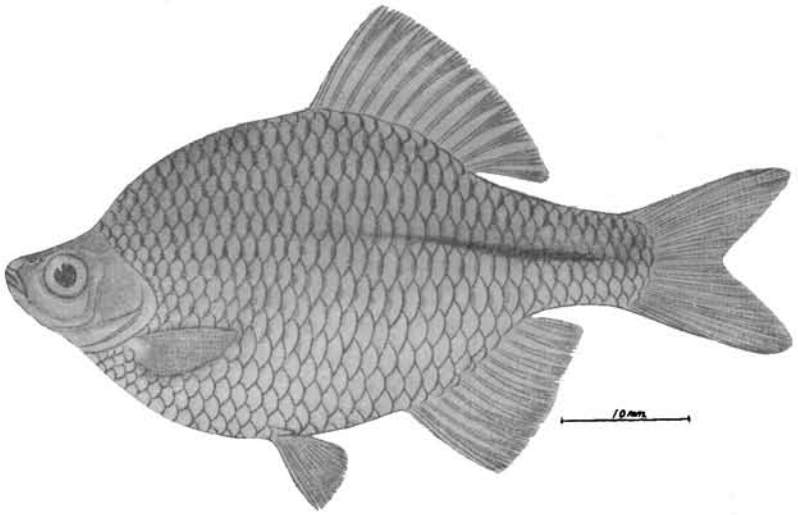

Fig. 30. *Rhodeus pingi* MIAO, sp. nov.

COLOUR in formalin—Uniform, slightly brownish, with a longitudindal bluish band from middle of ventral above, reaching to near base of caudal. Posterior margin of scales above lateral line with brownish margin. Back and dorsal surface of head dark brown. No small rounded spot on shoulder.

SEXUAL DIMORPHISM—In male of this species has a pair of subrounded patches of tubercles at tip of snout and its breast much convex than the female which has a egg-tube.

Other 2 specimens were collected in 1930: Nos. 3229, 13188.

REMARKS—This species is nearly related to *Rh. wangkinfui* WU, but differs from it by lacking the two shoulder spots at the gill-opening above. *Rh. sinensis* GÜNTHER is also doubtless closely related to the present species which is distinguished from it in having larger eyes.

This new species is named after Prof. C. PING, for his kindly suggestions and enouragement during the progress of this investigation.

33. **Rhodeus wankinfui** WU.

For description and illustration see WU, 1930, Sinensia, I, 6, p. 77.

Rhodeus wankinfui WU, 1930, Sinensia, I, 6, p. 77, fig. 5; Luchow;—WU, 1931, Contr. Biol. Lab. Sci. Soc. China, VII, *Z. S.*, 1, p. 24; Foochow.

One specimen—No. 13189, Mus. Biol. Lab. Sci. Soc. China, June 8, or 9, 1933.

Length to base of caudal 50 mm. Depth in length 2.27; head 4.34. Eye in head 3.43; snout 3.13; interorbital space 2.20; longest ray; dorsal 1.15, pectoral 1.24, ventral 1.48, anal 1.18, caudal 0.86; length of caudal peduncle 1.12; height of caudal peduncle 1.32.

Dorsal ii, 12; pectoral 1,10; ventral 1,6; anal ii, 12. Scales $35\frac{6}{3\frac{1}{2}\text{-v}}$.

DISTRIBUTION—Yangtse Valley.

REMARKS—This fish differs from the type of the species collected from Luchow and another from Foochow in having such variations: (1) more dorsal and anal rays, (2) more scales along the lateral line, (3) sometimes slightly shorter head, (4) some shorter or longer snout, (5) mostly narrower interorbital space, and (6) smaller eyes.

Other 11 specimens were obtained in the collections: Nos. 13192-13204.

MEASUREMENTS OF *RHODEUS WANKINFUI* WU.

Number in Mus. Biol. Lab. Sc. Soc. China.			13193	13195	13196	13198	13199	13201	13204
Date			June 8 to 9, 1933.						
Total leng in mm. (Without caudal)			51	57	50	53	55.3	55	43
In length without caudal	Head		4.47	4.37	4.33	4.43	4.38	3.64	4.14
	Depth		2.16	2.23	2.21	2.30	2.46	2.33	2.12
	Eye		3.42	3.65	3.57	3.57	3.50	3.47	3.32
	Snout		3.26	3.23	3.38	3.38	3.38	3.40	3.28
	Interorbital		2.43	2.55	2.40	2.40	2.60	2.37	2.56
In length of head	Longest ray	D.	0.96	1.13	1.20	1.11	1.00	1.00	1.08
		P.	1.21	1.26	1.20	1.20	1.13	1.13	1.07
		V.	1.39	1.50	1.39	1.36	1.35	1.28	1.35
		A.	1.08	1.23	1.30	1.14	1.11	1.07	1.08
		C.	0.28	0.78		0.80	0.73	0.76	0.77
	Caudal peduncle	L.	1.11	1.08	1.09	0.96	1.08	1.00	1.10
		H.	1.35	1.35	1.32	1.26	1.33	1.22	1.35
Number of rays	Dorsal		ii 12	ii,12	ii,11	ii,11	ii,11	ii,10	ii,10
	Pectoral		1,11	1,11	1,11	1,11	1,11	1,11	1,11
	Ventral		1,6	1,6	1,6	1,6	1,6	1,6	1,6
	Acal		ii,12	ii,11	ii,11	ii,12	ii,11	ii,12	iii,12
Scales	Lateral		35	34	35	34	35	35	33
	Transverse		6/3½	5½/3½	6/4½	5½/4	6/4	5½/4	6/4
Pharyngeal teeth			5-5						
Gill-rakers			Very minute.						

Genus **Pararhodeus** BERG.

Pararhodeus BERG, 1907, Ann. Mag. Nat. Hist., (7) XIX, p. 160.

Type: *Pararhodeus syriacus* (LORTET).

34. **Pararhodeus fangi,** sp. nov.

Type specimen—No. 3216, Mus. Biol. Lab. Sci. Soc. China, April 23, 1930.

Length to base of caudal 47.5 mm. Depth in length 25; head 3.78. Eye in head 3.54; snout 3.54; interorbital 2.4; longest ray: dorsal 1.3, pectoral 1.43, ventral 1.66, anal 1.76, caudal ?; length of caudal peduncle 1.18; height of caudal peduncle 1.43.

Dorsal 3,9; pectoral 12; ventral 7; anal 3,10. Scales $33\frac{6}{3\text{-v}}$.

Body much compressed, deep, rhomboid, the greatest depth about in the origin of ventral; breast convex; caudal peduncle also compressed. Head small, compressed, deep, flattened. Eye moderate in size, nearly in middle of head; length of snout equal to the diameter of eye, its tip with a pair of rounded patches of tubercles; interorbital space broad and slightly convex; nostrils two, in front of eye above. Mouth small, terminal, obligue; maxillary extending to below anterior margin of anterior nostril; mendible slightly included in upper jaw; barbels none. Gill-opening extending to hind margin of eye. Rakers weak, fleshy, points, shorter than filaments. Gill-membranes connected with isthmus.

Dorsal fin slightly elongate, single rays osseous, the third longest, its length nearer base of caudal than tip oof snout; pectoral inserted low short, upper rays longest, not reaching to ventral which is inserted in advance of dorsal. Anal fin similar to dorsal, but slightly shorter. Caudal fin forked.

Scales large cycloid, thin, rather narrowly imbricated on sides of body, desposed in even longitudinal series, but slightly smaller on edges of body and breast. Lateral line consisting of only 4 short tubes at shoulder.

Pharyngeal teeth in one row, 5-5, compressed, slightly serrated.

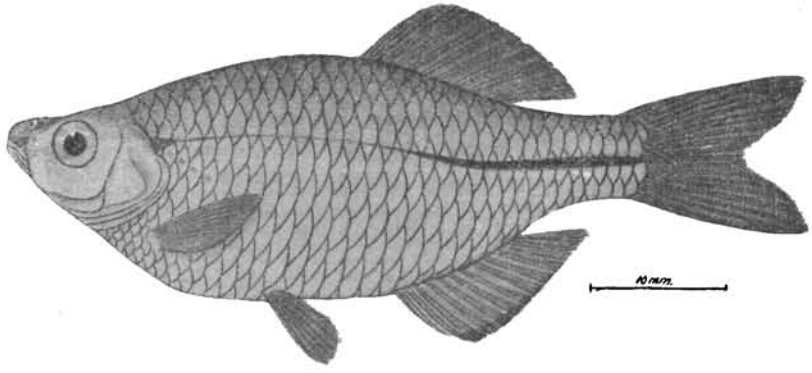

Fig. 31. *Pararhodeus fangi* MIAO, sp. nov.

COLOUR in formalin—Brown, darker on dorsal side; scales with dusky margin; a distinct, bluish black shoulder-spot above gill opening, succeeded by a space of about 3 scales broad and an vertical bluish band behind it. Anal fin margined black. A narrow bluish streak in caudal peduncle extending backwards to midway of caudal and becoming narrow along the great part of trunk.

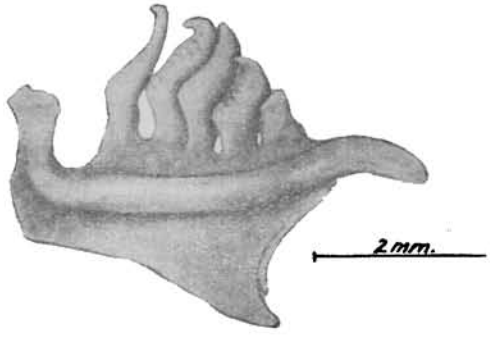

Fig. 32. Pharyngeal teeth of *Pararhodeus fangi* MIAO, sp. nov.

Another one specimen was collected in 1930: No. 13191.

DISTRIBUTION—Chinkiang.

REMARKS—The present species differs from *Rh. wankinfui* WU by having slightly serrated pharyngeal teeth (on 2nd & 4th teeth).

The author has to pleasure to name this new species after Mr. P. W. Fang of the Metropolitain Museum of Natural History, Academia Sinerica.

Genus **Pseudoperilampus** BLEEKER

Pseudoperilampus BLEEKER, 1863, Ned. Tijd. Dierk., I, p. 214.

Type: *Pseudoperilampus typus* BLEEKER.

35. **Pseudoperilampus lighti** WU.

For description & illustration see WU, 1931, Contr. Biol. Lab. Sci. Soc. China, VII, *Z. S.*, 1, p. 25, fig. 4.

Pseudoperilampu slighti WU, 1931, Contr. Biol. Lab. Sci. Soc. China, VII, *Z. S.*, 1, p. 25, fig. 4; Foochow.

One specimen—No. 13187, Mus. Biol. Lab. Sci. Soc. China, June 8 or 9, 1933.

Length to base of caudal 54 mm. Depth in length 2.28; head 3.74. Eye in head 3.33; snout 3.33; interorbital space 2.48; longest ray: Dorsal 1.26, pectoral 1.22, ventral 1.47, anal 1.64, caudal 1.11; length of caudal peduncle 1.87; height of caudal peduncle 1.25.

Dorsal 3,9; pectoral 13; ventral 7; anal 3.9. Scales 34 $\frac{6}{3\frac{1}{2}\text{-v}}$.

DISTRIBUTION—Foochow & Chinkiang.

REMARKS—This fish differs slightly from the type described by WU from Foochow in having the black margin of the ventral fins and sometimes one ray less in the anal fin.

Three specimens were obtained in the recent collection.

Genus **Acheilognathus** BLEEKER

Acheilognathus BLEEKER, 1860, Ichth. Archipel. Indic. Prodr., II, p. 228.

Type: *Acheilognathus melanogaster* BLEEKER.

36. **Acheilognathus chi,** sp. nov.

Type specimen—No. 13182, Mus. Biol. Lab. Sci. Soc. China, June 8, or 9, 1933.

Length to base of caudal 52 mm. Depth in length 2.5; head 4.4. Eye in head 3.0; snout 3.6; interorbital 2.6; longest

ray: dorsal 1.10, pectoral 1.16, ventral 1.43, anal 1.40, caudal 0.8; length of caudal 1.16; height of caudal 1.5.

Dorsal 3,9; pectoral 15; ventral 8; anal 3,12. Scales 35 $\frac{6}{3\text{-}v}$. Barbels 2.

Body deep, well compressed, rhomboid; dorsal and ventral profiles equally convex; its greatest depth at origin of dorsal. Caudal peduncle compressed. Head small, short, compressed, its dorsal profile flattened at junction to nape, very slightly convex near top, the ventral profile a little more inclined than the dorsal. Eye large, supero-lateral; its diameter longer than length of snout, but shorter than interorbital; snout rather short, very slightly obtuse, slightly projecting beyond mandible, a pair of rounded patches of tubercles on tip of it (snout). Nostrils two, close together, supra-lateral, in front of upper margin of eye. Mouth small, subterminal, slightly obligue; maxillary more or less concealed below the anterior nostril; mandible small, slightly included in upper jaw when closed; lips rather thin. Barbels two, its length more than half the length of eye. Gill-rakers weak, with fleshy points; gill-membranes connected to isthmus.

Dorsal fin slightly elongate, without spines, its origin about midway in between tip of snout and base of caudal, third simple ray longest, commencing nearer of ventral than origin of anal. Pectoral inserted rather low, moderate in size, not reaching ventral, no pectoral flap. Ventral inserted before dorsal, extending but not reaching origin of anal. Anal similar to dorsal in shape, but slightly smaller than the latter; its origin about opposite base of first branched ray which is longest. Caudal fin forked.

Scales large, cycloid, thin without conspicuous striae, rather narrow imbricated on sides of body and disposed in series parallel with lateral line. Scales on edges of body and breast a little smaller than others. Lateral line complete, moderately decurved above ventral to base of anal.

Pharyngeal teeth in one row, 5-5, compressed, ends curved in form of hook and with slight grinding-surfaces, their surfaces and edges entire.

COLOUR in formalin—Uniform pale brownish above lateral line, slightly bluish below, with two largely indistinct spots near shoulder. Deeply brownish on dorsal line from the posterior of head to base of caudal. Behind gill-opening an indistinct pale streak, extending posteriorly and gradually becoming broader from about a line opposite to the base of

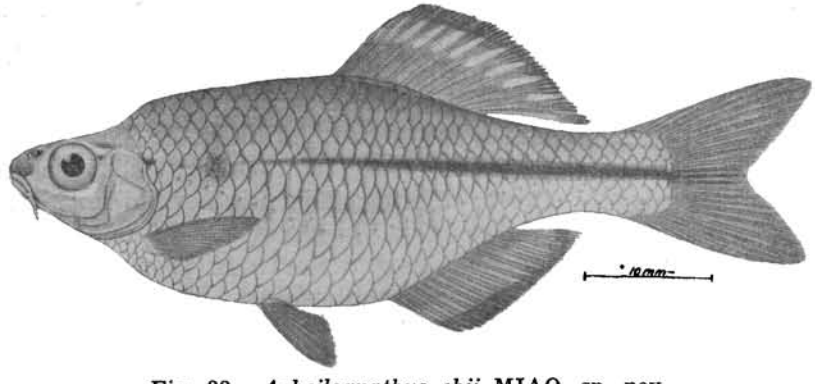

Fig. 33. *Acheilognathus chii* MIAO, sp. nov.

ventrals to end at tip of midway of caudal. Dorsal fin deeply dusky, near tip with a longitudinal whitish band; anal fin light dusky, near tip with a longitudinal whitish band; anal fin light dusky, also with a longitudinal whitish streak across the fin of which the tip bears a more or less extensive deep-black broad marginal band.

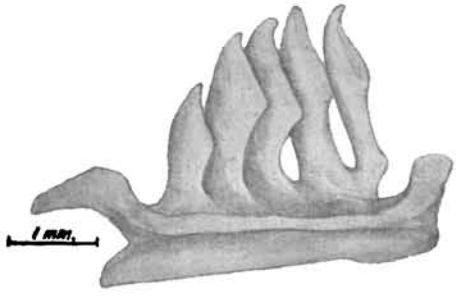

Fig. 34. Pharyngeal teeth of *Acheilognathus chii* MIAO, sp. nov.

SEXUAL DIMORPHISM—Male in breeding season has the tip of anal blackened and a pair of rounded of patches of tubercles at tip of snout, but the colour will be faded when the season is over.

DISTRIBUTION—Chinkiang.

REMARKS—*Capoëla intermedia* SCHLEGEL (or *A. intermedia* JORDAN & HUBBS) is nearly related to the present

species, the latter being however distinguished from the former by having such characters as follows: (1) Its depth is twice and half in total length without the caudal, (2) The eye is larger, its diameter greater than the length of its snout and (3) Its anal fin is composed of twelve branched rays. This new species is also closely related to *A. lanceolata* JORDAN & HUBBS, but it differs from the latter in having more anal rays.

This new species is named after Mr. Chen-Ju Ch'i, Director of Bureau of Education of Honan Province for the appreciation of his kind support during this study.

Genus **Acanthorhodeus** BLEEKER

Acanthorhodeus BLEEKER, 1870, Versl, Akad. Amst., (2) IV, p. 253.

Type: *Acanthorhodeus macropterus* BLEEKER.

37. **Acanthorhodeus atranalis** GÜNTHER.

Acanthorhodeus atranalis GÜNTHER, 1873, Ann. Mag. Nat. Hist., (4) XII, p. 248; Shanghai;—SAUVAGE & DABRY, 1874, Ann. Sci. Nat., (6), Zool. et Paleont, I, 5;—BERG, 1907, Ann. Mag. Nat. Hist., (7) XIX, p. 162; —RENDAHL, 1928, Ark. Zool., XX, A, I, p. 147; Anhui, Tang-tu-hsien;—NICHOLS, 1928, Bull. Amer. Mus. Nat. Hist., LVIII, 1, p. 32; Shaohsing;—MORI, 1928, Japan. Journ. Zool., II, 1, p. 67; Tsinan, China;—TCHANG & SHAW, 1931, Bull. Fan. Mem. Inst. Biol., II, 15, p. 291; Hopei, Peiping;—CHU, 1932, Fish. West Lake, p. 31, fig. 17; Hangchow.

One specimen—No. 3235, Mus. Biol. Lab. Sci. Soc. China, April, 1930.

Length to base of caudal 71 mm. Depth in length 2.2; head 4.5. Eye in head 3.0; snout 4.0; interorbital space 2.6; longest ray: dorsal 1.0, pectoral 1.1, Ventral 1.2, anal 1.2, caudal ?; length of caudal peduncle 1.3; height of caudal peduncle 1.3.

Dorsal III, 13; pectoral 15; ventral 8; anal III, 11. Scales $34\frac{7}{6\text{-}v}$.

Body deep, much compressed, rhomboid, of dorsal and ventral profiles similarly convex, its greatest depth about in

origin of ventral. Head small, compressed. Eye large, anterior; snout slightly shorter than diameter of eye; interorbital space is flattened, nostrils close together, in front of eye above. Mouth small, terminal, its angle reaching below middle of nostrils; mandible slightly shorter; barbels absent. Gill-membranes jointed to isthmus below the posterior margin of preopercle; gill rakers short, about 15 in the anterior arc.

Dorsal fin commencing about in midway between the base of caudal and tip of snout, its spine longer than anal one. Pectoral fin pointed, inserted below body-axis, not reaching base of ventral, longer than the latter which is inserted before the vertical of origin of dorsal. Anal fin commencing nearer the origin of ventral than base of caudal. Caudal fin forked.

Scales large, lateral line slightly decurved anteriorly and straight along the middle of caudal peduncle.

COLOUR in formalin—Uniformly brownish, a dark spot over base of pectoral, and a median streak along the side of the body to base of caudal.

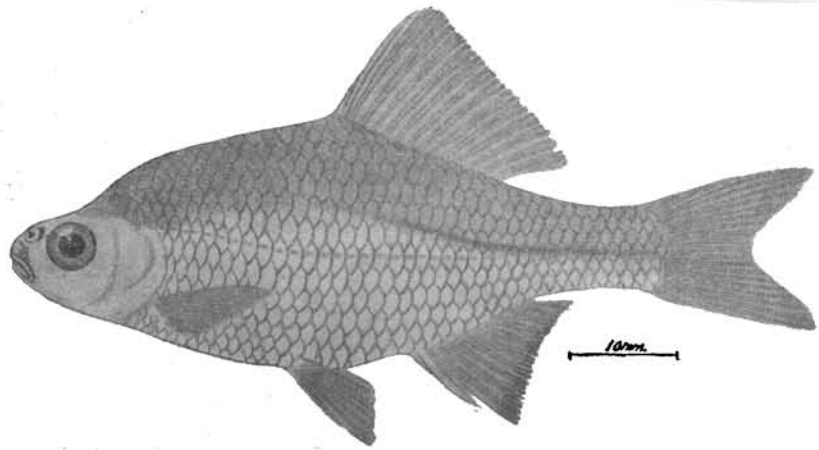

Fig. 35. *Acanthorhodeus atranalis* GÜNTHER.

DISTRIBUTION—Lower Vallies of Yangtse and Yellow Rivers; Chekiang.

Other 5 specimens were obtained in the collections [redacted] Nos. 13190, 13183-13186.

MEASUREMENTS OF *ACANTHORHODEUS TRANALIS* GÜNTHER.

Numbers in Mus. Biol. Lab. Sci. Soc. China.			13190	13184	13183	13185	13186
Date			I,'33	IV,'30	IV,'30	IV,'30	IV,'30
Total length in mm.			46.5	63	65	53.5	62
In length without caudal fin	Head		4.10	4.33	4.60	4.23	4.245
	Depth		2.65	2.41	2.32	2.53	2.54
In length of head	Length of snout		3.61	3.73	3.75	3.62	3.80
	Diameter of eye		3.00	3.00	3.00	3.00	3.00
	Interorbital space		2.60	2.50	2.50	2.55	2.34
	Longest ray	Dorsal	1.16	1.07	1.05	1.02	1.05
		Anal	1.30	1.30	1.20	1.18	1.21
		Pectoral	1.22	1.23	1.09	1.13	1.12
		Ventral	1.45	1.36	1.23	1.29	1.28
		Caudal	?	0.80	0.89	.780	.805
	Caudal peduncle	Length	1.16	1.10	1.09	1.17	1.12
		Height	1.66	1.50	1.35	1.45	1.39
Number of rays	Dorsal		II,13	III,14	III,13	II,12	III,13
	Anal		II,11	III,11	III,11	II,10	III,10
	Pectoral		1,16	1,16	1.16	1,16	1,16
	Ventral		1,7	1,7	1,7	1,7	1,7
Scales	Lateral		35+2	234+	35+	35+2	34+2
	Transverse		5½/6	5½/6	6/6	5½/6	5½/6
Pharyngeal teeth			5–5				
Gill rakers							

A SYNOPSIS OF THE GROUP RHODENINAE

A. Lateral line imcomplete; no spine in dorsal and anal.

B. Pharyngeal teeth in 1 row, 5-5, not serrated; more than 7 branched rays in anal (*Rhodeus*, AGASSIZ, 1835).

C. No barbels.

D. Dorsal 2,9-9½; anal 2,9-9½; Scales 32-33.

E. Eye rather small (3. 5 in head); snout longer (3-6); mouth terminal; few rays in dorsal and anal. (Tsinan).....*Rh. hwanghoensis* MORI, 1928.

EE. Eye large (2.7 in head); snout smaller (3.4); mouth distinctly inferior; about in equal number of rays in dorsal and anal as *Rh. hwanghoensis* (Tsinan) .....*Rh. notatus* NICHÖLS, 1929.

D2. Dorsal 2, 10-12; anal 2, 10-12.

E. Scales in lateral line 32-33, in transverse 10½-v; small rounded spots on shoulder. Depth in length without caudal 2.3-2.4; head 3.9-4.4. Eye in head 3.0-3.2; snout 3.2; interorbital 2.2-2.4 (Luchow) .....*Rh. wankinfui* WU, 1930.

EE. Scales in lateral line 34-35, in transverse 12, or 12½-v, small rounded spots on shoulder absent. Depth in length without caudal 2.00-2.10. Eye in head 3.0-3.43; snout 3.01-3.57; interorbital 2.40 (Chinkiang) ....*Rh. pingi* MIAO, nov. sp., 1933.

D3. Dorsal 2, 10; anal 2, 14. Scales in lateral 32-34, in transverse 5/6. Depth in length 2.0; head 4.14. Eye 3.0 in head; snout 3.0; interorbital 3.0 (Hainan) ....*Rh. spinalis* OSHIMA, 1926.

D4. Dorsal 3, 11; anal 2,11. Scales in lateral 32, in trans-

E. Depth 2.0 in length without caudal; head 4.0. Eye 3¼ in head. Pectoral 1/12. (Yangtse, TCHANG, 1930, Cyprin. Bass. Yangtse, p. 110).— ....*Rh. kurumeus* JORDAN & THOMPSON, 1914.

EE. Depth 2.½ in length without caudal; head 4¼. Eye 4¼ in head. Pectoral 1/10. (Yangtse, From TCHANG, 1930, Cyprin. Bass. Yangtse p. 109)... ....*Rh. atremius* JORDAN & THOMPSON, 1914.

D5. Dorsal 3, 10, 1; anal 3, 10, 1. Scales 32+2, Tran. 11. Depth 2.2 in length; head 3¾. Eye in head 2.4/5. (Peiho, River Teintsin) ....*Rh. maculatus* FOWLER, 1910.

D6. Dorsal 3, 9—10; anal 3, 8—10. Scales 34-40.

E. Width of third suborbital less ½ diameter of eye (Central Europe, N. W. and S. Russia, Macedonia, Anatolia, Caucasus, basin of Amur, Manchuria) .....*Rh. sericeus* (PALLAS), 1776, (=Rh. amarus, BLOCH, 1782).

EE. Width of third suborbital more than ½ diameter of eye (Southern China) ....*Rh. sinensis* GÜNTHER, 1868.

CC. Barbels present.
Dorsal 3, 8; anal 3, 9. Scales 32.
Depth in length without caudal 2.5; head 3.75. Eye 2.75 in head. (Japan, Kiu-siu). ....*Rh.* (?) *oryzae* JORDAN & SEALE, 1906.

BB. Pharyngead teeth 5-4 or 5, slightly serrated. (*Pararhodeus*, BERG. 1907.

C. Dorsal 2, 7; anal 3, 6. Scales 48-49. (Syria, Damascus). .....*P. syriacus* (LORTET), 1883 BERG. 1907.

CC. Dorsal 3, 9; anal 3, 10. Scales 36 6/3-v. (Chinkiang).... .....*P. fangi* MIAO, nov. sp., 1933.

BBB. Pharyngeal teeth 5—5, deeply serrated; barbels absent. (*Pseudoperilampus*, BLEEKER, 1863).

C1. Dorsal 3, 10—11; anal 3, 10—11. Scales 55—65. (Japan) .....*P. typus* BLEEKER, 1863.

C2. Dorsal 3, 11—12; anal 3, 10—11. Scales 33—34. (Shanghai, Yangtsekiang) .....*P. ocellatus* KNER, 1865-67.

C3. Dorsal 2, 12; anal 2, 16. Scales 34; mouth inferior curved. (Hainan) .....*P. hainanensis* NICHOLS & POPE, 1927.

C4. Dorsal 2, 9; anal 2, 10. Scales 34; mouth subterminal. (Foochow) .....*P. lighti* WU, 1931.

AA. Lateral line complete.

B. Pharyngeal teeth 5—5, not serrated ....**(*Acheilognathus* BLEEKER, 1860).**

C. Barbels absent.

D. Spine in dorsal and anal absent.

E. Dorsal 2, 14-15; anal 2, 14-15. Scales in lateral line 35-38 (Japan) ....***A. longipinnis* REGAN, 1905.**

EE. Dorsal 3, 8, 1; anal 3, 7, 1, Scales $37+3\frac{6}{4\text{-v}}$ (Lake Biwa, Japan) ....***A. brevianalis* FOWLER, 1910.**

EEE. Dorsal 3, 10; anal 13. Scales in lateral line 33 6/4-v. (Japan) .....*A. smithii* REGAN, 1908.

DD. Spine in dorsal and anal present.

E1. Dorsal II, 9; anal II, 7. Scales in lateral line 35 $\frac{?}{4\text{-v}}$, moderately bent down under front of dorsal. Depth in length 3.0; head 3.8. Eye in

head 2.5; snout 3; interorbital 2.4. (Huping, Tungting Lake, Hunan) ....*A. gracilis* NICHOLS, 1926.

E2. Dorsal II, 11; anal II, 9. Scales in lateral line $37\frac{6}{4\text{-}v}$, nearly straight. Depth 2.8 in length without caudal; head 4.0. Eye 3.5 in head; snout 3. 6; interorbital space 2.7. (Fu Tsi-chang, Luchow) .....*A. gracilis luchowensis* WU, 1930.

E3. Dorsal III, 12—13; anal II, 10. Scales in lateral line 35—38. (Basin of Amur, Lake Khanha or Hanka) .....*A. Chankaensis* (DYBOWSKY (=Devaris chankaensis, DYBOWSKY), 1872.

CC. Barbels present.

D. Spine in dorsal and anal absent.

E. Shoulder with a more or less distinct dark spot above gill-opening.

F. Barbels short, about half the length of the eye. Shoulder-spot and lateral band very distinct (Japan) ....*A. limbatus* (SCHLEGEL), 1836.

FF. Barbels more than half of the length of eye, shoulder-spot and lateral band instinct or absent.

G. Dorsal III, 9; anal III, 9. Scales 34—37 (form J. & H.) (Japan) ....*A. lanceolatus* (SCHLEGEL), 1846.

GG. Dorsal III, 9; anal III, 12; scales 36 (Chinkiang) ....*A. ch'ii* MIAO, nov. sp., 1933.

EE. Shoulder without dark spot above gill-opening.

F. Barbles short, not more than half the length of the eye.

G. A longitudinal dark band; dorsal with several darder longitudinal cross-bars; anal dark, with a broad marginal whitish band. Barbel very short. Dorsal III, 8; anal III, 8. Scales in lateral line 39. (Japan) ..... *A. cyanostigma* JORDAN & FOWLER, 1903.

GG. No longitudinal dark band; dorsal dark, with a broad marginal white band; anal

with several darker longitudinal crossbars. Barbel about half the eye Dorsal II, 8; anal II, 8. Scales in lateral line 36 (Korea) ....*A. signifer* BERG, 1906.

FF. Barbels as long as eye. A longitudinal dark band along the middle of caudal peduncle; lower half of dorsal with a series of blackish dots. Dorsal II, 9; anal II, 11-12. Scales in lateral line 34. (Formosa) ....*A. himantegus* GUNTHER, 1868.

DD. Spine in dorsal and anal present.

E. Dorsal II, 11; anal II, 9. Scales in lateral line 36. Depth 2½ in length without caudal; snout shorter than eye. (Shanghai) ....*A. barbatulus* GÜNTHER, 1873.

EE. Dorsal III, 11-13; anal III, 11. Scales in lateral line 35-36. Depth 2 1/5—2 1/6 in length without caudal; snout as long as eye; a dark blue spot above gill-opening. (Korea, Seoul.) ....*A. coreanus*, STEINDACHNER, 1892.

BB. Pharyngeal teeth, 5—5, deeply serrated.

C. Spine in dorsal or anal absent. ....(*Paracheilognathus*, BLEEKER, 1863).

D. Barbles (very minute) present.

E. Mouth inferior. Dorsal II, 14; anal III, 10. Scales lateral line 37-38. Depth 2.21 in length without caudal; head 4.1. Eye 4.0 in head. (Japan) .....*P. rhombeus* (SCHLEGEL), 1846.

EE. Mouth oblique. Dorsal II, 11; anal II, 9. Scales in lateral line 36, in tran. 6/6. Depth 2.3 in length; head 4.2. Eye 3.5 in head (Tsinan) ....*P. shibatae* MORI, 1928.

DD. Barbels absent.

E1. Dorsal 2, 10; anal 2, 12. Scales in lateral line 35. Head 4 in length, depth 3. Eye 3 in head .... *P. imberbis* (GÜNTHER); 1868.

E2. Dorsal 3, 13-14; anal 3, 10-11. Scales in lateral line 35. Head 4 in length; depth 2½. Eye 2.00 in head (Yangtsekiang, Tientsin.) ....*P. bleekeri*, REGAN, 1907. (=*P. imberbis*, BLEEKER, 1871, non *Achilognathus imberbis*, GÜNTHER).

E3. Dorsal 5, 8; anal 2, 10. Scales 32-35 in lateral line, 5, to 6/3 in tran. Depth $2^3/_5$—$2^3/_4$ in length; head 4.0 Eye 3¼ in head; snout 3¼; interorbital $2\,^3/_5$. (Japan) ..... *P. shimazui* (TANAKA,) 1934, (=*Achilognathus shimazui* TANAKA, 1908).

E4. Dorsal 3, 12, I; anal 2, 10, I. Scales in lateral line 34+2, in tran. 6/5. Depth 2 ⅛ in length; head $3\,^4/_5$ Eye 3.0 in head (Pei-ho River, at Tien-Tsin, China.)..*P. peihoensis* FOWLER, 1910.

CC. Spine in dorsal & anal present ....(*Acanthorhodeus*, BEELKER, 1871.)

D. Barbels present.

E1. Dorsal II, 10; anal II, 9. Scales in lateral line 38. Head 3.5 in length; Depth 2.3 ....*A. barbatus* (NICHOLS) 1926.

E2. Dorsal II, 17-18; anal III, 12-13. Scales in lateral line 35. Head 5.0 in length; depth 2½ ....*A. macropterus* BLEEKER 1871.

E3. Dorsal III, 17-18; anal III, 13-14. Scales in lateral line 36-40. Head 4¼-4½ in length; depth $2.0\text{-}2\,^1/_9$ line 36-40. Head 4¼-4½ in length; depth $2.0\text{-}2\,^1/_9$ .....*A. guichenoti* BLEEKER, 1871.

E4. Dorsal III, 17; anal III, 13-14. Scales in lateral line 34 in transverse 5/6. Head $4\,^2/_5$ n length; depth 2½ .....*A. dicaens* RUTHER, 1898.

E5. Dorsal III, 15; anal III, 11. Scales in lateral line 36. Head 4 in length; depth 2 (Japan)..... .....*A. tonkinensis* VAILLANT, 1892.

DD. Barbels absent.

E1. Dorsal III, 14-15; anal III, 12-13. Scales in lateral line 30 (Yangtsekiang) ....*A. hypselonotus*, BLEEKER, 1871.

E2. Dorsal III, 14; anal II, 9. Scales in lateral line 34, in tran. 5½/6-v. ....*A. wangi* TCHANG, 1930.

E3. Dorsal II, 12; anal II, 10-11. Scales in lateral line 35, in transverse 5½/6-v. ....*A. tranalis* GUNTHER, 1873.

E4. Dorsal II, 11-13; anal I, 10-11 (12). Scales in lateral line 36-38, in tran. 5-6/4-v. Body elongate; mouth very oblique terminal ....*A. longatus* REGAN, 1908.

E5. Dorsal II, 15; anal I, 12. Scales in lateral line 34, in tran. 5½/6½..... .....*A. ngnowyangi* TCHANG 1930.

E6. Dorsal II, 16-17; anal II, 13-14. Scales in lateral line 35—36, in transverse 6/5½-v. (Shanghai) .. ..*A. taenianalis* GÜNTHER, 1873.

E7. Barbels present closely allied to *A. taenianalis* except barbels ....*A. longispinis* OSHIMA, 1926.

Genus **Cyprinus** (Artedi) LINNAEUS.

Cyprinus (Arterdi) LINNAEUS, 1858, Syst. Nat., 10th Ed., p. 30.

Type: *Cyprinus carpio* LINNAEUS.

38. **Cyprinus carpio** LINNAEUS.

For description see WU, 1929, Contr. Biol. Lab. Sci. Soc. China, V, 4, p. 42.

Cyprinus carpio LINNAEUS, 1875, Syst. Nat., 10th Ed., p. 320; Europa;—GÜNTHER, 1868, Cat. Fish. B. M., VII, p. 25; Europe and Asia;—PETERS, 1880, Monatsb. Akad. Berlin, p. 924, 1029; Hongkong;—SAUVAGE, 1881, Bull. Soc. Philom., p. 7; Swatow;—SAUVAGE, 1884. Bull. Soc. Zool. France, IX, p. I; Tonkin;—GÜNTHER, 1889, Ann. Mag. Nat. Hist., (6) IV, p. 224; Yangtse-kiang;—GÜNTHER, 1906, Ann. Ac. St. Petersb., p. 12; Cheng-tu-fu;—RUTTER, 1897, Proc. Acad. Nat. Sc. Philad., p. 57; Swatow;—GÜNTHER, 1898, Ann. Mag. Nat. Hist., (7) I, p. 261; New-chwang;—ABBOTT, 1901, Proc. U. S. Nat. Mus., XXIII, p. 484; Pei-ho;—JORDAN & EVERMANN, 1903, Proc. U. S. Nat. Mus., XXVI, p. 321; Formosa;—REGAN, 1904, Ann. Mag. Nat. Hist., XIII, p. 191; Yunnan;—JORDAN & RICHARDSON, Mem. Carneg. Mus., IV, 4, p. 169; Formosa;—JORDAN & SEALE, 1905, Proc. Davenport Acad. Sci., X, p. 3; Hongkong;—JORDAN & SEALE, 1906, Proc. U. S. Nat. Mus., XXXIII, p. 537; Buitenzorg; Java;—JORDAN & METZ, 1913, Mem. Carneg. Mus., VI, 2, p. 14; Corea;—JORDAN, SNYDER & TANAKA, 1913, Journ. Coll. Sci., Tokyo, XXXIII, p. 76; Japan;—OSHIMA, 1919, Ann. Carneg. Mus., XII, 2-4, p. 201; Formosa;—OSHIMA, 1920, Proc. Acad. Nat. Sci. Philad., p. 122; Formosa;—NICHOLS & POPE, 1927, Bull. Amer. Mus. Nat. Hist., LIV, p. 349; Hainan;—TCHANG, 1928, Contr. Biol. Lab. Sci. Soc.

China, IV, 4, p. 5, fig. 7; Nanking;—NICHOLS, 1928. Bull. Amer. Mus. Nat. Hist., LVIII, 1, p. 10; Tungting Lake (Hunan), Swatow, Hainan;—RENDAHL, 1928, Ark. Zool., XX, A, 1, p. 148; Anhwei, Tang-tu-hsien, Ching-shan-ho; Shou-chou, Huai-ho; Hoangho, Yuan-chü-hsien, Ssu-shui-hsien; Shansi, Pao-te-chou; Kiangsu, Nanking, Yangtse-kiang; Sui-yuang; Pao-T'ou; Fukien, Chang-ting-hsien, Hsin-chiao;—MORI, 1928, Japan. Journ. Zool., II, 1m p. 62; Hwang-ho, Tsinan, China;—WU, 1929, Contr. Biol. Lab. Sci. Soc. China, V, 4, p. 42, fig. 35;—FOWLER, 1929, Proc. Acad. Nat. Sci. Philad., LXXXI, pp. 594, 602; Shanghai and Hongkong;—SHAW, 1930, Bull. Fan. Mem. Inst. Biol., I, 7, p. 112; Ka-shing; Shing-Tsong;—TCHANG, 1930, Sinensia, I, 7, p. 87; Tchoung-king; Kiating;—SHAW, 1930, Bull. Fan. Mem. Inst. Biol., I, 10, pp. 171, 172, 204; Soochow;—NICHOLS, 1930-31, Peking Nat. Hist. Bull., V, 2, p. 19; China;—WU, 1931, Contr. Biol. Lab. Sci. Soc. China, VII, *Z. S.*, 1, p. 26; Foochow;—TCHANG & SHAW, 1931, Bull. Fan. Mem. Inst. Biol., II, 15, p. 283; Hopei;—LIN, 1932, Ling. Sci. Journ., XI, I, p. 64; Heungchow;—TCHANG, 1932, Bull. Fan. Mem. Inst. Biol., III, 8; p. 110; Ching-po Lake, Kirin;—CHU, 1932, Fish. West Lake, p. 33, fig. 18, 24; Hangchow;—RENDAHL, 1932, Ark. Zool., XXIV, A, 16, p. 113;—WANG, 1933 Contr. Biol. Lab. Sci. Soc. China, IX, *Z. S.*, 1, p. 20; Chefoo;—WU & TCHANG, 1933, Bull. Honan Mus., I, 1, p. 7, fig. 7; Kaifeng.

Cyprinus rubrofuscus LACÉPÈDE, 1798, Hist. Nat. Poiss., V, p. 530, Pl. 16, fig. 1;—CUV. & VAL., 1846, Hist. Nat. Poiss., XVI, p. 74;—RICHARDSON, 1846, Ichth. China, p. 288.

Cyprinus nigroaurfatus LACÉPÈDE, 1798, Hist., Nat. Poiss., V, p. 547, Pl. 16, fig. 2;—CUV. & VAL., 1846, Hist. Nat. Poiss., XVI, p. 73;—RICHARDSON, 1846, Ichth. China, p. 290.

Cyprinus viridi-violaceous LACÉPÈDE, 1798, Hist. Nat. Poiss., V, p. 547, Pl. 16, fig. 3;—CUV. & VAL., 1846, Hist. Nat. Poiss., XVI, p. 75;—RICHARDSON, 1846, Ichth. China, p. 288.

Cyprinus flavipinnis CUV. & VAL., 1846, Hist., Nat. Poiss., XVI, p. 71;—KÁROLI, 1882, Term. füzetek, V, p. 147; Kanton.

Cyprinus vittatus CUV. & VAL., 1846, Hist. Nat. Poiss., XVI, p. 72.

Cyprinus atrovireus RICHARDSON, 1846, Ichth. China, p. 287.

Cyprinus flammans RICHARDSON, 1846, Ichth. China, p. 288.

Cyprinus acuminatus RICHARDSON, 1846, Ichth. China, p. 289.

Cyprinus sculponeatus RICHARDSON, 1846, Ichth. China, p. 290.

Cyprinus haematopterus SCHLEGEL, 1846, Fauna Japonica, Poiss., p. 189, Pl. 96.

Cyprinus melanotus SCHLEGEL, 1846, Fauna Japonica, Poiss., p. 190, Pl. 97, fig. 1.

Cyprinus conirostris SCHLEGEL, 1846, Fauna Japonica, Poiss., p. 191, Pl. 97, fig. 2.

Cyprinus chinensis BASILEWSKY, 1855, Nouv. Mém. Soc. Nat. Moscou, X, p. 227, Tab. 2, fig. 3.

Cyprinus flavipinna BLEEKER, 1863, Atl. Ichth. Cyprin., p. 74, Tab. 7, fig. 3.

Cyprinus valgaris BLEEKER, Mem. Cyprinus China, p. 6.

Cyprinus fossicola RICHARDSON, 1846, Ichth. China, p. ; Kanton (nach Gemälde);—GÜNTHER, 1868, Cat. Fish. B. M., VII, p. 28; China;—BLEEKER, 1871, Verh. Akad. Amsterd., XII, p. ;—PETERS, 1880, M. B. Akad. Berlin, XLV, p. 921; Ningpo;—CHAUDHURI, 1911, Rec. Ind. Mus., VI, p. 13; Yuannan, Yungpe-Lake.

Cyprinus carpio var. *haemalopterus* MARTERS, 1874, Zool. Abteilung, I, p. ; Shanghai.

Cyprinus hybiscoides CHAUDHURI, 1911, Rec. Ind. Mus., VI, p. 13; Yuannan, Tali-fu.

Cyprinus carpio BLEEKER, 1871, Verh. Akad. Amsterd., XII, p. 1; Kanton; Peking;—BLEEKER, 1973, Ned. Tijd. Dierk., IV, p. 62;—SAUVAGE & DABRY, 1874, Ann. Sci. Nat., (6) Zool. et Paleont, I, 5;—MÖLLENDORFF, 1877, Journ. North China Branch Roy. Asiat. Soc. Shanghai, N. S., XI, p. 105; China;—POPTA, 1907, Zool. Anz., XXXII, p. 243; Kaiserkanal;—KREYENBERG & PAPPENHEIM, 1908, Sitz. Ber. Ges. Natf. Freunde, p. 95; Pinghsiang, Hsiangfluss, Tungting Lake (Hunan), Hankau;—GARMAN, 1921, Mem. Mus. Comp. Zool. Harv. Coll., XL, p. III; Shasi;—NICHOLS, 1918, Proc. Biol. Soc. Washington, XXXI, p. 15; Yuannan fu;—TCHANG, 1932, Bull. Fan. Mem. Inst. Biol., III, 14, p. 211; Keifeng.

One specimen—No. 3228, Mus. Biol. Lab. Sci. Soc. China, April 22, 1930.

Length to base of caudal 119 mm. Depth in length 2.7; head 3.7. Eye in head 4.5; snout 2.9; interorbital space 2.28; longest ray: dorsal 1.5, pectoral 1.5, ventral 1.6, anal 1.7, caudal 1.0; length of caudal peduncle 1.8; height of caudal peduncle 1.9.

Dorsal II, 18; pectoral 1,13; ventral 1,8; anal III, 6. Scales $36\frac{6}{5\text{-v}}$. Barbels 4.

Pharyngeal teeth in 3 rows, 3.1.1-1.1.3.

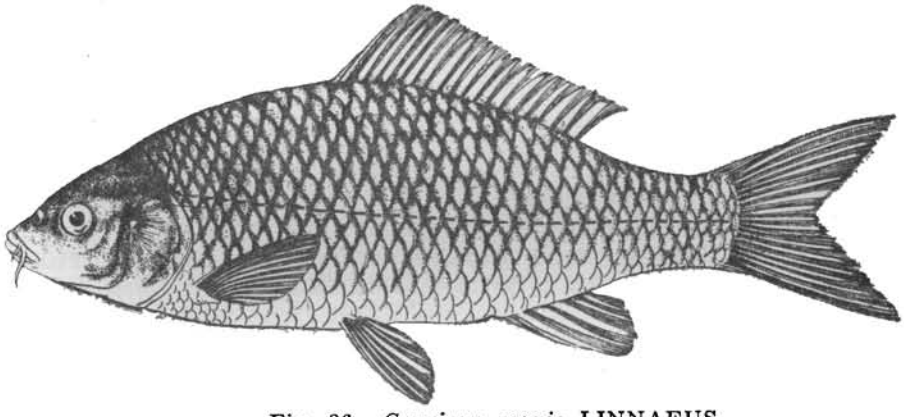

Fig. 36. *Cyprinus carpio* LINNAEUS.

DISTRIBUTION—Very common in lakes and rivers of this country.

REMARKS—This species is a common good food fish.

Other three were obtained in the collection in 1930.

Genus **Carassius** NILSSON

Carassius NILSSON, 1832, Prod. Ichth. Scand., IV, p. 290.
Type: *Cyprinus carassius* LINNAEUS.

39. **Carassius auratus** (LINNAEUS).

For description see WU, 1929, Contr. Biol. Lab. Sci. Soc. China, V, 1, p. 45.

Cyprinus auratus LINNAEUS, 1758, Syst. Nat., 10th Ed., p. 322, China and Japan;—GÜNTHER, 1896, Ann. Ac. St.

Petersb., p. 12; Huihsien; Chang-tu-fu;—RICHARDSON, 1846, Ichth. China, p. 293; Tse-kiang.

Carassius auratus BLEEKER, 1863, Atl. Ichth. Cyprin., p. 74; —GÜNTHER, 1868, Cat. Fish. B. M., VII, p. 32; China; Japan;—ANDERSON, 1878, Anatom. & Zool. Researches, Pices;—GÜNTHER, 1873, Ann. Mag. Nat. Hist., (4) XII, p. 246; Shanghai;—SAUVAGE, 1884, Bull. Soc. Zoöl. Fance, IX, p. 1; Tonkin;—RUTTER, 1897, Proc. Acad. Nat. Sc. Philad., p. 58; Swatow;—FOWLER, 1899, Proc. Acad. Sci. Philad., p. 179; China;—ABBOTT, 1901, Proc. U. S. Nat. Mus., XXIII, p. 484; Pei-ho, China;—JORDAN & FOWLER, 1903, Proc. U. S. Nat. Mus., XXVI, p. 860; Japan;—JORDAN & EVERMANN, 1903, Proc. U. S. Nat. Mus., p. 321; Formosa;—VAILLANT, 1904, Bull. Mus. Hist., Nat., VI, p. 298; Tonkin;—JORDAN & SEALE, 1905, Proc. U. S. Nat. Mus., XXIV, p. 519; Hongkong; —SNYDER, 1912, Proc. U. S. Nat. Mus., XLII, p. 404; Niigata; Same; Takamatsu River; Yamaguchi; Dogo island;—JORDAN & METZ, 1913, Mem. Carneg. Mus., VI, 2, p. 14; Corea;—JORDAN, SNYDER & TANAKA, 1913, Journ. Coll. Sci. Tokyo, XXXIII, p. 76; Japan;— OSHIMA, 1919, Ann. Carneg. Mus., XII, 2-4, p. 109; Formosa;—EVERMANN & SHAW, 1927, Proc. Calif. Acad. Sci., (4) XVI, 4, p. 104; Nanking;—TCHANG, 1928, Contr. Biol. Lab. Sci. Soc. China, IV, 4, p. 7, fig. 8; Nanking;—NICHOLS, 1928, Bull. Amer. Mus. Nat. Hist., LVIII, 1, p. 11; Chihli, Shansi, Anhwei, Tungting Lake (Hunan), Szechuan, Yunnan, Fukien, Hainan;— NICHOLS & POPE, 1927, Bull. Amer. Mus. Nat. Hist., LIV, 2, p. 350; Hainan;—RENDAHL, 1928, Ark. Zool., XX, A, 1, p. 149; Chihli, Tungchow; Anhui, Tang-tu-hsien; Shansi, Ping-lu-hsien; Hoangho; Shansi, Pao-te-chou; Yuan-chii-hsien; Honan, Ssu-shui-hsien, Ching-ho; Suiyuan, Pao-t'ou;—MORI, 1928, Japan. Journ. Zool., II, 1, p. 62; Tsi-nan, China;—WU, 1929, Contr. Biol. Lab. Sci. Soc. China, V, 4, p. 45; Amoy;—FOWLER, 1929, Proc. Acad. Nat. Sci. Philad., LXXXI, pp. 594, 602; Shanghai; Hongkong;—OSHIMA, 1920, Proc. Acad. Nat. Sci. Philad., p. 122; Formosa;—FOWLER & BEAN, 1920, Proc. U. S. Nat. Mus., LVIII, p. 310; Soochow, China;— SHAW, 1930, Bull. Fan. Mem. Inst. Biol., I, 7, p. 112; Ka-shing;—WU, 1930, Contr. Biol. Lab. Sci. Soc. China, VI, *Z. S.*, 5, p. 50; Pao-chin;—TCHANG, 1930, Sinensia, I, 7, p. 87; Yangtse, Tchoung-king, et Sufoo;—SHAW, 1930, Bull. Fan. Mem. Inst. Biol., I, 10, p. 173; Soochow;—

NICHOLS, 1930-31, Peking Nat. Hist. Bull., V, 2, p. 19; —FOWLER, 1930-31, Peking Nat. Hist. Bull., V, 2, p. 27; Tsi-nan;—WU, 1931, Contr. Biol. Lab. Sci. Soc. China, VII, *Z. S.*, 1, p. 26, Foochow;—MORI, 1930, Journ. Chosen Nat. Hist. Soc., II, p. 44; Yen-sha; Kei-ho;—TCHANG & SHAW, 1931, Bull. Fan. Mem. Inst. Biol., II, 15, p. 283; Hopei;—LIN, 1932, Lin. Sci. Journ., XI, 1, p. 65; Heungchow;—FOWLER, 1924, Bull. Amer. Mus. Nat. Hist,, 1, p. 373; Hsing Lung Shan, Ningkwo;—CHU, 1932, Fish. West Lake, p. 34, fig. 19; Hanchow;—WANG, 1933, Contr. Biol. Lab. Sci. Soc. China, IX, *Z. S.*, 1, p. 20, Shangtung, Chefoo, Tsingtan;—FU & TCHANG, 1933, Bull. Honan Mus., I, 1, p. 8, fig. 8, Kai-feng, Honan.

Cyprinus gibeloides CANTOR, 1824, Ann. Mag. Nat. Hist., IX, p. 485;—RICHARDSON, 1846, Ichth. China, p. 292.

Carassius langsdorfii SCHLEGEL, 1846, Fauna Japonica, Poiss., p. 192, Pl. XCVIII, fig. 1; Japan;—KNER, 1867, Novafa, Fish., III, p. 346; Shanghai;—PETERS, 1880, Monatsb. Akad. Berlin, p. 924;—SAUVAGE, 1881, Bull. Soc. Philom., p. 7; Swatow;—SAUVAGE, 1884, Bull. Soc. Zoöl. France, p. 1; Tonkin.

Carassius pekinensis BASILEWSKY, 1855, Nouv. Mém. Soc. Nat. Moscou, X, p. 229, Tab. 3, fig. 3; China.

Carassius discolour BASILEWSKY, 1855, Nouv. Mém. Soc. Nat. Moscou, X, p. 229, China.

Carassius coeruleus BASILEWSKY, 1855, Nouv. Mém. Soc. Nat. Moscou, X, p. 229; China.

Carassius macrophthalmus BASILEWSKY, 1855, Nouv. Mém. Soc. Nat. Moscou, X, p. 230, Tab. V, fig. 5.

Cyprinus carassioides RICHARDSON, 1846, Ichth. China, p. 291.

Cyprinus burgeri RICHARDSON, 1846, Ichth. China, p. 292.

Cyprinus abbreviatus RICHARDSON, 1846, Ichth. China, p. 292.

Carassius auratus BLEEKER, 1871, Verh. Akad. Amsterd., XII, p. 1; Kanton; Shanghai; Macao; Tse-kiang; Yang-tse-kiang; Peking;—BLEEKER, 1873, Ned. Tijd. Dierk., IV, p. 62;—SAUVAGE & DABRY, 1874, Ann. Sci. Nat., (6) Zool. & Paleont, 1, 5;—MÖLLENDORFF, 1877,

Journ. North-China Branch Roy. Asiat. Soc. Shanghai, N. S., XI, p. 105; Chihli;—BLEEKER, 1879, Verh. Akad. Amsterd., XVIII, p. ; Shanghai;—PETERS, 1880, M. B. Akad. Berlin, XLV, p. 921; Ning-po;—KÁROLI, 1882, Term. Füzetek, V, p. 147; Kanton;—GÜNTHER, 1888, Ann. Mag. Nat. Hist. (6) 1, 429; Yangtse-kiang;—GÜNTHER, 1896, Ann. Mus. Zool. Ac. Imp. Sci., St. Petersbourg, I, p. 199; Hui-hsien; Cheng-tu-fu; Ya-chou;—CHANDHURI, 1911, Rec. Ind. Mus., VI, p. 13; Yunnan, Tali-fu; Yung-chang-fu;—NICHOLS, 1918, Proc. Biol. Soc. Washington, XXXI, p. 15; Yunnan, Yunnan-fu; Fukien, Futsing;—FOWLER, 1924, Mem. Asiatic Soc. Bengal., VI, p. 503; near Soochow.

Carassius gibeloides SAUVAGE & DABRY, 1874, Ann. Sci. Nat., (6), Zool. & Paleont, I, 5; Western Szechuan.

Carassius vulgaris var. MARTENS, 1874, Zool. Abteilung, I, Berlin; Shanghai;—TCHANG, 1932, Bull. Fan. Mem. Inst. Biol., III, 8, p. 110; Ching-po Lake, Kirin.

Carassius carassius KREYENBERY & PAPPENHEIM, 1908, Sitz. Ber. Ges. Natf. Freunde, p. 95; Pinghsiang; Hsiang-fluss; Tungting Lake; Hankau;—KREYENBERY & PAPPENHEIM, 1909, Abh. Mus. Nat. Heimatk. Magdeburg, II, 1, p. ? Hsiang-fluss; Pinghsiang; Tungting Lake; Hankau;—GARMAN, 1912, Mem. Mus. Comp. Zool. Harv. Coll., XL, p. III; Ichang;—TCHANG, 1932, Bull. Fan. Mem. Inst. Biol., III, 14, p. 211; Kaifeng.

One specimen—No. 12326, Mus. Biol. Lab. Sci. Soc. China, June 8 or 9, 1933.

Length to base of caudal 110 mm. Depth in length 2.5; head 3.45. Eye in head 4.2; snout 3.5; interorbital space 2.6; longest ray: dorsal 1.4, pectoral 1.6, ventral 1.4, anal 1.62, caudal 0.9; length of caudal peduncle 2.5; height of caudal peduncle 1.8.

Dorsal III, 17; pectoral 18; ventral 10; anal III, 6. Scales $28\frac{6}{5\text{-}v}$.

Pharyngeal teeth 4-4.

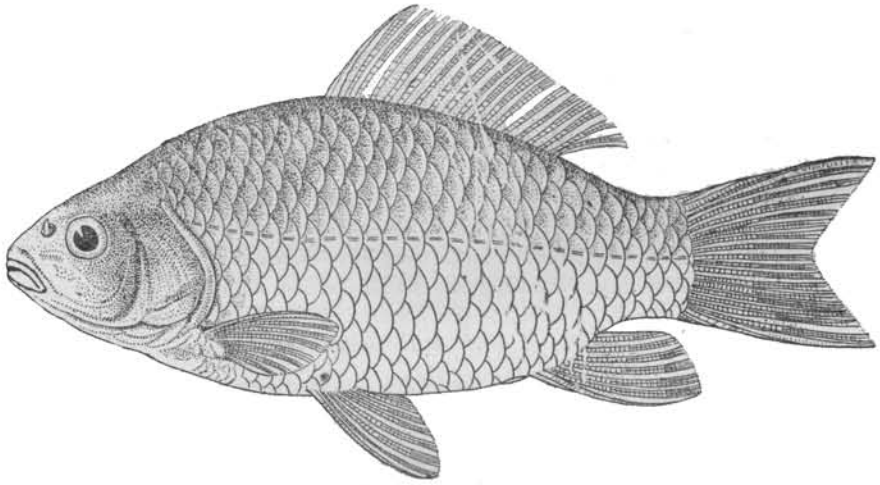

Fig. 37. *Carassius auratus* (LINNAEUS).

DISTRIBUTION—Very common food fish in this country.

Other two specimen were collected, one in 1931: No. 3221, one in 1933: No. 12327.

Genus **Hypohthalmichthys** BLEEKER.

Hypophthalmichthys BLEEKER, 1860, Ich. Arch. Ind. Prodr. II, Cyprin., p. 405.

Type: *Leuciscus molitrix* CUVIER & VALENCIENNES.

Abramocephalus STEINDACHNER, 1869, Wien, Sitzungsb., LX, p. 383.

Type: *Abramocephalus microlepis* STEINDACHNER.

Onychdon DYBOWSKY, 1872, Verh. Zool.-Bot. Ges. Wien. XXII, p. 211.

Type: *Cephalus mantschuricus* BASILEWSKY.

40. **Hypohpthalmichthys molitrix** (CUVIER & VALENCIENNES.)

Leuciscus molitrix CUVIER & VALENCIENNES, 1844, Hist. Nat. Poiss., XVII, p. 360;—RICHARDSON, 1846, Ichth. China, p. 259; Canton, China.

Leuciscus hypophthalmus (GRAY). RICHARDSON, 1844, Ichth. Voy. Sulph., p. 139, Pl. 63, fig. 1; Canton.

Cephalus mantschuricus BASILEWSKY, 1855, Mém. Soc. Nat. Moscou, X, p. 235, T. VII, fig. 3; Manchuria.

Cephalus hypophthalmus STEINDACHNER, 1866, Verh. Zool.-bat. Ges. Wien, XVI, p. 383; Hongkong.

Hypophthalmichthys molitrix BLEEKER, 1860, Ichth. Arch. Ind. Prods. II, Cypr; p. 288;—BLEEKER, 1863; Atlas Cyprin., III, p. 28;—GÜNTHER, 1868, Cat. Fish. B. M., VII, p. 298; China;—BLEEKER, 1871, Mém. Cyprin. China, p. 83, Pl. XII, fig. 1; Yangtse-kiang;—GÜNTHER, 1898, Ann. Mag. Nat. Hist., (7) I, p. 362; Newchwang;—GÜNTHER, 1889, Ann. Mag. Nat. Hist., (6) IV, p. 223; Ichang;—BLTEKER, 1879, Verh. Akad. Amsterd., XVIII, p. ; Shanghai;—KREYENBERG & PAPPENHEIM, 1908, Sitz. Ber. Ges. Natf. Freunde, p. 59; Tungting;—KREYENBERG & PAPPENHEIM, 1909, Abh. Mus. Nat. Heimatk. Magdeburg, II, p. 1? Tungting Lake;—BERG, 1909, Ichth. Amur., p. 154; Amus. Provinces;—OSHIMA, 1919, Ann. Carneg. Mus., XII, 2-4, p. 224; Formosa;—TCHANG, 1928, Contr. Biol. Lab. Sci. Soc. China, IV, 4, p. 12, fig. 15; Nanking;—RENDAHL, 1928, Ark. Zool., XX, A, 1, p. 155;—NICHOLS, 1928, Bull. Amer. Mus. Nat. Hist., LVIII, 1, p. 26; Tungting Lake, Hunan;—WU, 1929, Contr. Biol. Lab. Sci. Soc. China, V, 4, p. 47, fig. 38; Amoy;—FOWLER, 1929, Proc. Acad. Nat. Sci. Philad., LXXXI, p. 602; Hongkong;—SHAW, 1930, Bull. Fan. Mem. Inst. Biol., I, 10, pp. 177, 178, 205; Soochow;—NICHOLS, 1930-31, Peking Nat. Hist. Bull., V, 2, p. 21;—TCHANG & SHAW, 1931, Bull. Fan. Mem. Inst. Biol., II, 15, p. 291; Hopei;—LIN, 1932, Lingn, Sci. Journ., XI, 1, p. 65; Heungchow;—CHU, 1932, Fish. West Lake, p. 37, fig. 21; Hangchow;—WANG, 1933, Contr. Biol. Lab. Sci. Soc. China, IX, *Z. S.*, 1, p. 25; Shangtung.

Abramocephalus microlepis STEINDACHNER, 1870, Akad. Wiss. Wien, LX, Abt. 1, p. 302; China.

Onychodon mantschuricus DYBOWSKY, 1872, Verh. Zool. Bot. Ges. Wien, XXII, p. 211; Ussuri.

Hypophthalmichthys dabryi BLEEKER, 1878, Verh. en Mededel. Konin. Akad. Wetensch. Amst., (2), XII, p. 210.

It was seen on the market of Chinkiang, Collected on June 8 and 9, 1933, during our collecting trip.

DISTRIBUTION—Canton; Manchuria; Yangtse-Valley; Hongkong.

Genus **Aristichthys** OSHIMA

Aristichthys OSHIMA, 1928, Ann. Carneg. Mus., XII, 2-4 p. 246.

Type: *Leuciscus nobilis* (GRAY) RICHARD.

41. **Aristichthys nobilis** (RICHARDSON).

Leuciscus nobilis RICHARDSON, 1844, Ichth. Vay. Sulph., p. 140, Pl. LXIII, fig. 3; Canton, China.

Cephalus hypophthalmus STEINDACHNER, 1866, Verh. Zoöl-Bot. Gesell. Wien, p. 383; Hongkong.

Hypophthalmichthys manchricus KNER, 1867, Novara Fish., III, p. 350; Shanghai.

Hypophthalmichthys nobilis GÜNTHER, 1868, Cat. Fish. B. M., VII, p. 299; Amoy;—BLEEKER, 1871, Mem. Cyprin. China, p. 85; Yangtse-kiang;—GÜNTHER, Ann. Mag. Nat. Hist., (4) XII, p. 249; Shanghai;—PETERS, 1880, Monatsb. Akad. Berlin, p. 926; Ningpo;—SAUVAGE, 1881, Bull. Soc. Philom, p. 7; Swatow;—GÜNTHER, 1889, Ann. Mag. Nat. Hist., (6) IV, p. 228; Yangtse-kiang;—BLEEKER, 1879, Verh. Akad. Amsterd., XVIII, p. ? Shanghai;—RUTTER, 1879, Proc. Acad. Nat. Sci. Philad., p. 60; Swatow;—KREYENBERG & PAPPENHEIM, 1908, Sitz. Ber. Ges. Natf. Freunde, p. 95; Hankau;—KREYENBERG & PAPPENHEIM, 1909, Abh. Mus. Nat. Heimatk. Magdeburg, II, p. ?; Hankau;—TCHANG, 1928, Contr. Biol. Lab. Soc. China, IV, 4, p. 12, fig. 13; Nanking;—NICHOLS, 1928, Bull. Amer. Mus. Nat. Hist., LVIII, p. 26; Canton;—SHAW, 1930, Bull. Fan. Mem. Inst. Biol., I, 10, pp. 177, 205; Soochow;—NICHOLS, 1930-31, Peking Nat. Hist. Bull., V, 2, p. 20.

Aristichthys nobilis OSHIMA, 1919, Ann. Caroneg. Mus., X, 2-4, p. 246; Formosa;—RENDAHL, 1928, Ark. Zool., XX, A, 1, p. 154; Yangtse-kiang;—FOWLER, 1929, Proc. Acad. Nat., Sci. Philad., LXXXI, p. 602; Hongkong;—LIN, 1932, Lingn. Sci. Journ., XI, 1, p. 65; Heungchow; CHU, 1932, Fish. West Lake, 37; Hangchow.

It was seen on the market of Chinkiang on June 8 and 9, 1933, during our collecting trip.

DISTRIBUTION—Canton; Amoy; Ningpo; Yangtse Valley; Hongkong.

Family 9 COBITIDAE

Genus Cobitis LINNAEUS

Cobitis LINNAEUS, 1758, Syst. Nat., 10th Ed., 1, p. 300.
Type: *Cobitis taenia* LINNAEUS.

Key to Genus

A. An erectile spine below the eye .....*Cobitis* (p. 203)
AA. No erectile spines below the eye .....*Misgurnus* (p. 205)

42. Cobitis taenia LINNAEUS.

For description see WANG, 1933, Contr. Biol. Lab. Sci. Soc. China, IX, *Z. S.*, 1, p. 26.

Cobitis taenia LINNAEUS, 1758, Syst. Nat., 10th Ed., 1, p. 303; Europe;—NICHOLS, 1918, Proc. Biol. Soc. Wash., XXXI, p. 15; Fukien;—MORI, 1027, Journ. Chosen Nat. Hist. Soc.; Sungari River Etc.;—NICHOLS & POPE, 1927, Bull. Amer. Mus. Nat. Hist., LIV, 1, p. 335; Hainan;—TCHANG, 1928, Contr. Biol. Sci. Soc. China, IV, 4, p. 26, fig. 30; Nanking;—SHAW, 1931, Bull. Fan. Mem. Inst. Biol., II, p. 68; Soochow;—JORDAN & FOWLER, 1903, Proc. U. S. Nat. Mus., XXVI, p. 117;—WANG, 1933, Contr. Biol. Sci. Soc. China, IX, *Z. S.*, 1, p. 26; Shangtung.

Cobitis taenia japonica TEMMINCK & SHLEGEL, 1846, Fauna Jap. Poiss., p. 222, Pl. CIII, fig. 3.

Cobitis elongata HECKEL & KNER, 1858, Sussen. Aester., pp. 165, 305.

Cobitis larvata DE FILIPPI, Mem. Acad. Torin, XIX, p. 71.

Cobitis sinensis SAUV. & DABRY, Ann. Sci. Nat., (6), I, p. 8.

Cobitis biwae JORDAN & SNYDER, 1901, Proc. U. S. Nat. Mus., p. 748; Lake Biwa, Substitute for *Cobitis japonica*, preoccupid.

One specimen—No. 12339, Mus. Biol. Lab. Sci. Soc. China, June 8, or 9, 1933.

Length to base of caudal 113 mm. Depth in length 6.00; head 5.63. Eye in head 6.1; snout 2.2; interorbital space 6.6; longest ray: dorsal 1.39, pectoral 1.52, ventral 1.78, anal 1.78, caudal 1.13; length of caudal peduncle 1.1; height of caudal peduncle 1.8.

Dorsal 8; pectoral 9; ventral 7, anal 8. Scales minute.

Origin of the dorsal about midway of body length and slightly before the origin of ventral; pectoral fin short, horizontal, insterted infero-posterior to the gill-slit; ventral fin short, originated opposite the third ray of dorsal, its tips not reaching vent; anal fin entirely behind the dorsal nearer to the origin of ventral than base of caudal; caudal fin rounded. Trunk covered with relatively large cycloid scales; lateral line straight along the middle of sides.

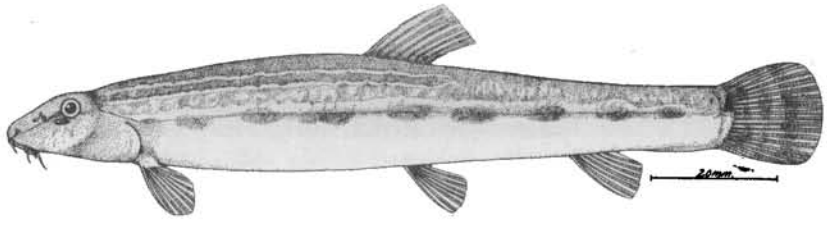

Fig. 38. *Cobitis taenia* LINNAEUS.

COLOUR in fresh, dark brown on upper dorsal, pale yellowish on sides and belly; side with two rows of dark brownish blotches and also eighteen blotches on postdorsal portion. They separate in median, slightly connected in before. A blackish spot presents on the root of caudal base; a greenish spot on and center of opercle. Hinder margin of opercle and pectoral base somewhat yellowish. All fins yellowish; dorsal and caudal fins with several rows of dark small spots or streaks. Colour in formalin, upper profile of trunk with ten greyish broad bands in predorsal, ten bands on postdorsal; sides with two rows of dark greyish blotches, the upper one forming a narrow continuous, longitudinal band till postdorsal portion; blotches of lower row large, about nine and they connecting with a paler greyish band. Black spots upper and on the caudal base present. Head more blackish with irregular greyish spots on

cheeks and upper side. Dorsal and caudal fins with a few rows of greyish streaks; other fins pale.

DISTRIBUTION—This species distributes in Sungari River, Shangtung, Nanking, Chinkiang, Fukien, Hainan, Formosa, Japan and Europe.

Other six specimens were obtained in the recent collection: Nos. 12336-12338, and 12340-12342.

Genus **Misgurnus** LACÉPÈDE

Misgurnus LACÉPÈDE, 1803, Hist. Nat. Poiss., p. 16.

Type: *Cobitis fossilis* LINNAEUS.

Synopsis of Species in the Southern Part of Kiangsu.

A. Scales relatively small, 140-150 in lateral series; body slender, the depth 7-8 in length; barbels short the longest, about 2.5 head; colour dark gray, above spotted and marbled with dark, base of the caudal above with a black spot. ....*ANGUILLICAUDATUS*. p. 205.

AA. Scales relatively large, 106-115 in lateral series; body plump. the depth 5.84 in length; barbels long, the longest about 1.8 in head; color relatively plain, obtusely speckled with minute dark spots, not marbled, base of the caudal above without black spot. ....*DECEMCIRROSUS*. p. 207.

43. **Misgurnus anguillicaudatus** (CANTOR).

For description see TCHANG, 1928, Contr. Biol. Lab. Sci. Soc. China, IV, 4, p. 24.

Cobitis anguillicaudalus CANTOR, 1842, Ann. Mag. Nat. Hist., IX, p. 485;—RICHARDSON, 1846, Voy. Sulph. Fish., p. 143, Pl. LV, fig. 9 to 10; China.

Misgurnus anguillicaudatus GÜNTHER, 1868, Cat. Fish. B. M., VII, p. 345; China, Japan; Formosa;—GÜNTHER, 1873, Ann. Mag. Nat. Hist., (44) XII, p. 250; Shanghai; —PETERS, 1880, Monatb. Körigl. Akad. Berlin, p. 926; —SAUVAGE, 1881, Nouv. Arch. Mus., p. 190;—GÜNTHER, 1896, Ann. Mus. St. Petersburg, p. 19; Kansu, China;—RUTTER, 1897, Proc. Acad. Nat. Sci. Philad., p. 60; Swatow;—FOWLER, 1899, Proc. Acad. Nat. Sci. Philad., p. 179; Tan-lan-ho, China;—JORDAN & SYNDER, 1901, Proc. U. S. Nat. Mus., XXIII, p. 340; Japan;—REGAN, 1904, Ann. Mag. Nat. Hist., (7) XIII,

p. 192; Yunnan-fu, China;—VAILLANT, 1904, Bull. Mus. Hist. Nat., VI, p. 298; Tonking;—JORDAN & SNYDER, 1906, Proc. U. S. Nat. Mus., XXX, p. 834; Japan;—SNYDER, 1912, Proc. U. S. Nat. Mus., XLII, p. 404; Hakodate; Tokyo; Takamatsu River;—JORDAN, SNYDER & TANAKA, 1913, Journ. Coll. Sci. Tokyo, XXXIII, p. 60; Japan;—OSHIMA, 1919, Ann. Carneg. Mus., XII, 2-4, p. 187; Formosa;—EVERMANN and SHAW, 1927, Proc. Calif. Acad. Sci., (4) XVI, 4, p. 110; Chuchi; Nanking;—TCHANG, 1928, Contr. Biol. Lab. Sci. Soc. China, IV, 4, p. 24, fig. 28; Nanking;—NICHOLS, 1928, Bull., Amer. Nat. Hist., LVIII, 1, p. 42; Chilili; Shansi;—MORI, 1928, Japan. Journ. Zool., II, 1, p. 69; Tsi-nan;—WU, 1929, Contr. Biol. Lab. Sci. Soc. China, V, 4, p. 46, fig. 39; Amoy;—SHAW, 1930, Bull. Fan. Mem. Inst. Biol., I, 7, p. 120; Ka-shing; Shingtsong;—WU, 1930, Sinensia, I, 6, p. 80; Chungking;—SHAW, 1930, Bull. Fan. Mem. Inst. Biol., I, 10, pp. 187, 205, fig. 23; Soochow;—MORI, 1930, Journ. Chosen, Nat. Hist. Soc., II, p. 46; Kei-Ko;—NICHOLS, 1930-31, Peking Nat. Hist. Bull., V, 2, p. 22;—FOWLER, 1930-31, Peking Nat. Hist., Bull., V, a, p. 28; Tsinan;—CHU, 1932, Fish. West Lake, p. 30; Hongchow;—WANG, 1933, Contr. Biol. Lab. Sci. Soc. China, IX, *Z. S.*, 1, p. 27;—FU & TCHANG, 1933, Bull. Honan Mus., I, 1, p. 26; fig. 26; Kaifeng.

Cobitis rubripinnis TEMMINCK & SCHLEGEL, 1846, Fauna Japonica, Poiss., p. 220, Pl. CIII, fig. 1; near Nagasaki.

Cobitis maculatā TEMMINCK & SCHLEGEL, 1846, Fauna Japonica, Poiss., p. 221, Pl. CIII, fig. 2; near Nagassaki.

Cobitis micropus CUV. & VAL., 1846, Hist. Nat. Poiss., XVIII, p. 29; China.

Cobitis psammismus RICHARDSON, 1846, Ichth. China, p. 300; Canton, China.

Cobitichthys enalios BLEEKER, 1860, Act. Soc. Indo-Neerl., VIII; Japan, IV, p. 88, Pl. II, fig. 4; Japan.

Cobitichthys dechachraus BLEEKER, 1860, Act. Soc. Sci. Indo-Neerl., VIII; Japan, IV, p. 89, Pl. II, fig. 2; Tokyo.

Misgurnus dechachraus GÜNTHER, 1868, Cat. Fish. B. M., VII, p. 346; Tokyo.

Misgurnus crossochilus SAUVAGE, 1878, Bull. Sci. Philom., Japan., p. 4; Koaton, Cochin-China.

Misgrunus fossils anguillocaudatus Berg, 1907, Proc. U. S. Nat. Mus., XXXII, p. 435; Amur Province.

One specimen—No. 3219, Mus. Biol. Lab. Sci. Soc. China, June 8 or 9, 1933.

Length to base of caudal 159 mm. Depth in length 7.8; head 5.6. Eye in head 7; snout 2.8; interorbital space 4.6; longest ray: dorsal 1.4, pectoral 1.2, ventral 1.5, anal 1.5, caudal 0.9; length of caudal peduncle 1.1 height of caudal peduncle 1.4. Dorsal 8; pectoral 9; ventral 6; anal 8. Scales about 150.

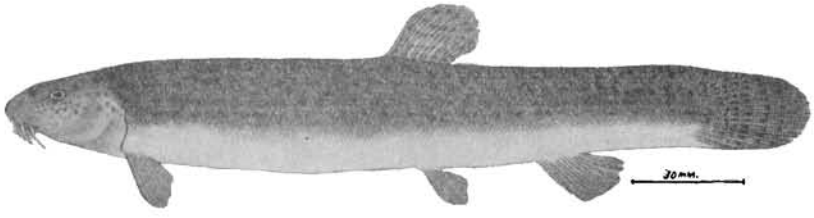

Fig. *Misgurnus anguillicaudatus* (CANTOR).

DISTRIBUTION—Common in rivers, lakes, and ponds of this country.

REMARKS—This species is one of the food-fishes.

Other five specimens were obtained in the collection in 1933: Nos. 12312-12316.

44. Misgurnus decemcirrosus (BASILEWSKY).

For description see WU, 1929, Contr. Biol. Lab. Sci. Soc. China, V, 4, p. 48.

Cobitis decemcirrosus BASILEWSKY, 1855, Mém. Soc. Nat. Moscow, p. 239, Pl. 7; near Peking.

Misgurnus mizolepis GÜNTHER, 1888, Ann. Mag. Nat. Hist. (6) I, p. 434; Kiu-kiang, China.

Misgurnus anguillicaudatus ABBOTT, 1901, Proc. U. S. Nat. Mus., XXIII, p. 389; Tientsin, China;—JORDAN & EVERMAN, 1903, Proc. U. S. Nat. Mus., XXV, p. 321; Tiaholu, Formosa.

Misgurnus decemcirrosus JORDAN & SNYDER, 1906, Proc. U. S., Nat. Mus., XXX, p. 834; Tientsin, China;—JORDAN & RICHARDSON, 1909, Mem. Carneg. Mus., IV, 4, p. 169; Formosa;—KREYENBERG & PAPPENHEIM, 1908, Sitz. Ges. Natf. Freunde, Berlin, p. 95; Hankau and Pinghsiang;—MORI, 1928, Japan. Journ.

Zool., II, 1, p. 69; Tsinan;—WU, 1929, Contr. Biol. Lab. Sci. Soc. China, V, 4, p. 48, fig. 40; Amoy;—WANG, 1933, Contr. Biol. Sci. Soc. China, IX, *Z. S.*, 1, p. 27; Shangtung, Tsingtan.

One specimen—No. 12311, Mus. Biol. Lab. Sci. Soc. China, June 8 or 9, 1933.

Length to base of caudal 203 mm. Depth in length 5.84; head 6.3. Eye in head 8.0; snout 2.4; interorbital 4.6; longest ray: dorsal 1.5, pectoral 1.42, ventral 1.87, anal 1.68, caudal 0.90.

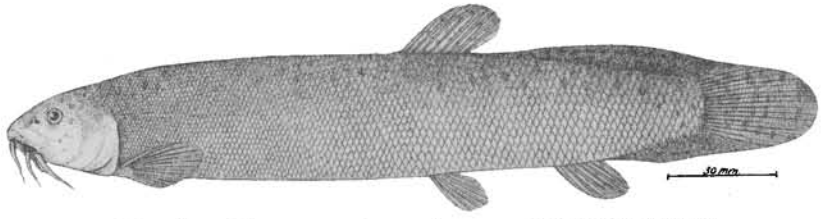

Fig. 40. *Misgurnus decemcirrosus* (BASILEWSKY).

Dorsal 9; pectoral 12; ventral 6; anal 7. Scales $111\frac{15}{10\text{-}v}$.

DISTRIBUTION—Chihli; Shangtung; Yangtse Valley; Fukien.

Family **SILURIDAE**

(Sheat-fishes)

Genus **Parasilurus** BLEEKER

Glanis AGASSIZ, 1856, Proc. Amer. Acad., p. 333.

Type: *Glanis aristotelis* AGASSIZ.

Parasilurus BLEEKER, 1862, Versl. Akad. Amst., XIV, p. 394.

Type: *Parasilurus japonicus* TEMMINCH & SCHLEGEL =*Silurus asotus* LINNAEUS;—BLEEKER, 1863, Ned. Tijdschr. Dierk., p. 114.

Type: *Silurus asotus* LINNAEUS.

45. **Parasilurus asotus** (LINNAEUS).

For description see WU, 1929, Contr. Biol. Lab. Sci. Soc. China, V, 4, p. 54.

Silurus asotus LINNAEUS, 1758, Syst. Nat., 10th Ed., p.;—BLOCH & SCHNEIDER, 1801, Syst. Ichth., p. 375;—BASILEWSKY, 1855, Nouv. Mém. Soc. Nat., Mosc., X, p. 240, Pl. 3, fig. 4; China;—GÜNTHER, 1846, Cat. Fish., V, p. 33; Japan; China;—GÜNTHER, 1896, Ann. Mus. St. Petersb., p. 11; Huihsien, China;—ISHIKAWA, 1897, Prel. Cat. p. 23; Japan;—GÜNTHER, 1898, Ann. Mag. Nat. Hist., (7) I, p. 261; New-chwang;—POPTA, 1907, Zool. Anz., XXXII, p. 250; Kiant-schau, China.

Silurus xanthosteus RICHARDSON, 1846, Ichth. Voy. Sulph., p. 133, Pl. 56; fig. 12-14;—RICHARDSON, 1846, Ichth. China, p. 281.

Silurus japonicus, SCHLEGEL, 1846, Fauna Japonica, Poiss., p. 226, Pl. CIV, fig. 1; Higo; Satsuma; Nagasaki;—BLEEKER, 1855, Verh. Batav. Genootsch., XXV, pp. 30 and 51.

Silurus sinensis, RICHARDSON, 1846, Ichth. China, p. 281; Chusan.

Silurus (*Parasilurus*) *asotus* KNER, 1867, Novara Fisch., III, p. 303; Shanghai.

Parasilurus asotus JORDAN & SNYDER, 1901, Ann. Zool. Jap., III, p. 45; Yokohama;—ABBOTT, 1901, Proc. U. S. Nat. Mus., XXIII, p. 83; Pei-ho, China;—JORDAN & FOWLER, 1903, Proc. U. S. Nat. Mus., XXVI, p. 903; Tokyo; Niigata; Morioka; Tama River, Kawatana; Sendai; Ichinoseki; Chikugo River; Tsuchiura; Lake Biwa; Formosa;—BERG, 1909, Ichth. Amur., p. 175; Amur. Province;—JORDAN & RICHARDSON, 1909, Mem. Carneg. Mus., IV, 4, p. 163; Formosa;—SNYDER, 1912, Proc. U. S. Nat. Mus., XLII, p. 403; Tokyo; Takamatsu River;—JORDAN & METZ, 1913, Mem. Carneg. Mus., VI, 2, p. 12; Corea;—JORDAN SNYDER, & TANAKA, 1913, Journ. Coll. Sci. Tokyo, XXXIII, p. 58; Japan;—OSHIMA, 1919, Ann. Carn. Mus., XII, 2-4, p. 176; Formosa;—EVERMANN & SHAW, 1927, Proc. Calf. Acad. Sci., (4) XVI, 4, p. 111; Hangchow, Chuchi; Nanking;—TCHANG, 1928, Contr. Biol. Lab. Sci. Soc. China, IV, 4, p. 27, fig. 31; Nanking;—NICHOLS, 1928, Bull. Amer. Mus. Nat. Hist., LVIII, 1, p. 5; Shansi; Tungting Lake (Hunan); Anhwei; Fukien;—WU, 1929, Contr. Biol. Lab. Sci. Soc. China, V, 4, p. 54, fig. 44; Amoy;—SHAW, 1930, Bull. Fan. Mem. Inst. Biol., I, 10, pp. 187, 188, 205, fig. 24; Soochow;—TCHANG, 1932, Bull. Mem. Fan. Mem. Inst. Biol., III, 8, p. 109; Ching-po Lake, Kirin;—CHU, 1932, Fish. West Lake, p. 40, fig.

26;—WANG, 1933, Contr. Lab. Sci. Soc. China, IX, *Z. S.*, 1, p. 28; Shangtung Coast;—FU & TCHANG, 1933, Bull. I, 1, p. 4, fig. 4; Kaifeng, Honan.

Glanis asotus JORDAN & EVERMANN, 1903, Proc. U. S. Nat. Mus., XXV, p. 320; Tamusui River, Formosa.

One specimen—No. 12334, Mus. Biol. Lab. Sci. Soc. China, June 8, or 9, 1933.

Length to base of caudal 268 mm. Depth in length 6.32; head 5.05. Eye in head 8.66; snout 2.8; interorbital 2.13; longest ray: dorsal 3.0, pectoral 1.82, ventral 2.3, anal 2.59, caudal 1.82.

Dorsal 5; pectoral I, 13; ventral 14; anal 78.

Scaleless, lateral line distinct, extending along the middle of sides, continuous.

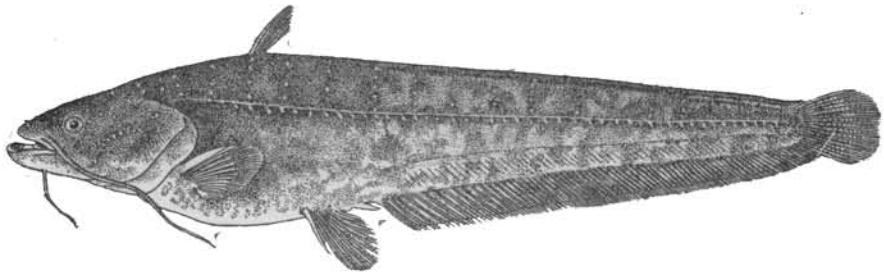

Fig. 41. *Parasilurus asotus* (LINNAEUS).

COLOUR in formalin—Dark brown above, pale below. In life, dorsal portion and fins dark grey, lateral gray, abdomen in front of anal fin whitish yellow.

DISTRIBUTION—This species is widely distributed in almost every where of this country.

Family **BAGRIDAE**

Genus **Pseudobagrus** BLEEKER

Pseudobagrus BLEEKER, 1860, Act. Soc. Sci. Indo-Nederl., VII, p. 87.

Type: *Bagrus aurantiacus* TEMMINCK & SCHLEGEL.

46. Pseudobagrus wui, sp. nov.

Type specimen—No. 12495, Mus. Biol. Lab. Sci. Soc. China, June 8 or 9, 1933.

Length to base of caudal 133.5 mm. Depth in length 5.27; head 4.77. Eye in head 4.66; snout 3.0; interorbital 2.14; spine: dorsal 1.47, pectoral 1.47; longest ray: dorsal 1.12, pectoral 1.4, ventral 1.83, anal 1.83, caudal 0.95; length of caudal peduncle 1.39; height of caudal peduncle 2.82.

Dorsal I, 7; pectoral I, 7; ventral 6; anal 25. Barbels 8.

Body elongate, compressed posteriorly and slightly depressed anteriorly. Head small, broader than high; the ventral surface flattened the dorsal profile convered with smooth skin and depressed towards the tip of snout a median groove extending backwards from the level of nostrils to base of occipital process which is slender, connected with basal bone of dorsal spine. Basal bone of dorsal spine triangle, covered with skin. Eye large, anterio-lateral in head; its upper rim free; snout depressed, broad and blunt; interorbital space flat and wide. Nostrils remote from each other, the anterior one in a short tube near the end of snout, the posterior one with a anterior barbel; the distance between them is almost equal to the diameter of eye. Mouth interior, crescent-shaped; its width more than two times of diameter of eye. Lips thick, continuous at the angle mouth; lower jaw shorter than upper. Teeth velliform on the palate, forming a arched band on both jaws and vomer. Barbels thick, the nasal pair shortest among them, somewhat shorter than 3 times of diameter of eye; the maxillary pair longest, 0.75 time length of head, reaching to vertical from origin of dorsal; the length of outer mental pair about 2/3 the length of the maxillary pair; the inner mental pair about 1/2 of the latter. Gill-membranes free from isthmus; gill-openings very large; gill-rakers shorter than its filaments.

Dorsal fin with a spine, which is slender and as long as the pectoral one, its posterior margin nearly equal to head without snout, its origin nearer base of pectoral than origin of ventral; pectoral spine very strongly serrated along its inner margin. Ventral fins rounded, reaching to the origin of anal,

which is elongate, its contour nearly semi-elliposoil; adipose longer than dorsal, its posterior and free from the back; caudal fin forked.

Scaleless, lateral line continous and straight.

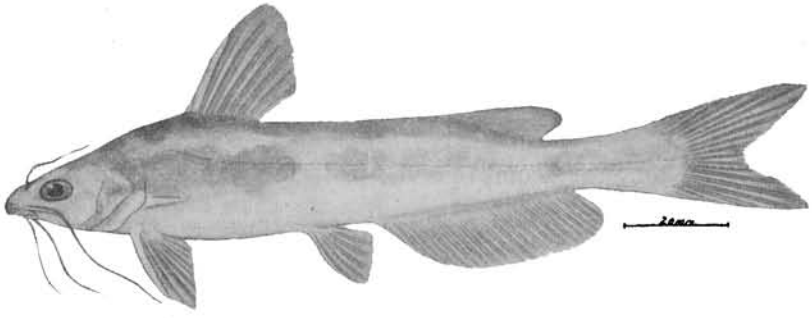

Fig. 42. *Pseudobagrus wui* MIAO, sp. nov.

COLOUR in life—Dorsal surface light brown, ventral one greenish yellow; large dark-greenish cross spots along lateral line. In formalin: The space between bases of dorsal and caudal black; grayish blue bands in sides and caudal lobes. All fins dark greenish with dusky:

DISTRIBUTION—Chinkiang.

REMARKS—This species differs from (1) *Pseudobagrus vachellii* GÜNTHER (=*Bagrus vachellii* RICHARDSON) by having the slightly broader occipital process, longer basal bone of dorsal spine, longer maxillary barbels and less pectoral rays, from (2) *Ps. eupogon* BOULENGER reported from Shanghai in having the shorter body, the dorsal spine equal to pectoral, more rays of anal, from (3) *Ps. eupogoides* WU reported from Szechuan by having the broader occipital process, which is as long as the basal bone of the dorsal spine, longer snout and larger eyes, from (4) *Ps. chinensis* WU reported from Szechuan in having the length of occipital process about 2½ times as long as broad and equal length of basal bone of dorsal spine and more anal rays, from (5) *Ps. fangi* WU collected from Kiating in having the occipital process equal to and in contact with the basal bone of the dorsal spine, the width of occipital process 2½ lines in its length and more rays (25).

The author has pleasure in naming the new species after Dr. Hsien Wen Wu. for his kind help and advice to this investigation.

47. **Pseudobagrus changi,** sp. nov.

Type specimen—No. 12494, Mus. Biol. Lab. Sci. Soc. China, June 8, or 9, 1933.

Length to base of caudal 106 mm. Depth in length 3.82; head 3.52. Eye in head 5.30; snout 3.0; interorbital space 2.30; spines: dorsal 1.44, pectoral 1.44; longest rays: dorsal 1.29, pectoral 1.32, ventral 2.0, anal 1.65, caudal 1.19; length of caudal peduncle 2.16; height of caudal peduncle 3.0; maxillary barbel 0.9.

Dorsal I, 7; pectoral I, 7; ventral 6; anal 22. Barbels 8.

Body rather short, depressed anteriorly, compressed posteriorly and its greatest depth at dorsal origin. Abdomen in front of ventral broad and rounded. Head depressed anteriorly, broader than high, its dorsal surface covered with smooth skin, its median fonticulus extending to the base of occipital process which is nearly twice as long as broad, equal to, and in contact with the basal bone of dorsal spine. Eye anterior and supra-lateral in position, its upper rim free. Snout broad, its length being one-third of head. Interorbital space very broad, slightly convex, and longer than length of snout. Mouth inferior, slightly arched, its width equal to that of interorbital space. Lips thick, continuous at the angles of mouth. Teeth villiform, in band on both jaws and vomer, vomerine band slightly arched. Barbels long, thin and flat, nasal pair three times the diameter of eye and about 0.55 of head, maxillary pair longest, about twice as long as nasal ones, and a little longer than length of head, outer mental pair about 0.9 in maxillary ones, inner mental pair slightly less than one half of outer one. Gill-rakers about 15 in anterior arc, shorter than the filaments. Gill-membranes deeply notched, and free from the isthmus.

Dorsal fin commencing nearer origin of anal than tip of snout, and nearer base of pectoral than origin of ventral, its

spine with weak serrations behind. Pectoral fin inserted below, its spine stronger than the dorsal one, with teeth on its both margins, 12 strong teeth on its posterior margin. Ventral fin reaching beyond origin of anal, its origin slightly nearer tip of snout than base of caudal. Anal fin shorter than head. Adipose at least longer than dorsal. Caudal fin deeply forked.

Scaleless, lateral line straight.

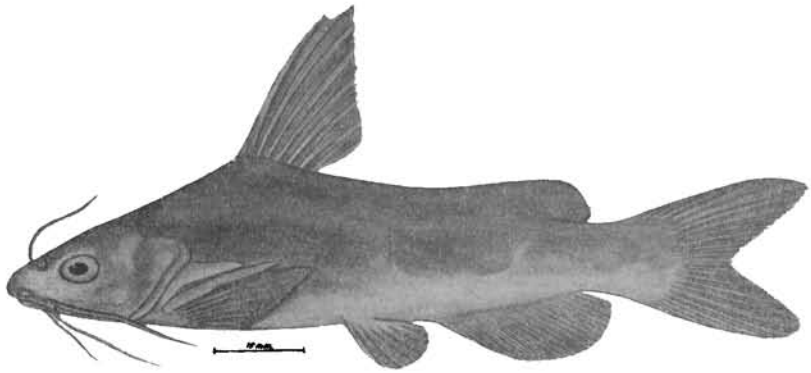

Fig. 43. *Pseudobagrus changi* MIAO, sp. nov.

COLOUR in life—Light brown on upper portion of body, lower portion greenish yellow; large dark gray bands along lateral line. Fins dark gray. In formalin: Dark brown on upper portion, a large dark blotch on snout a dark gray cross band above base of occipital. Dorsal line dark gray. A long rather narrow, and light brownish gray band from base of pectoral near the end of the basal of anal. Fins and dorsal surface of maxillary barbels being dark gray.

DISTRIBUTION—Chinkiang.

REMARKS—This species is very closely related to *Pseudobagrus fulvidraco* GÜNTHER (=*Bagrus fulvidraco* RICHARDSON), but it differs from the latter in no granulates and covered with smooth skin above its head and body, and also differs from *Ps. chinensis* WU in having shorter occipital process.

The author has pleasure to name this new species after Mr. Mangven L. Y. Chang of The Biological Laboratory of the Science Society of China.

48. **Pseudobagrus wangi,** sp. nov.

Type specimen—No. 13173, Mus. Biol. Lab. Sci. Soc. China, June 8 to 9, 1933.

Length to base of caudal 99 mm. Depth in length 3.74; head 4.35. Eye in head 4.7; snout 3.0; interorbital space 1.93; spine: dorsal 1.33, pectoral 1.35; longest ray: dorsal 1.17, pectoral 1.35, ventral 1.9, anal 1.84, caudal 0.95; length of caudal peduncle 1.41; height of caudal peduncle 3.0.

Dorsal I, 7; pectoral I, 8; ventral 6; anal 24.

Body moderate in size, caudal peduncle much compressed, abdomen rounded and convex. Head small, its width 1.2 in its length but broader than high, depressed in front, dorsal surface arched and covered with smooth skin, a shallow median groove, extending to base of occipital process. Its ventral profile nearly flattened; occipital process narrow, slender, nearly touching basal bone of dorsal spine, the latter is triangle, and slightly shorter than, about 2/3 of the former. Eye moderate, anterior and lateral; snout blunt and wide; interorbital space broad and arched; nostrils remote from each other, the anterior one in a short tube, near the tip of snout, the posterior one situated supero-laterally and its anterior edge with a barbel, the space between them is almost equal to the diameter of eye. Mouth inferior, transverse, about two times of diameter of eye, and about 2/3 in interorbital space. Teeth in villiform bands on jaws; and vomer; maxillary not reaching the anterior margin of eye. Barbels long, nasal pair shortest, about two times eye-diameter; maxillary pair longest, extending slightly beyond the tip of scapula; outer mental pair about 2/3 of maxillary one, extending posterior margin of head; inner mental pair not reaching 1/2 of the head. Gill-openings very large; gill-membranes free from isthmus; gill-rakers shorter than its filaments.

Dorsal spine slender, its anterior margin smooth, but having weak denticulation on the posterior, its origin near

base of pectoral than origin of ventral. Pectoral fin inserted very low, its spine stronger than dorsal one. Ventral fin small, extending to origin of anal, its origin far from the tip of pectoral. Anal fin elongate, entirely behind of dorsal; adipose longer than dorsal but shorter than anal. Caudal fin deeply forked.

Scaleless, lateral line continuous and straight.

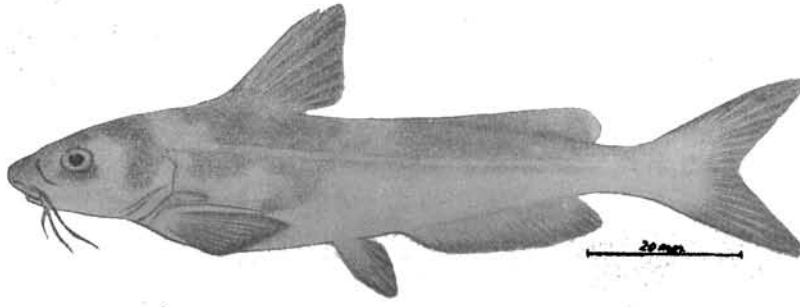

Fig. 44. ***Pseudobagrus wangi*** **MIAO, sp. nov.**

COLOUR in formalin—Yellowish gray, dorsal sides and fins dusky, abdomen and ventral surface of head whitish.

DISTRIBUTION—Chinkiang.

Other 44 specimens were obtained on the reacent collection: Nos. 13171-13172, 13174-13180, and 20065-20097.

REMARKS—This species differs from (1) *Pseudobagrus vachellii* GÜNTHER in having higher body, longer eyes and occipital process touching the basal bone of the dorsal spine, from (2) *Ps. fangi* WU in the width of occipital process being 4 times in its length, deeper body and longer basal bone of dorsal spine, from (3) *Ps. nitidus* SAUVAGE & DABRY in having no granules on the dorsal surface of the body, longer maxillary barbels and more anal ray, and from (4) *Ps. chinensis* WU in having the deeper body, smaller eyes and shorter occipital process.

The author has the pleasure to name this new species after Mr. King-fu Wang of the Biological Laboratory of the Science Society of China.

49. **Pseudobagrus fui,** sp. nov.

Type specimen—No. 13170, Mus. Biol. Lab. Sci. Soc. China, June 8 or 9, 1933.

Length to base of caudal 86 mm. Depth in length 5.0; head 4.42. Eye in head 4.6; snout 2.75; interorbital space 2.7; spine: dorsal 1.24, pectoral 1.24; longest ray: dorsal 1.14, pectoral 1.24, ventral 1.7, anal 1.24, caudal 0.95; length of caudal peduncle 1.36; height of caudal peduncle 3.1.

Dorsal I, 7; pectoral I, 8; ventral 6; anal 27. Barbels 8.

Body elongate, higher in front, compressed posteriorly; vent slightly nearer origin of anal than base of ventral. Head depressed, its width broader than high, its dorsal surface slightly arched and covered with skin its lower surface nearly flattened. Eye moderate, anterior and surpero-lateral; snout depressed, broad and blunt; interorbital space flat; a long shallow median fonticulus, on the dorsal surface of head, extending to the base of occipital process which is very slender and more or less longer than four times its width. Basal bone of dorsal spine trianglar, being more or less 1/2 of the occipital process, touching the latter. Nostrils remote from each other, the anterior one in a short tube, near the tip of snout, the posterior one with a barbel, the space between them in greater than distence from posterior opening to anterior margin of eye. Mouth inferior, transverse, crescent-shaped, its width shorter than snout, with flesky thick lips, the upper lip thicker than the lower; both jaws with broad bands of villiform teeth; a subcrescentic narrow band of villiform teeth on the vomer. Barbels slender and thin, maxillary pair not reaching the base of pectoral, nasal pair shortest, its length shorter than diameter of eye and about 1/2 of the outer mental pair which are about 1.2 of the maxillary one, the inner mental pair about 1/3 of the same. Gill-opening very large, to upper part of the base of pectorals; gill-membranes free from isthmus; gill-rakers shorter than the filaments, about 3+7 ? in anterior arc.

Origin of dorsal on anterior one third of body, its spine with teeth in distal half of the posterior margin, the anterior margin entire. Pectoral inserted low, its spine strongly ser-

rated on the posterior margin. Ventral fin reaching beyond origin of anal, its base near tip of snout than base of caudal. Anal fin longer than head, its origin nearer base of the pectoral than that of caudal. Adipose free posteriorly, shorter than anal but longer than dorsal. Caudal fin deeply forked.

Scaleless, lateral line continuous and straight.

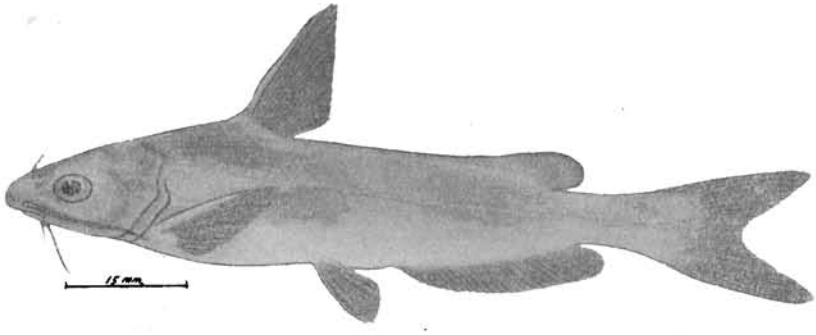

Fig. 45. *Pseudobagrus fui* MIAO, sp. nov.

COLOUR in formalin—Body brownish, darker on dorsal surface of head and tip of snout, and abdomen brightly whitish yellow, dark above scapula; fins dusky, lighter on others.

DISTRIBUTION—Chinkiang.

Other 63 specimens were obtained on the recent collection; Nos. 13161-13169 and 20011-20064.

REMARKS—This species differs from (1) *Ps. wachellii* GÜNTHER by having narrower occipital process, more anal rays, from (2) *Ps. eupogon* BOULONGER by having more pectoral rays, narrower occipital process, and more anal rays, from (3) *Ps. eupogoides* WU in having larger eyes, narrower interorbital space, more anal rays and shorter maxillary barbels, from (4) *Ps. fangi* WU in having the larger eye, longer snout, narrower interorbital space, shorter maxillary barbels, more anal rays, and broader occipital process, and from (5) *Ps. wangi* (sp. nov.) in having narrower body and interorbital space and more anal rays.

The author has the pleasure to name the species after Mr. Tung-sheng Fu of Honan Museum.

Genus **Leiocassis** BLEEKER

Leiocassis BLEEKER, 1858, Nat. Tijd. Ned.-Ind., XV, p. 225.
Type: *Leiocassis micropogon* BLEEKER.

50. **Leiocassis crassilabris** GÜNTHER?

Liocassis crassilabris GÜNTHER, 1864, Cat. Fish. B. M., V, p. 8; China;—REGAN, 1913, Ann. Mag. Nat. Hist., (8) XI, p. 552, Szechwan.

Leiocassis crassilabris NICHOLS, 1926, Amer. Mus. Novitates, 214, p. Tungting Lake, Hunan;—NICHOLS, 1928, Bull. Amer. Mus. Nat. Hist., LVIII, 1, p. 7.

One specimen—No. 12302, Zool. Mus. Lab. Biol. Sci. Soc. China, June, 8 or 9, 1933.

Length to base of caudal 277 mm. Depth in length, 4.6; head, 4.13. Eye in head, 10.0; snout, 2.7; interorbital, 2.7; spine: dorsal, 1.5, pectoral 1.7; longest ray: dorsal, 1.5, pectoral, 1.55, ventral, 2.1, anal 20, caudal, 1.1; length of adipose, 1.06; length of caudal peduncle, 1.3; height of caudal peduncle, 3.0.

Dorsal, I, 7; pectoral, I, 8; ventral, 6; anal, 4,14.

Body elongate, somewhat compressed, its greatest depth being a little less than length of head. Head cornical somewhat compressed, its sides sloping obliguely outwards, covered with thick skin above; occipital process extending to basal bone of dorsal spine; length of head little less than one-fourth of total length without caudal. Eye rather small, slightly superolateral, its diameter is a little longer than one-fourth of length of snout, and nearly about one-fifth of that of postorbital portion of head; snout soft, subconical, projecting distinctly beyond the mouth; interorbital convex with a shallow groove in midline, its width being about equal to the length of snout; nostrils remote from each other, the anterior one in a short tube near the end of snout, the posterior one nearer to the eye than to end of snout; mouth transverse, inferior, with rather thick slightly striate lips; the upper jaw projecting beyond the lower; teeth villiform, the intermaxiliary band is thrice as broad as long, vemerine band immediately behind, crecsent-shaped, its width being equal to that of the intermaxillary; four

pairs of barbels, maxillary one half length of head, and nasal one shorter and very shender. Length of caudal peduncle between adipose and caudal fin being 1/5.47 of total length without caudal; height of caudal peduncle a little greater than one-third (i. e. 1/2.8) of that of body. Gill-membranes narrowly jointed, free from isthmus at base. Scapular process exposed, pointed behind.

Dorsal spine rather strong, with slight serrations behind near its end, its length 3/4 of that of head, its origin slightly nearer that of adipose than posterior margin of eye; pectoral spine smooth in front, strongly barbed behind; origin of ventral behind base of dorsal, its origin slightly behind that of adipose; adipose very low in front, high and free behind, much longer than anal, nearly 1.5 of total length without caudal; caudal morderately forked, with keels on the peduncle above ane below, the lobes rounded.

Scaleless, lateral line complete and straight.

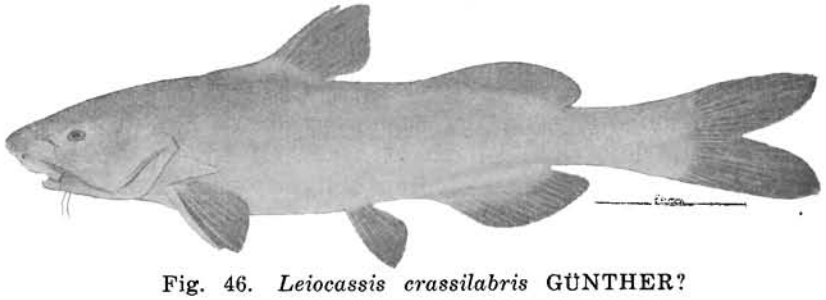

Fig. 46. *Leiocassis crassilabris* GÜNTHER?

COLOUR in formalin—Dark purplish gray, belly, and edges of fins slightly paler.

This specimen has a smaller eye than the same species reported by GÜNTHER.

DISTRIBUTION—Yangtse Valley.

One specimen was bought from the market of Chinkiang.

51. **Leiocassis longirostris** GÜNTHER.

For description see TCHANG, 1928, Contr. Biol. Lab. Sci. Soc. China, IV, 4, p. 29.

Liocassis longirostris GÜNTHER, Feb., 1864, Cat. Fish. B. M., p. 87; Japan (Should be China);—GÜNTHER, Zool. Record für 1864 (=*Rhinobargrus dumerili* BLEEKER); MARTERS, 1874, Zool. Abteil., I, Berlin; Shanghai;—SAUVAGE & DABRY, 1874, Ann. Sci. Nat., (5) Zool. et Paleont., I, 5; Shanghai;—JORDAN & SEALE, 1906, Proc. U. S. Nat. Mus., XXIX, p. 517; probably Hongkong;—REGAN, 1913, Ann. Mag. Nat. Hist., (8), p. 549; in Schema;—FOWLER, 1924, Mem. Asiatic Soc. Bengal., VI, p. 503; "Bought in the market at Soochow, and said to be from Ningpo".

Rhinobagrus dumerili BLEEKER, April, 1864, Ned. Tijdschr. Dierk., II, p. 7; China;—BLEEKER, 1873, Ned. Tijdschr. Dierk., IV, p. 113;—SAUVAGE & DABRY, 1874, Ann. Sci. Nat., (6) I, 5, Zool. & Paleont.

Macrones (*Liocassis*) *longirostris* GÜNTHER, 1873, Ann. Mag. Nat. Hist., (4) XII, p. 445; Shanghai;—PETERS, 1880, M. B. Akad. Berlin, XVL, p. 921; Ningpo;—KREYENBERG & PAPPPENHEIM, 1908, Sitz. Ber. Ges. Natf. Freunde, p. 95;—KREYENBERS & PAPPENHEIM, 1909, Abh. Mus. Nat. Heimatk. Magdeburg, II, p. 1; Fish market Hankow.

Moxrones longirostris GÜNTHER, 1888 Ann. Mag. Nat. Hist., (6) I, p. 430; Ichang, Yangtse-kiang.

Leiocassis (*Rhinobagrus*) *dumerili* RENDAHL, 1927, Ark. Zool., XIX, B, p. 1; Nomenklatur;—RENDAHL, 1928, Ark. Zool., XX, A, 1, p. 168; Kiangsu, Nanking.—WU, 1930, Sinensia I, 6. 81; Chungking.

Leiocassis longirostris TCHANG, 1928, Contr. Biol. Lab. Sci. Soc. China, IV, 4, p. 29; Nanking;—MORI, 1928, Japan. Journ. Zool., II, 1, p. 70; Tsinan;—TCHANG, 1932, Bull. Fan. Mem. Inst. Biol., III, 14, p. 211; Kaifeng;—FU & TCHANG, 1933, Bull. Honan Mus., I, 1, p. 6, fig. 6; Kaifeng.

Leiocassis (*Nasocassis*) *longirostris* NICHOLS, 1928, Bull. Amer. Mus. Nat. Hist., LVIII, 1, p. 7; Tungting Lake, Hunan.

One specimen—No. 13181, Mus. Biol. Lab. Sci. Soc. China, April 22, 1930.

Length to base of caudal 222 mm. Depth in length 4.7; head 3.4. Eye in head 12.8; snout 2.7; interorbital space 2.9; longest ray: dorsal 1.3, pectoral 1.5, ventral 2.4, anal 2.0, caudal 1.3; length of caudal peduncle 1.5; height of caudal 4.5.

Dorsal II, 7; pectoral 1,9; ventral 6; anal 15. Scaleless. Barbels 8.

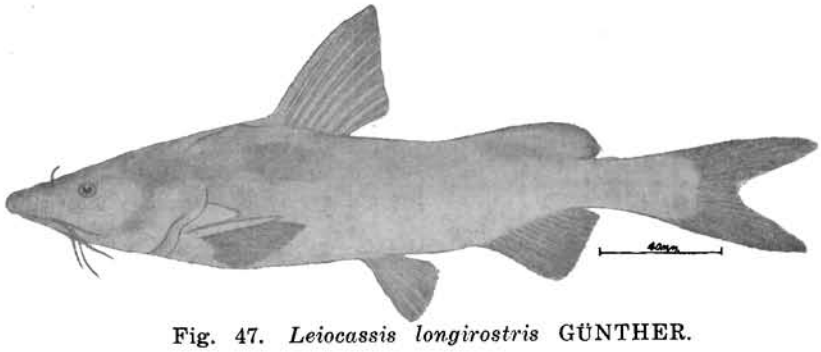

Fig. 47. *Leiocassis longirostris* GÜNTHER.

DISTRIBUTION—Yangtse Valley, Honan and Coasts of China Sea.

Other 2 specimens were obtained in a former collection. Nos: 3205 and etc. (No Nos.).

Family **HEMIRAMPHIDAE**

(The half-beaks).

Genus **Hyporhamphus** GILL.

Hyporhampus GILL, 1859, Proc. Acad. Nat. Sci. Philad., p. 131.

Type: *Hyporhamphus tricuspidatus* GILL=*Hemirhampus unifasciatus* RANGAIN.

52. **Hyporhamphus sajori** (TEMMINCK & SCHLEGEL).

For description see TCHANG, 1928, Contr. Biol. Sci. Soc. China, IV, 4, p. 32.

Hyporhamphus sajori TEMMINCK & SCHLEGEL, 1846, Fauna Japonica Poiss., p. 246, Pl. CX, fig. 2; Nagasaki;—EVERMANN & SHAW, 1927, Proc. Calif. Acad. Ssi., (4) XVI, 4, p. 112; Chefoo;—TCHANG, 1928, Contr. Biol. Lab. Sci. Soc. China, IV, 4, p. 32, fig. 37; Nanking;—WANG, 1933, Contr. Biol. Lab. Sci. Soc. China, IX, *Z. S.*, 1, p. 29; Chefoo.

Hemirhamphus occipitalis GILL, 1859, Proc. Acad. Nat. Sci. Philad., p. 148; Shimoda, Idsu.

Hyporhamphus sajori JORDAN & STARKS, 1903, Proc. U. S., Nat. Mus. XXVI, p. 533; Aomori.—JORDAN, TANAKA & SNYDER, 1913, Cat. Fish. Japan, p. 108.

One specimen—No. 3276, Mus. Biol. Lab. Sci. Soc. China, April 23, 1933.

Length to base of caudal 103 mm. Depth in length 16.8; head 5.6. Eye in head 5.0; snout 2.5; interorbital 5.0; longest ray: dorsal 2.5, pectoral 1.4, ventral 2.8, anal 2.2, caudal 1.3; length of caudal peduncle 2.2, height of caudal peduncle 6.6; lower jaw beyond the extrmity of the upper one 4.7.

Dorsal 16; pectoral 12; ventral 6; anal 17. Scales deciduous, very few remained more than 100 in lateral line.

Fig. 48. *Hyporhamphus sajori* (TEMNINCK & SCHLEGEL).

COLOUR in formalin—Brownish above, silvery below. The scales outlined with dark brown on the back; lower jaw black; top of head and the upper jaw dusky; blackish lateral stripe distinct; widest under dorsal and caudal dusky, others pale.

DISTRIBUTION—Chefoo; Nanking; Chinkiang.

Other two specimens were collected one in 1930 (number missing) and one in 1933: No. 12335.

Family CYNOGILOSSIDAE

Genus **Cynoglossus** BUCHANAN-HAMILTON.

Cynoglossus BUCHANAN-HAMILTON, 1822, Fish. Ganges, p. 32.

Type: *Cynoglossus lingue* BUCHANAN-HAMILTON.

53. **Cynoglossus abbreviatus** (GRAY).

For description and figure see WU, 1928, Contr. Biol. Lab. Sci. Soc. China, V, 4, p. 71, fig. 57.

Plagusia abbrevialus GRAY, 1832, III, Ind. Zool., Chine.

Cynoglossus abbreviatus GÜNTHER, 1862, Cat. Fish. B. M., IV, p. 494; Amoy, China;—GÜNTHER, 1873, Ann. Mag. Nat. Hist., (4) XII, p. 244; Shanghai;—BLEEKER, 1873, Ned. Tijd. Dierk., IV, p. 131; Amoy; Canton;—(?) PETERS, 1880, M. B. Akad. Berlin, p. 923; Ningpo;—SEALE, 1914, Phil. Journ. Sci., IX, p. 78; Hongkong;—EVERMANN & SHAW, 1927, Proc. Calif. Acad. Sci., (4) XVI, 4, p. 113; Ningpo, Hangchow, Nanking;—FOWLER, 1929, Proc. Acad. Nat. Sci. Philad., pp. 595, 615; Shanghai; Hongkong;—WU; 1931, Sinensia, I, II, p. 169; Tchousan;—WU, 1932, Poiss. Heterosom. Chine, p. 157; Chowsan; Chefoo; Tsitao;—WANG, 1933, Contr. Biol. Lab. Sci. Soc. China, IX, *Z. S.*, 1, p. 65; Chefoo;—TCHANG, 1928, Contr. Biol. Lab. Sci. Soc. China, IV, 4, p. 37, fig. 43; Nanking.

Areliscus abbreviatus WU, 1929, Contr. Biol. Lab. Sci. Soc. China, V, 4, p. 71, fig. 57; Amoy.

Plagiusa abbreviata RICHARDSON, 1845, Rep. Brit. Assoc. Adv. Sci., p. 280; Canton.

One specimen—No. 3210, Mus. Biol. Lab. Sci. Soc. China, April 22, 1933.

Length to base of caudal 301 mm. Depth in length 3.8; head 5.5. Eye in head 10.8; snout 2.7; interorbital space 9.2. Scales 130.

COLOUR in formalin—Dark brown; vertical fins black, with whitish margin.

DISTRIBUTION—The species is rather common in our coast. It comes to the Yangtse River in certain season of the year.

Other two specimens were obtained in a former collection: No. 3236, one on No. and one in the recent collection: No. 12366.

Family **OPHICEPHALIDAE**

Genus **Ophicephalus** BLOCH.

Ophicephalus BLOCH, 1793, 'Ausl. Fische', VII, p. 137.
Type: *Ophicephalus punctatus*. BLOCH.

54. **Ophicephalus argus** CANTOR.

For description see TCHANG, 1928, Contr. Biol. Lab. Sci. Soc. China, IV, 4, p. 33.

Ophicephalus argus CANTOR, 1842, Ann. Mag. Nat. Hist., ( ) IX, p. 484; Chusan;—RICHARDSON, 1846, Rep. Brit. Ass. Adv. Sci., 1845, p. 187;—SAUVACE & DABRY, 1874, Ann. Sci. Nat., (6) Zool. et Paleont, 1, 5;—KÁROLI, 1882, Term. Füzetek, V, p. 47; Ningpo;—EVERMANN & SHAW, 1927, Proc. Calif. Acad. Sci., (4) XVI, 4, p. 113; Hangchow; Chuchi; and Shanghai;—RENDAHL, 1928, Ark. Zool., XX, A, 1, p. 180; Kiangsu; Anhwei;—MORI, 1928, Japan. Journ. Zool., II, 1, p. 70; Tsinan;—NICHOLS, 1928, Bull. Amer. Nat. Hist., LVIII, 1, p. 49; Yunnan; Anhwei;—SHAW, 1930, Bull. Fan. Mem. Inst. Biol., I, 7, p. 120; Kashing; Shingtsong;—WU, 1930, Sinensia, I, 6, p. 85; Chungking;—SHAW, 1930, Bull. Fan. Mem. Inst. Biol., I, 10, p. 191; Soochow;—NICHOLS, 1930-31, Peking Nat. Hist. Bull., V, 2, p. 23;—WU, 1931, Bull. Mus. Paris, (2) III, 5; Tien Tai;—CHU, 1932, Fish. West Lake, p. 48, fig. 34; Hongchow;—RENDAHL, 1932, Ark. Zool., XXIV, A, 16; p. 119; Ussuri to Yangtse-kiang and Che-kiang;—WANG, 1933, Contr. Biol. Lab. Sci. Soc. China, IX, *Z. S.*, 1, p. 69; Shangtung;—FU & TCHANG, 1933, Bull. Honon Mus., I, 1, p. 29; Kaifeng.

ophicephalus pekinensis BASILEWSKY, 1855, Nouv. Fém. Soc. Imp. Nat. Moscou, X, p. 215, and (Addenda) 259; North China;—SAUVAGE & DABRY, 1874, Ann. Sci. Nat., (6) Zool. et Paleont I, 5, p. ?—FOWLER & BEAN, 1920, Proc. U. S., Nat. Mus., LVIII, p. 315; Soochow;—FOWLER, 1924, Mem. Asiatic Soc. Bengal., VI, p. 503; Soochow; —FOWLER, 1929, Proc. Acad. Nat. Sci. Philad., LXXI, p. 611; Hongkong.

Ophicephalus argus BLEEKER, 1864, Ned. Tijd. Dierk., II, p. 18; China;—BLEEKER, 1873, Ned. Tijd. Dierk., IV, p. 62; —BLEEKER, 1870, Versl. Med. Akad. Amsterd., IV, p. 251; China;—KNER, 1867, Zool. Teil, I, Wein, Shanghai; —MARTERS, 1874, Zool. Abteilung, I, Berlin, Shanghai; —PETERS, 1880, M. B. Akad. Berlin, XLV, p. 921; Ningpo;—GÜNTHER, 1889, Ann. Mag. Nat. Hist., (6) IV, p. ; Kiu-kiang;—ABBOTT, 1901, Proc. U.S. Nat. Mus., XXIII, p. 490; Peiho;—REGAN, 1904, Ann. Mag. Nat. Hist., (7) XIII, p. ; Yunnan;—POPTA, 1907, Zool. Anz., XXXII, p. 243; Kaiserkanal;—CARMAN, 1912, Mem. Mus. Comp. Zool. Harv. Coll., XL, p. 111; Kiating; —NICHOLS, 1918, Proc. Biol. Soc. Washington, XXXI,

p. 15; Yunnan;—TCHANG, 1928, Contr. Biol. Sci. Soc. China, IV, 4, p. 33, fig. 38; Nanking.

Ophiocephalus pekinensis JORDAN & SEALE, 1906, Proc. U. S. Nat. Mus., XXIX, p. ; Shanghai;—KREYENBERS & PPAPPENHEIM, 1908, Sitz. Ber. Ges. Natf. Freunde, p. 95; Hankau;—KREYENBERG & PAPPENHEIM, 1909, Abh. Mus. Nat. Heimatk. Magdeburg, II, p. 1; Hankau.

One specimen—No. 12318, Mus. Biol. Lab. Sci. Soc. China, June 8, or 9, 1933.

Length to base of caudal 139 mm. Depth in length 5.77; head 3.0. Eye in head 6.85; snout 6.2; interorbital 5.58; longest ray: dorsal 2.69, pectoral 2.13, ventral 3.35, anal 2.69, caudal 1.56; length of caudal peduncle 6.7; height of caudal peduncle 3.61.

Dorsal 49; pectoral 19; ventral 1,5; anal 33. Scales 60 $\frac{7}{16\text{-v}}$.

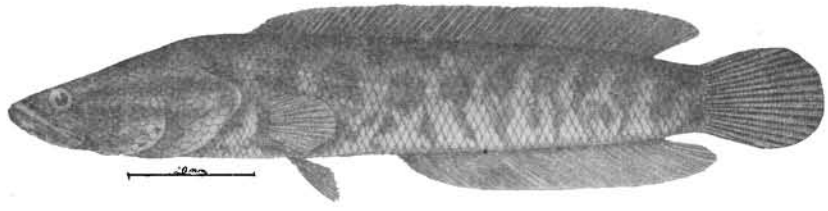

Fig. 49. *Ophicephalus argus* CANTOR.

COLOUR in formalin—Black above, pale below, many dark spots and cross-bands on head and side of body; pectorals and ventrals yellowish, other fins blackish.

DISTRIBUTION—Common in everywhere of this country.

Other 4 specimens were collected: three in 1930, Nos. 3206A, 3206B. 3206C, one in 1933, No. 12317.

Family **OSPHRONEMIDAE**

Genus **Macropodus** LACÉPÈDE.

Macropodus LACÉPÈDE, 1802, Hist. Nat. Poiss., III, p. 416.

Type: *Macropodus viridiauratus* LACÉPÈDE.

55. Macropodus opercularis (LINNAEUS).

For description see WU, 1929, Contr. Biol. Lab. Sci. Soc. China, V, 4, p. 75.

Labrus opercularis LINNAEUS, 1788, Amoen. Acad., IV, p. 428; China.

Chaetodon chinensis BLOCH, 1785, Nat. Aus. Fish. Berlin, VII, p. 7; Taf. 218, fig. 1;—LACEPÈDE, 1798-1803, Hist. Nat. Poiss. Paris, IV;—BLOCH & SCHNEIDER, 1801, M. E. Blochü—Syst. Ichth. Icon. Ill. Berlin.

Macropodus viridi-auratus LACEPÈDE, 1785, Nat. Aus. Fish. Berlin, III; China;—CUVIER & VALENCIENUES, 1831, Hist. Nat. Poiss. Paris, VII; Cochin-China;—RICHARDSON 1846, Rept. Brit. Assoc. Adv. Sci. 15th. Meet., 1845, p. ; China, Cochinchina;—BLEEKER, 1873, Ned. Tijd. Dierk., IV, p. 62;—SAUVACE & DABRY 1874, Ann. Sci. Nat., (6) I, 5, Zool. et Poleont;—NICHOLS & POPE, 1927, Bull. Amer. Nat. Hist., LIV, 2, p. 287; Hainan.

Polyacanthus chinensis CUVIER & VALENCINNES, 1831, Hist. Nat. Poiss., VII, p. 357; nach Bloch;—RICHARDSON, 1846, Rept. Brit. Assoc. Adv. Sci. 15th. Meet., 1845, p. 250; Canton, China.

Macropodus venustus CUVIER & VALENCIENNES, 1831, Hist. Nat. Poiss., VII, nach einer Chenesischen Zeichnung aus Canton;—RICHARDSON, 1846, Rept. Brit. Assoc. Adv. Sci. 15th. Meet., 1845, p. ; Canton, Chusan.

Macropodus ocellatus CANTOR, 1842, Ann. Mag. Nat. Hist., IX, p. 484; Chusan.

Polyacanthus opercularis GÜNTHER, 1861, Cat. Fish. B. M., III, p. 379; Chusan, Hong-kong;—GÜNTHER, 1873, Ann. Mag. Nat. Hist., (4) XII, p. 243; Shanghai;—BLEEKER, 1873, Ned. Tijd. Dierk., IV, p. 62;—RETERS 1880, Monstsb. Akad. Berlin, p. 923;—SAUVAGE & DABRY, 1874, Ann. Sci. Nat., (6) I, 5, Zool. et Paleont;—MÖLLENDROFF, 1877, Journ. North-China Branch Roy. Asiatic Soc., Shanghai; N. S., XI, p. 105; Chihli;—KÁROLI, 1822, Term. Füzetek, V, p. 147; Canton;—ABBOTT, 1901, Proc. U. S., Nat. Mus., XXIII, p. 490; Tientsin;—KREYENBERG & PAPPENHEIM, 1908. Sitz. Ber. Ges. Natf. Freunde, p. 95; Pinghsiang;—KREYENBERG &

PAPPENHEIM, 1909, Abh. Mus. Nat. Heimatk. Magdeburg, II, p. 1; Pinghsiang;—OSHIMA, 1919, Ann. Carneg, Mus., VII, 2-4, p. 276; Formosa;—FOWLER & BEAN, 1920, Proc. U. S. Nat. Mus., LVIII, p. ; Soochow;—FOWLER, 1924, Mem. Asiatic Soc. Bengal., VI, p. 503; near Soochow;—EVERMANN & SHAW, 1927, Proc. Calif. Acad. Sci. (4) XBI, 4, p. 113; Chefoo.

Macropus viri-auratus GÜNTHER, 1861, Cat. Fish. Brit. Mus., III, p. (=Macropodus viridi-auratus LACÉPÈDE).

Polyacanthus operculatus OSHIMA, 1920, Proc. Acad. Nat. Sci. Philad., p. 134; Formosa;—WU, 1929, Contr. Biol. Lab. Sci. Soc. China, V, 4, p. 75; Amoy.

Macropodus opercularis RENDAHL, 1928, Akad. Zool., XX, A, 1, p. 117; Fukien, Lien-cheng-hsien; Canton, Wampu;—TCHANG 1928, Contr. Biol. Lab. Sci. Soc. China, IV, 4, p. 37, fig. 42; Nanking;—NICHOLS, 1928, Bull. Amer. Nat. Hist., LVIII, 1, p. p. 50; Tungting Lake; Anhwei;—MORI, 1928, Japan. Journ. Zool., II, 1, p. 71; Tsinan;—SHAW, 1930, Bull. Fan. Mem. Inst. Biol., I, 7, p. 120; Ka-shing;—SHAW, 1930, Bull. fan Mem. Inst., I, 10, pp. 191, 192, 205, fig. 29; Soochow;—NICHOLS, 1930-31, Peking Nat. Hist., Bull., V, 2, p. 23;—FOWLER, 1930-31, Peking Nat. Hist. Bull., V, 2, p. 28; Tsinan;—LIN, 1932, Lingn. Sci. Journ., XI, 1, p. 68; Heungchow;—RENDAHL, 1932, Akad. Zool., XXIV, A, 16, p. 119; Ussuri to Yangtse and Chekiang.

Macropodus chinensis CHU, 1932, Fish. West Lake, p. 50, fig. 35,Hongchow.

One specimen—No. 12360, Mus. Biol. Lab. Sci. Soc. China, June 8 or 9, 1933.

Length to base of caudal 50 mm. Depth in length 3.0; head 3.55. Eye in head 3.77; snout 4.0; interorbital 3.3; longest ray: dorsal 0.6, pectoral 1.32, ventral 0.68, anal 0.61, caudal 0.67.

Dorsal XVIII, 6; pectoral 10; ventral I, 5; anal XX, 10. Scales $28\frac{5}{8\text{-v}}$.

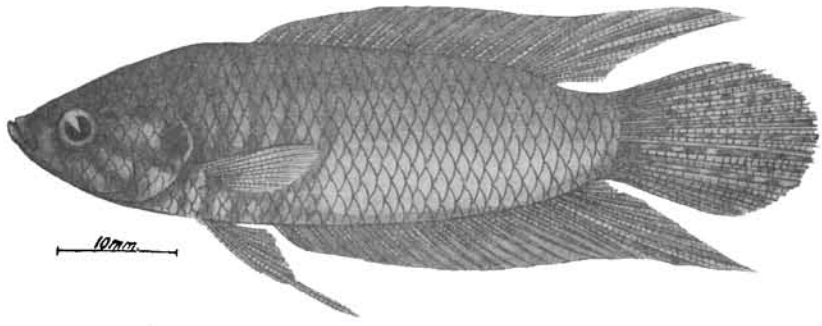

Fig. 50. *Macropodus opercularis* (LINNAEUS).

DISTRIBUTION—Hainan, Canton, Hangchow, Ka-shing, Chekiang, Shanghai, Soochow, Nanking, Kiangsu, Tientsin, Chihli, Ping-Hsiang, Hunan, Chefoo, Tsinan, Shangtung, Amoy, Fukien, Anhwei, Tungting Lake, (Hunan), Ussuri-Kiang to Yangtse-Kiang; Formosa; Hongkong; Cochinchina.

Other three specimens were obtained on the recent collection: Nos. 12359, 12361-12362.

Family **OLIGORIDAE**

Genus **Lateolabrax** BLEEKER

Lateolabrax BLEEKER, 1857, Nieuwe Nalez., Japan, p. 53.

Percalabrax GÜNTHER, 1859, Cat. Fish. B. M., I, p. 70. (*Labrax japonicus* CUVIER & VALENCIENNES. After *Percalabrax* of TEMMINCK & SCHLEGEL).

Type: *Labrax japonicus* CUVIER & VALENCIENNES.

56. **Lateolabrax japonicus** (CUVIER & VALENCIENNES).

For description see TCHANG, 1928, Contr. Biol. Lab. Sci. Soc. China, N, 4, p. 36.

Labrax japonicus CUVIER & VALENCIENNES, 1828, Hist. Nat. Poiss., II, p. 85; Sea of Japan;—RICHARDSON, 1846, Ichth. China, p. 222; Sea of China and Japan, Hongkong; Canton; Peiho; Chusan; etc.

Perco-labrax japonicus TEMMINCK & SCHLEGEL, 1842, Fauna Japan., Pisc., p. Pl. 2, fig. 1; Nagasaki. (The name *Percolabrax* was used by TEMMINCK & SCHLEGEL as

the equivalent of *Perca* (*labrax*) suggested by CUVIER & VALENCIENNES; it had not been denoted as a new genus.).

Holocentrum maculatum McCLEIAND, 1844, Calcutta Journ. Nat. Hist., IV, p. 395, Pl. 21, fig. 1; Ningpo; Chusan.

Labrax lying BASILEWSKY, 1855, Nouv. Mém. Soc. Nat. Moscou X, p. 219; (Rivers in Eastern China.)

Labrax luyn MÖLLENDORFF, 1877, Journ. Roy. Asi. Soc., N.-China Branch; New Ser., XI, p. 106; Pei-ho.

Percalabrax poecilonotus and *spilonotus* DABRY & THIERSANT, 1872, Pisc. en Chine, Pl. XXXVI, figs. 2 & 3; Yangtse-kiang.

Percalabrax japonicus GÜNTHER, 1859, Cat. Fish. B. M., I, p. 71; China; Japan;—KNER, 1865, Novara, Fishe, p. 13; Shanghai;—MARTENS, 1868, Archiv. Nat., Berlin, p. 5; China;—GÜNTHER, 1873, Ann. Mag. Nat. Hist., (4) XII, p. 240; Shanghai;—MARTENS, 1875, Prues. Exp. Ost-Asi., Zool. Abth., p. 385; Shanghai; Japan;—PETERS, 1880, Monasber. Akad. Wiss. Berlin, XLV, p. 921; Ningpo;—STEINDACHNER, 1892, Denkschr. Akad. Wiss. Wien, LIX, p. 359; Shanghai.

Eateolabrax japonicus BLEEKER, 1857, Verh. Batav. Gen., XXVI, Ichth. Jap., p. 52; Japan;—BLEEKER, 1872, Ned. Tijd. Dierk., IV, Pts. 4-7, 137; Canton; Hongkong; Chusan; Shanghai; Peiho;—BOULENGER, 1895, Cat. Fish., I, p. 123; Japan; China; Chefoo; Shanghai; Haw-yoe; Amoy; Chusan; Formosa;—RUTTER, 1897, Proc. Acad. Sci. Philad., p. 73; Swatow;—GÜNTHER, 1898, Ann. Mag. Nat. Hist., (7) I, p. 257; Newchwang;—JORDAN & SEALE, 1905, Proc. U. S. Nat. Mus., XXXI, p. 517; Port. Arthur;—EVERMANN & SHAW, 1927, Proc. Calif. Acad. Sci., (4) XVI, 4, p. 115; Woosung; Hangchow;—MORI, 1928, Journ. Chosen Nat. Hist. Soc., 6, p. 24; North China; Liao River; West Korea;—MORI, 1928, Japan. Journ. Zool., II, 1, p. 70; Tsinan;—NICHOLS, 1928, Bull. Amer. Mus. Nat. Hist., LVIII, 1, p. 51; Fukien;—TCHANG, 1928, Contr. Biol. Lab. Sci. Soc. China, IV, 4, p. 36. fig. 41; Nanking;—SHAW, 1930, Bull. Fan. Mem. Inst. Biol., I, 10, p. 193; Soochow;—CHU, 1932, China Journ., XVI, 4, 196, fig. 36; Chusan; Foochow.

One specimen—No. 3230, Mus. Biol. Lab. Sci. Soc. China, April 22, 1930.

Length to base of caudal 183 mm. Depth in length 3.6; head 3.1. Eye in head 4.8; snout 3.6; interorbital space 5.9;

longest ray: dorsal 2.2, pectoral 2.9, ventral 2.9, anal 2.2, caudal 1.5; length of caudal peduncle 1.6; height of caudal peduncle 3.2.

Dorsal XIII, 13; pectoral 17; ventral I, 5; anal III, 8. Scales 86 $\frac{17}{33.v}$.

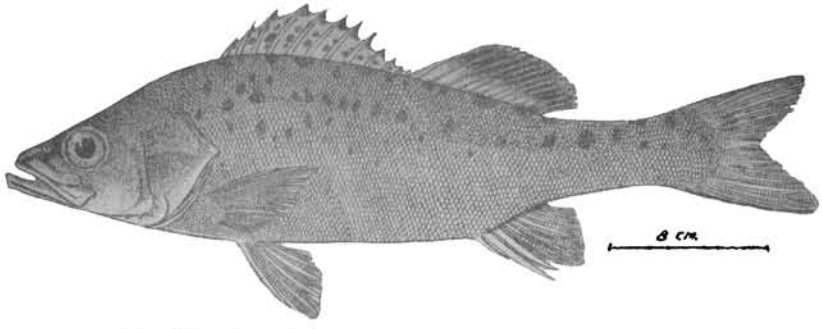

Fig. 51. *Lateolabrax japonicus* (CUV. & VAL.)

COLOUR in formalin—Brown, with black spots on upper sides of body and dorsal fin.

DISTRIBUTION—Canton, Swatow; Fukien, Foochow, Amoy, Chekiang, Hangchow, Ningpo, Chusan, Kiangsu, Shanghai, Woosung, Nanking, Chinkiang, Shangtung, Chefoo, Tsinan, Chihli, Tientsin, Peiho, Liao-ning, Newchwang, Port arthur. Liao-ho, Sungari River, Hupei; Hongkong.

Family EPINEPHELIDAE

(sea Bass).

Genus Siniperca GILL.

Siniperca GILL, 1862, Proc. Acad. Sci. Philad., p. 16; Orthotype: *Perca chuatsi* BASILEWSKY;—KNER, Novara, Fische, 1865, p. 14;—BLEEKER, Arch. Neerl. XI, 1876, p. 255.

Plectroperca, PETERS, 1864, Mon. Beerl. Akad., p. 121; orthotype: *Plectroperca berenti* PETERS.

Actenolepis DYBOWSKI, 1872, Verh. Zool. Bot. Ges. Wien, XXII, p. 210; orthotype: *Actenolepis ditmarii* DYBOWSKI.

Coreoperca HERZENSTEIN, 1896, Ann. Mus. Zool. St. Petersb., p. 11; orthotype: *Coreoperca herzi* HERZENSTEIN;—BOULENGER, 1899, Proc. Zool. Soc. London, p. 959.

57. **Siniperca Chuatsi** (BASILEWSKY).

For synopsis, descreption, figure see Fang and Chong, 1932, Sinensia, II, 12, pp. 143-144 and 152-160.

Three specimens—Nos. 3215, 9457-9458, April, 22, 1930. Decribed by Fang and Chong.

DISTRIBUTION—Yangtse Valley, Chihli, Shangtung, Chekiang, Kirin, Fukien; Hongkong; Korea, Japan.

Family **ELEOTRIDAE**

Genus **Eleotris** (GRONOW) BLOCH & SCHNEIDER.

Eleotris GORONOW, 1763, Zooph., p. 83 (Nonbinomid).
Eleotris BLOCH & SCHNEIDER, 1801, Syst. Ichth., p. 65. (pisonis)
Culius BLEEKER, 1874, Esq. Syst. Nat. Gobioides, Arch. Neerl., IX, p. 303. (Fuscus).

Key to Species

A. Body more or less depressed. First dorsal fin with 6 rays. Scales 42 .....*E. potamophila* GÜNTHER. (p. 232)
AA. Body more or less compressed. First dorsal fin with 7, second with 12; anal with 9 rays .....*E. swinhonis* GÜNTHER. (p. 234)

58. **Eleotris potamophila** GÜNTHER.

Eleotris potamophila GÜNTHER, 1861, Cat. Fish. B. M., III, p. 557; Yangtse-kiang;—GÜNTHER, 1873, Ann. Mag. Nat. Hist., (4) XII, p. 242; Shanghai;—GÜNTHER, 1889, Ann. Mag. Nat. Hist., (6) IV, p. ; Upper Yangtse-kiang;—RENDAHL, 1928, Ark. Zool., XVI, 2, p. 12;—NICHOLS, 1928, Bull. Amer. Mus. Nat. Hist., LVIII, 1, p. 53; Tungting Lake (Hunan); Anhwei;—SHAW, 1930, Bull. Fan. Mem. Inst. Biol., I, 7, p. 121; Ka-shing;—SHAW, 1930, Bull. Fan. Mem. Inst. Biol., I, 10, p. 195; Soochow;—TCHANG, 1928, Contr. 1928, Contr. 1928, Contr. Biol. Lab. Sci. Soc. China, IV, 4, p. 39, fig. 44; Nanking;—SHAW, 1930, Bull. Fan. Mem. Inst. Biol., I, 7, p. 121; Ka-shing;—TCHANG, 1932, Bull. Fan. Mem. Inst. Biol., III, 14, pp. 212. 216; Kaifeng.
Eleoptris potamophilus BLEEKER, 1874, Ned. Tijd. Dierk., IV.

One specimen—No. 3213, Mus. Biol. Lab. Sci. Soc. China, April, 22, 1930.

Length to base of caudal 141 mm. Depth in length 4.4; head 2.7. Eye in head 74; snout 3.0; interorbital space 4.7; lengest ray: dorsal (I), 2.6, (II) 2,2, pectoral 1.7, ventral 2.3, anal 2.3, caudal 1.5; length of caudal peduncle 1.7; height of caudal peduncle 2.7.

Dorsal VII, 10; pectoral 16; ventral 5; anal 8. Scales 32 $\frac{8}{?\text{-}v}$.

Body subcylindrical anteriorly, compressed posteriorly; Head rather flat and depressed. Scales very small, covered on the top of the head and on the cheeks, but not on anterior portion of snout. Eye supralateral and moderately in size. Mouth large, superior and obligue, snout short and broad. Nostils small, in front of eye, anterior one tubular. Lower jaw projecting; both jaws with small teeth.

Two dorsal fins well separate, first one spinous, beginning a little behind and above the pectoral base, the second about in midway of total length. Pectoral fin large. Ventral fin located in the thorax and under base of pectoral. Anal fin commencing nearer base of caudal than origin of ventral. Caudal fin is rounded.

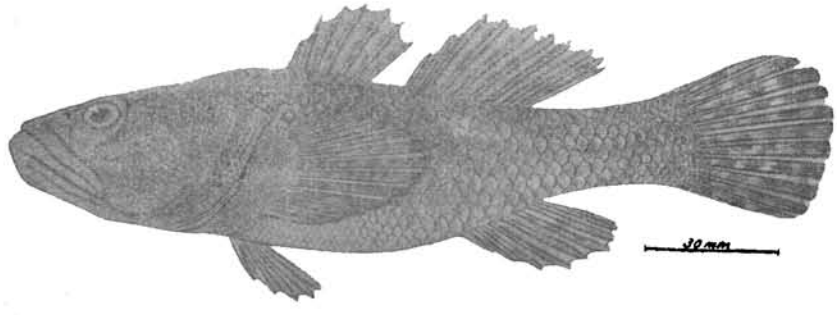

Fig. 52. *Eleotris potamophila* GÜNTHER.

COLOUR in formalin—Brownish black above, pale below, sides of body irregularly marked with black.

DISTRIBUTION—Yangtse Valley; Liao-ho; Yalu River.

Other nine specimens were obtained, six in a former collection which had no numbers, three in the recent collection; Nos. 12303-12305.

59. **Eleotris swinhonis** GÜNTHER.

For description see TCHANG, 1928, Contr. Biol. Lab. Sci. Soc. China, IV, 4, p. 29.

Eleotris swinhonis GÜNTHER, 1873, Ann. Mag. Nat. Hist., (4) XII, p. 242; Shanghai;—KREYENBERG & PAPPENHEIM, 1909, Abh. Mus. Nat. Magdeburg, II, p. ; Hankau;—TCHANG, 1928, Contr. Biol. Lab. Sci. Soc. China, IV, 4, p. 29, fig. 45; Nanking;—RENDAHL, 1928, Arkiv. Zool., XVI, 2, p. 13;—NICHOLS, 1928, Bull. Amer. Mus. Nat. Hist., LVIII. 1, p. 45; Anhwei;—SHAW, 1930, Bull. Fan. Mem. Inst. Biol., I, 10, p. 196; Soochow;—FOWLER, 1930-31, Peking Nat. Hist. Bull., V, 2, p. 29; Tsinan;—CHU, 1932, Fish. West Lake, p. 53. fig. 31; Hongchow.

One specimen—No. 12363, Mus. Biol. Lab. Sci. Soc. China, June 8 or 9, 1933.

Length to base of caudal 40 mm. Depth in length 4.2; head 3.35. Eye in head 3.8; snout 4.0; interorbital 4.0; longest ray: dorsal 1.26, pectoral 1.4, ventral 1.71, anal 1.73, caudal 1.33; length of caudal peduncle 0.9; height of caudal peduncle 1.9.

Dorsal IX, 12; pectoral 15; ventral I, 5; anal 9. Scales $32\frac{7}{5\text{-A}}$.

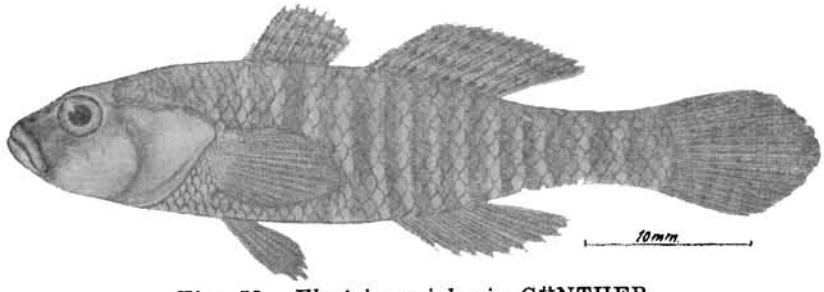

Fig. 53. *Eleotris swinhonis* GÜNTHER.

DISTRIBUTION—Shanghai, Hankau, Nanking, Anhwei, Soochow, Tsinan, Hongchow.

Other two specimen were collected in 1933: Nos. 12364-12365.

Family **GOBIIDAE**

Genus **Gobius** LINNAEUS.

Gobius LINNAEUS, 1758, Syst. Nat., 10th, Ed., p. 262.

Type: *Gobius niger* LINNAEUS.

Rhinogobius GILL, 1860, Proc. Acad. Philad., for 1859, p. 145.

Type: *Rhinogobius similis* GILL.

60. **Gobius giurinus** RUTTER.

For description see WU, 1931, Contr. Biol. Sci. Soc. China, VII, *Z. S.*, 1, p. 40.

Gobius giurinus RUTTER, 1897, Proc. Acad. Nat. Sci. Philad., XLIX, p. 86. Swatow, China;—NICHOLS & POPE, 1927, Bull. Amer. Nat. Hist., LIV, 2, p. 393; Hainan.

Gobius giurus ABBOTT, 1901, Proc. U. S. Nat. Mus., XXIII, p. 491; Tientsin.

Ctenogobius platy-cephalus JORDAN & EVERMANN, 1903, Proc. U. S. Nat. Mus., XXV, p. 362; Taihoku.

Rinogobius giurnus JORDAN & RICHARDSON, 1909, Mem. Carneg. Mus., IV, 4, p. 200; Formosa;—OSHIMA, 1919, Ann. Carneg. Mus., XII, 2-4, p. 297; Formosa;—OSHIMA, 1920, Proc. Acad. Nat. Sci. Philad., p. 134; Formosa;—CHU, 1932, Fish. West. Lake, p. 51; Hangchow.

Ctenogobius hadropterus JORDAN & SNYDER, 1901, Proc. U. S. Nat. Mus., XXIV, p. 60; Nagasaki, Hizen;—MORI, 1928, Japan Journ. Zool., II, 1, p. 71; Lung-shan.

Gobius (*Rhinogobius*) *giurinus* RENDAHL, 1924, Arkiv. Zool. XVI, 2, p. 18; China and Formosa;—NICHOLS, 1928, Bull. Amer. Mus. Nat. Hist., LVIII, 1, p. 55; Fukien.

Rhinogobius hadropterus WU, 1930, Contr. Biol. Lab. Sci. Soc. China, XI, *Z. S.*, 5, p. 57; Tchang.

Gobius (*Rhinogobius*) *hadropterus* WU, 1931, Contr. Biol. Lab. Sci. Soc. China, VII, *Z. S.*, 1, p. 40; Foochow;—WU, 1931, Bull. Mus. Pairs, (2) III, 5, p. 439; Tong Lu.

One specimen—No. 3222, Mus. Biol. Lab. Sci., Soc. China, April 22, 1930.

Length to base of caudal 50 mm. Depth in length 4.1; head 3.3. Eye in head 5.0; snout 3.0; interorbital space 7.5; longest ray: dorsal (I) 1.8, (II) 2.0, pectoral 1.3, ventral 1.4, anal 2.5, caudal 1.1; length of caudal peduncle 1.0; height of caudal peduncle 2.5.

Dorsal VI, 9; pectoral 18; ventral 6; anal 9. Scales $29\frac{4.}{4\frac{1}{2}\text{-v}}$

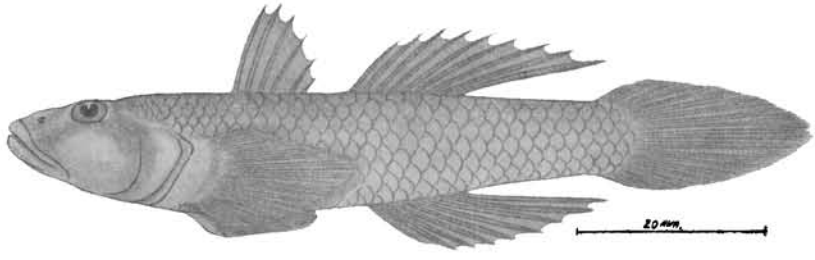

Fig. 54. *Gobius giurinus* RUTTER.

COLOUR in formalin—Dorsal and caudal with dusky streaks. Base of pectoral with a small dark spot. Five dark blotches located along the side of the body.

DISTRIBUTION—Canton, Honan, Hainan, Tsinan, Hangchow, Yangtse Valley.

Other 6 specimens were obtained in the recent collection: Nos. 12348-12353.

SUMMARY

Family 1, POLYODONTIDAE

1. Psephurus gladius (MARTENS).

Family 2, CLUPEIDAE

2. Hilsa reevesii (RICHARDSON).

Family 3, ENGRANLIDAE

3. Coilia ectenes JORDAN & SEALE.

Family 4, SALANGIDAE

4. Hemisalanx prognathus REGAN.

Family 5, ELUTIDAE

5. Fluta alba (ZUIEW).

Family 6, MASTACEMBELIDAE

6. Mastacembelus aculeatus (BASILEWSKY).

Family 7, ANGUILIDAE

7. Anguilla japonica TEMMINCK & SCHLEGEL.

Family 8, CYPRINIDAE

8. Mylopharyngodon aethiops (BASILEWSKY).
9. Ctenopharyngodon idella (CUVIER & VALENCIENNES).
10. Ochetobius elongatus (KNER).
11. Squalibarbus curriculus (RICHARDSON).
12. Elopichthys bambusa (RICHARDSON).
13. Xenocpyris argentea GÜNTHER.
14. Pseudobrama dumerili BLEEKER.
15. Gobio argentatus SAUVAGE & DABRY.
16. Gobio imberbis NICHOLS.
17. Coreius styani (GÜNTHER).
18. Pseudogobio rivularis (BASILEWSKY).
19. Saurogobio drakei (ABBOTT).
20. Saurogobio dumerili BLEEKER.
21. Sarcocheilichthys sinensis BLEEKER.
22. Pseudorasbora parva (TEMMINCK & SCHLEGEL).
23. Parabramis bramula (CUVIER & VALENCIENNES).
24. Parabramis terminalis (RICHARDSON).
25. Culter dabryi BLEEKER.
26. Culter erythropterus BASILEWSKY.
27. Culter brevicauda GÜNTHER.
28. Parapelecus machaerius ABBOTT.
29. Parapelecus oligopis WU & WANG.
30. Hemiculter leucisculus (BASILEWSKY).
31. Hemiculter bleekeri WARPACHOWSKY.
32. Rhodeus ping, sp. nov.
33. Rhodeus wangi WU.
34. Pararhodeus fangi, sp. nov.
35. Acheilognathus chii, sp. nov.
36. Pseudoperlampus lighti WU.
37. Acanthrohodeus atranalis GUNTHER.
38. Cyprinus carpio LINNAEUS.
39. Carassius auratus (LINNAEUS).
40. Hypophthalmichthys molitrix (CUVIER & VALENCIENNES).
41. Aristichthys nobilis (RICHARDSON).

Family 9, COBITIDAE

42. Cobitis taenis LINNAEUS.
43. Misgurnus anguillicaudatus (CANTOR).
44. Misgurnus decemcirrosus (RICHARDSON).

Family 10, SILURIDAE

45. Parasilurus asotus (LINNAEUS).

Family 11, BAGRIDAE

46. Pseudobagrus wui, sp. nov.
47. Pseudobagrus changi, sp. nov.
48. Pseudobagrus wangi, sp. nov.
49. Pseudobagrus fui, sp. nov.
50. Leiocassis crassilabris GÜNTHER?
51. Leiocassis longirostris GÜNTHER.

Family 12, HEMIRAMPHIDAE

52. Hyporhamphus sajori (TEMMINCK & SCHLEGEL).

Family 13, CYNOGLASSIDAE

53. Cynoglassus abbreviatus (GRAY).

Family 14, OPHICEPHALIDAE

54. Ophicephalus argus CANTOR.

Family 15, OSPHRONEMIDAE

55. Macropodus opercularis (LINNAEUS).

Family 16, OLIGORIDAE

56. Lateolabrax japonicus (CUVIER & VALIENCIENNES).

Family 17, EPINEPHELIDAE

57. Siniperca chuatsi (BASILEWSKY).

Family 18, ELEOTRIDAE

58. Eleotrus potamophila GÜNTHER.
59. Eleotrus swinhomis GÜNTHER.

Family 19, GOBIIDAE

60. Gobius giurinus RUTTER.

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(10) „ 1931b. Ditto. Part 4. **China Journal,** XIV, 4, p. 187-194, with 4 pls.

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