

**THREE NEW FRESH-WATER FISHES OF KWANGTUNG
PROVINCE¹**

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Family **Homalopteridae**

Parhomaloptera disparis sp. nov. (fig 1-4)

Derivation of name: *disparis* means different, referring to the color of the fish.

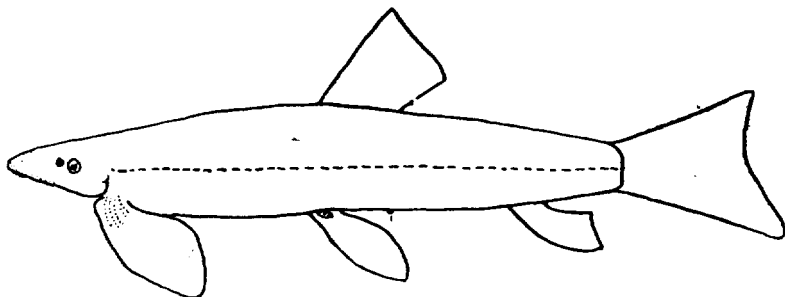


Fig. 1. *Parhomaloptera disparis* sp. nov. Lateral view. About 1.5 times natural size.

D. 3/7; A. 2/5; P. 1/13; V. 1/7. L.l. about 70; l.tr. 18/7-V. Depth in length 5.8; head 5.2. Eye in head 8; snout 2; postorbital space 3.3; interorbital 2.5; width of mouth 4.1; width of head 1.1; space between ventral axilla 1.3; longest dorsal ray 1; anal ray 1.1; pectoral 1; ventral 1; length of peduncle 1.6; its depth 2.

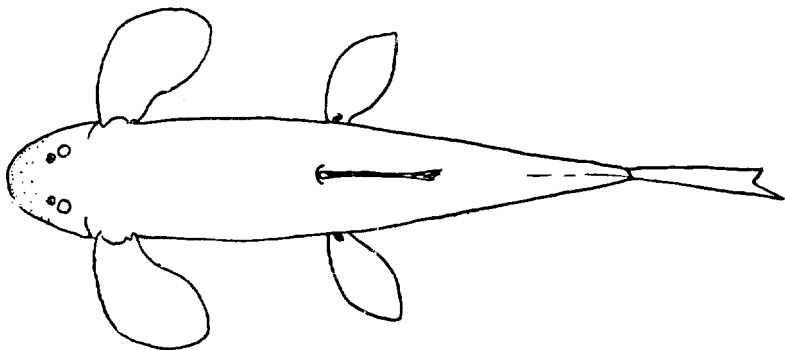


Fig. 2. *Parhomaloptera disparis* sp. nov. Ventral view.

¹ Contribution from Fisheries Experiment Station of the Bureau of Agriculture and Forestry, Department of Reconstruction, Kwangtung Provincial Government.

Elongate, compressed posteriorly. Head strongly depressed. Abdomen flat. Snout broadly rounded, usually with horny warts. Mouth small, crescent-shaped, inferior. Lips thick, smooth, overhanging the mouth; lower lip fleshy, more or less free from mandible, produced into a number of prominences and continuous with upper lip at angles of mouth. Jaws with sharp, smooth edge, all free from lips. A rostral groove before the mouth, partly covered by the rostral fold. 6 or 7 short and fleshy rostral barbels situated in the rostral groove, the posterior pair long and slender. A long and prominent barbel at corner of mouth. Eyes small, suprolateral, with free, circular rim, invisible from below. Nostrils large, close to and in front of eyes. Gill-openings small, before base of pectorals, extending to ventral surface for a short distance. Dorsal short, commencing slightly before ventrals, its origin midway between tip of snout and base of caudal. Paired fins with only one unbranched ray. Pectorals and ventrals horizontal. Tip of pectorals not to ventrals which are separate and remote from anal. Anal short, far behind end of dorsal, reaching base of caudal. Caudal emarginate, with the lower lobe longer. Vent close to ventral axilla, in the first third or half of ventrals. Lateral line complete, in middle of depth of tail. Scales small, adherent. Ventral surface before ventral fins devoid of scales. Intestine short; peritoneum black. Air bladder with two chambers, entirely enclosed in bony capsules, communication between them hardly detectable. Basipterygium without a lateral foramen and with the lateral horn not well marked (a character intermediate between *Homaloptera* and *Gastromyzon*).

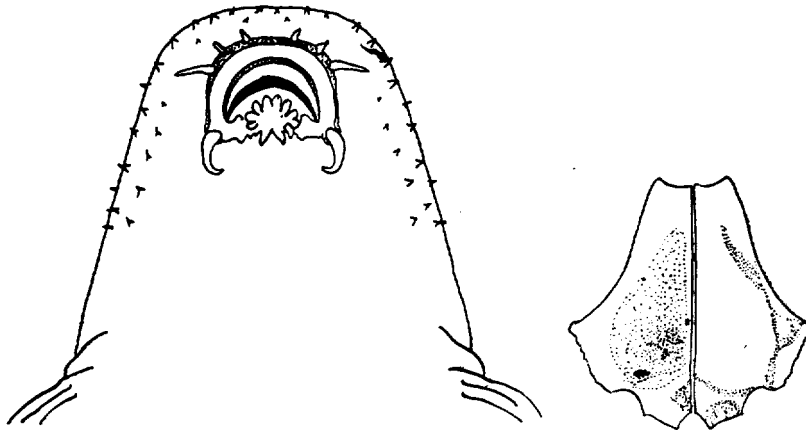


Fig. 3 & 4. *Parhomaloptera disparis* sp. nov. Left, ventral view of head. Right, basipterygium.

Color in alcohol varies from light brown to dark, with many zigzag bands and large spots in black. Dorsal and caudal with a

few rows of round, dark spots. Abdomen of caudal base with a distinct spot.

Based on the following characters: one unbranched anterior ray; basipterygium without a lateral foramen; gill-openings extending to ventral surface for a short distance; and the small, lunate mouthparts. In addition to the rostral groove, rostral fold, corrugated rostral fold, and rostral barbels, it seems suitable to place this species in the genus *Misgurnus* Vaillant. *Parhomaloptera disparis* Lin. n. sp. is distinguished from *Misgurnus* Boulenger in coloration, in origin of dorsal fin, in position of anal and base of caudal, in the unforked end of caudal, and in the unbranched ray in other minute points.

Type No. H 15, length to base of caudal 10.5, from Experiment Station, Canton, from Loh District, Kwangtung, April, 1932.

Family Cobitidae

Misgurnus arenae sp. nov. (fig. 5 & 6)

Derivation of name: *arenae* means sand.

This species differs from all other *Misgurnus* in having the head and body with a different color pattern, and very short

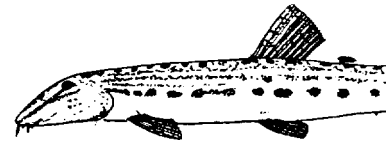
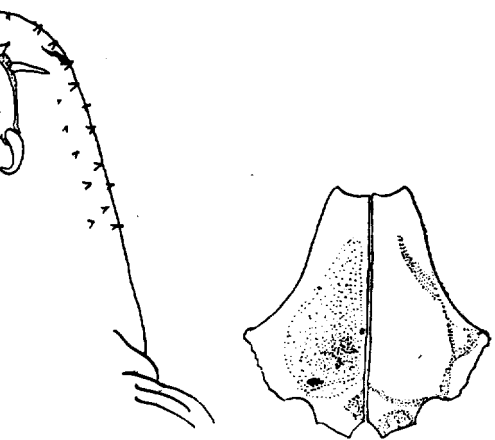


Fig. 5. *Misgurnus arenae* sp. nov. Lateral view, natural size.

D. 2/7; A. 2/5; P. 1/7; V. 1/5. Snout length 1.5; eye diameter 0.8. Gill count. Depth in length 8.6; head 4.7. Snout length 1.5; eye diameter 0.8. Postorbital 2.2; interorbital 1.1; ray thickness 1.1; longest dorsal 2.2; interorbital 1.1; anal ray 2.2; pectoral 2.7; caudal 1.3; length of peduncle 1.1. Space 48 per cent of length; postdorsal 1.1. Gill-openings small, before pectoral base. *Misgurnus*, not extending to ventral surface.

Elongate. Head and body very compressed. Thorax flat. Snout tapering, together with dorsal fin, convex. Eyes high, small, close together, circular, smooth; no ocular spine. Mouth small, inferior. 4 rostral, 2 maxillary barbels very distinct, the first slightly longer than eye-diameter. The maxillary barbel produced into four barbel-like fringes which are very distinct. Lips thin, continuous. Maxillary to upper jaw without spine; the first branched ray of maxillary coalesced with the simple ray. Dorsal on

ed posteriorly. Head strongly depressed. Broadly rounded, usually with horny warts. Shaped, inferior. Lips thick, smooth, over-er lip fleshy, more or less free from mandible, of prominences and continuous with upper Jaws with sharp, smooth edge, all free from before the mouth, partly covered by the rt and fleshy rostral barbels situated in the erior pair long and slender. A long and orner of mouth. Eyes small, suprolateral, invisible from below. Nostrils large, close Gill-openings small, before base of pectorals, surface for a short distance. Dorsal short, ore ventrals, its origin midway between tip dal. Paired fins with only one unbranched rals horizontal. Tip of pectorals not to ate and remote from anal. Anal short, far eaching base of caudal. Caudal emarginate, n. Vent close to ventral axilla, in the first Lateral line complete, in middle of depth herent. Ventral surface before ventral fins ine short; peritoneum black. Air bladder ely enclosed in bony capsules, communica- dly detectable. Basipterygium without a th the lateral horn not well marked (a etween *Homaloptera* and *Gastromyzon*).



era disparis sp. nov. Left, ventral view of head.

es from light brown to dark, with many ots in black. Dorsal and caudal with a

few rows of round, dark spots. Abdomen white. Middle of depth of caudal base with a distinct spot.

Based on the following characters: paired fins possessing only one unbranched anterior ray; basipterygium devoid of a lateral foramen; gill-openings extending to ventral surface for a short distance; and the small, lunate mouth provided with definite rostral groove, rostral fold, corrugated lower lip and with several barbels, it seems suitable to place this species under *Parhomaloptera* Vaillant. *Parhomaloptera disparis* Lin differs from *P. microstoma* Boulenger in coloration, in origin of dorsal midway between snout and base of caudal, in the unforked ends of the rostral groove and in other minute points.

Type No. H 15, length to base of caudal 52 mm., Fisheries Experiment Station, Canton, from Loh Fau Shan (羅浮山), Poh-lo District, Kwangtung, April, 1932.

Family Cobitidae

Misgurnus arenae sp. nov. (fig. 5 & 6)

Derivation of name: arenae means sand.

This species differs from all other members of the genus *Misgurnus* in having the head and body uniformly well compressed, different color pattern, and very short mandibular barbels.

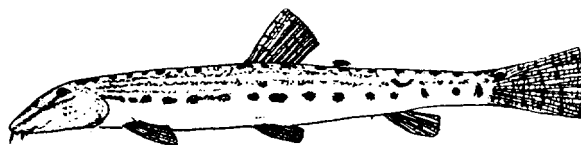
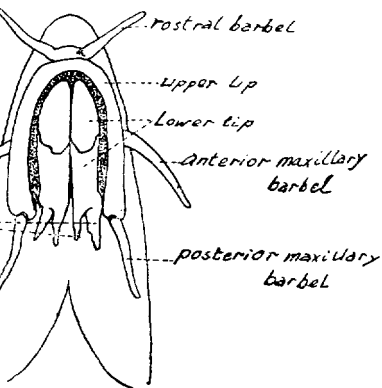


Fig. 5. *Misgurnus arenae* sp. nov. Lateral view. About 1.2 times natural size.

D. 2/7; A. 2/5; P. 1/7; V. 1/5. Scales minute, very hard to count. Depth in length 8.6; head 4.7. Eye in head 11; snout 2.2; postorbital 2.2; interorbital 11; thickness of body and head 2.7; longest dorsal ray 1.3; anal ray 2.2; pectoral ray 2.2; ventral ray 2.7; caudal 1.3; length of peduncle 1.1; its depth 2.7. Predorsal space 48 per cent of length; postdorsal space 40 per cent of length. Gill-openings small, before pectoral base, like other members of *Misgurnus*, not extending to ventral surface.

Elongate. Head and body very compressed. Abdomen round; thorax flat. Snout tapering, compressed; interorbital narrow, convex. Eyes high, small, close together, covered by skin. Cheek high, smooth; no ocular spine. Mouth small, inferior, strongly arched. 4 rostral, 2 maxillary barbels very distinct. Anterior rostral barbel slightly longer than eye-diameter. The two-lobed labial fold produced into four barbel-like fringes which cover the postlabial groove. Lips thin, continuous. Maxillary to under nostrils. Dorsal and anal without spine; the first branched ray of anal more or less coalesced with the simple ray. Dorsal origin opposite or slightly in

ventrals. Pectoral not to ventrals, with one
 ped. Anal far behind dorsal extremity.
 Peduncle keel feebly developed. Vent close to
 line on a few anterior scales. Scales very
 Air-bladder more or less kidney-shaped, the
 ge, completely enclosed in bone. Intestine
 mach-like pyloric caecum.



Misgurnus arenae sp. nov.

light brownish spots and bands on back
 from above its coloration very similar to
 of sand in and on which this little fish is
 in anterior border of eye to rostrum. A
 black in upper half of depth of caudal base.
 bands of light brownish specks Pectorals,
 ss.

lives in shallow streams with sandy bottoms
 winter. It burrows into the sand and
 water for breathing when disturbed or when
 usually moves its head up and down to

es not exactly fit the proper definition of
 the mandibular barbels very short, and the
 udinally.

length to base of caudal 52 mm., Fisheries
 on, from a shallow stream near Western
 District, Kwangtung, August, 1933, by

chow (sand loach),

family **Siluridae**

sp. nov. (fig. 7 & 8)

allo means pale; zonum means zone refer-
 g lateral line.

Similar to *G. conirostre* Steindachner, but with wider mouth
 and different color pattern.

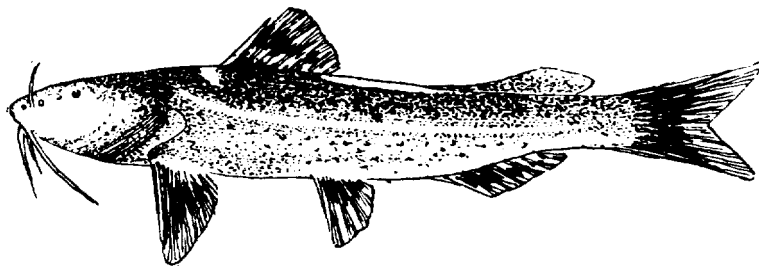


Fig. 7. *Glyptosternum pallozonum* sp. nov. Lateral view. About 1.3
 times natural size.

D. 1/7; A. 3/8; P. 1/8; V. 1/5. Depth in length 6.2; head 3.7.
 Eye 17 in head; snout 2.4; postorbital 2.1; interorbital 4.2; width
 of head 1.2; width of mouth 1.9 or 1.7; width of body 2.1; nasal
 barbel 2.8; free portion of rostral barbel 1.2; pectoral spine 1.6;
 longest dorsal ray 1.9; length of peduncle 1.7; its depth 3. Elongate,
 compressed behind ventrals. Head strongly depressed. Breast flat,
 with smooth-skinned, horseshoe-shaped holding apparatus. Head
 broad; snout broadly round. Mouth inferior, transverse, very
 slightly arched, angles of which reach sides of head. Lips normal,
 not broadened, and not turning backwards, covered by small, fleshy
 pimples, and continuous at angles of mouth. No rostral fold.
 Upper jaw projecting beyond the lower. Both jaws provided with
 bands of villiform teeth. Vomer and palate edentulate. Barbels 8,
 the nasal pair short, situated between two nostrils, reaching to behind
 eye; rostral pair near end of maxillary, reaching somewhat beyond
 base of pectorals. Submental barbels 4, shorter than rostral ones,
 the outer pair longer than inner pair and reaching to or beyond
 gill-openings. Nostrils two on each side, wide, situated nearer
 snout than eye. Eye small, covered by skin. Gill-membranes
 narrowly joined to isthmus. Gill-opening wide, extending to dorsal
 and ventral surface for a considerable distance. A shallow groove
 across the isthmus. Suprapterygial bone small, with long, pungent
 projection behind.

First dorsal short, with an osseous spine, finely serrated before
 and behind, its origin above the posterior half of pectorals. Adipose
 fin short, opposite to anal. Pectorals horizontal, with a strong
 spine, serrated behind, not to ventrals. Ventrals below hind margin
 of dorsal not to anal, which commences slightly before adipose fin.
 Caudal forked, the lower lobe somewhat longer. Lateral line
 straight, in middle of depth of tail.

advance of that of ventrals. Pectoral not to ventrals, with one anterior ray unbranched. Anal far behind dorsal extremity. Caudal squarely cut. Peduncle keel feebly developed. Vent close to origin of anal. Lateral line on a few anterior scales. Scales very small, deeply imbedded. Air-bladder more or less kidney-shaped, the middle constriction large, completely enclosed in bone. Intestine short, no prominent stomach-like pyloric caecum.

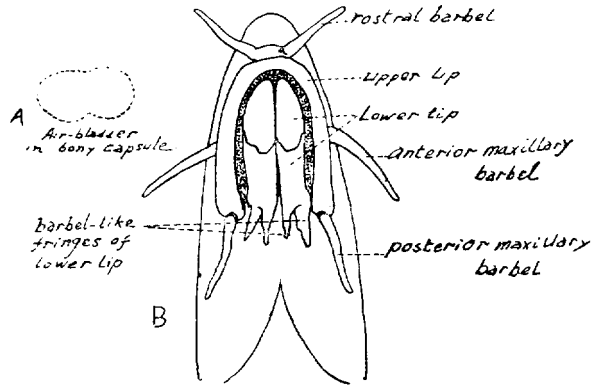


Fig. 6. *Misgurnus arenae* sp. nov.

Color yellowish, with light brownish spots and bands on back and side of body; looking from above its coloration very similar to the general appearance of sand in and on which this little fish is found. A dark line from anterior border of eye to rostrum. A small, roundish black speck in upper half of depth of caudal base. Dorsal and caudal with bands of light brownish specks. Pectorals, ventrals, and anal colorless.

This pretty little fish lives in shallow streams with sandy bottoms which usually dry up in winter. It burrows into the sand and leaves only the head in water for breathing when disturbed or when it is waiting for prey. It usually moves its head up and down to secure food from the sand.

The present species does not exactly fit the proper definition of *Misgurnus* since it has the mandibular barbels very short, and the lower lip prolonged longitudinally.

Type No. M 10, length to base of caudal 52 mm., Fisheries Experiment Station, Canton, from a shallow stream near Western Lake (西湖) of Hwei-yang District, Kwangtung, August, 1933, by Mr. Li Yeng-ling.

Local name: 沙鳅 sah chow (sand loach),

Family **Siluridae**

Glyptosternum pallozonum sp. nov. (fig. 7 & 8)

Derivation of name: pallo means pale; zonum means zone referring to the white band along lateral line.

Similar to *G. conirostre* Steindachner and different color pattern.

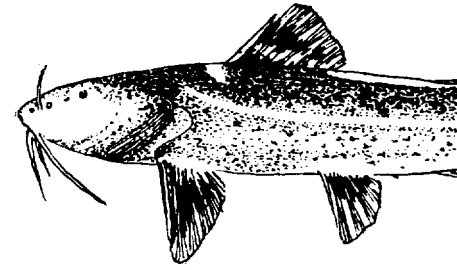


Fig. 7. *Glyptosternum pallozonum* sp. nov. times natural size.

D. 1/7; A. 3/8; P. 1/8; V. 1/5. Eye 17 in head; snout 2.4; postorbital of head 1.2; width of mouth 1.9 or 2.0; rostral barbel 2.8; free portion of rostral barbel 1.9; length of peduncle 1.9; longest dorsal ray 1.9; length of peduncle compressed behind ventrals. Head strongly compressed with smooth-skinned, horseshoe-shaped snout; snout broadly round. Mouth slightly arched, angles of which reach not broadened, and not turning backward into pimples, and continuous at angles. Upper jaw projecting beyond the lower jaw with bands of villiform teeth. Vomer and the nasal pair short, situated between the eye; rostral pair near end of maxillary base of pectorals. Submental barbels the outer pair longer than inner pair. Gill-openings. Nostrils two on each side of snout than eye. Eye small, covered by a narrow band. Gill-openings narrowly joined to isthmus. Gill-opening and ventral surface for a considerable distance across the isthmus. Suprapterygial bone with a small projection behind.

First dorsal short, with an osseous spine and behind, its origin above the posterior dorsal fin short, opposite to anal. Pectoral spine, serrated behind, not to ventrals. Length of dorsal not to anal, which commences at anal. Caudal forked, the lower lobe somewhat straight, in middle of depth of tail.

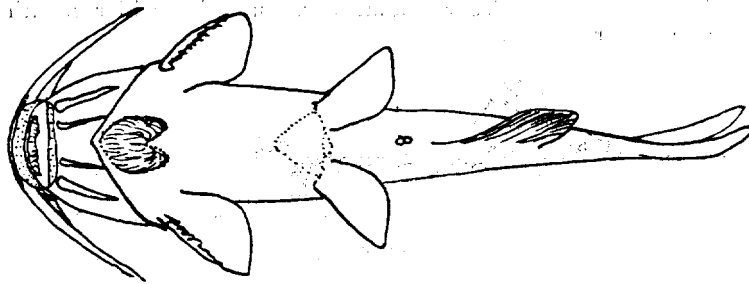


Fig. 8. *Glyptosternum pallozonum* sp. nov. Ventral view.

Color in alcohol dark brown; a white narrow band on lateral line; another broader one in medial line of back of body between two dorsals. Somewhat irregular broad, white zones on dorsal. Ventrals and anal pale, with few irregular dark specks. Caudal uniformly brown.

Like other members of *Glyptosternum*, the present species lives in the clear water of mountainous streams.

Type No. G. 10, length to base of caudal 62 mm., Fisheries Experiment Station, Canton, from Loh Fau Shan, Poh-lo District, Kwangtung, April, 1932. A paratype of the same number, length to base of caudal 53 mm., presented to Lingnan Natural History Survey and Museum, Lingnan University.

CONTRIBUTION TO A STUDY OF THE FISHES OF
KWANGTUNG AND ADJACENT REGIONS

By S. Y. LIN (LIN SHI-YANG)
Fisheries Experiment Station, Canton

(Continued from *Lingnan Science Journal*)

Part

Subfamily Hypophthalmichthyinae

Oblong, compressed. Eye greatly enlarged, situated below the level of the angle of mouth. Snout broadly rounded. Mouth terminal, rather long; lips thin; barbels none. Gill-membranes set, other and then narrowly to isthmus. Gill-rakers 1 row, free or fused to form thin plate. Pseudobranchial organ present. Pseudobranchial organ 1 row, sole-shaped. Intestine long. Anal fin short, without osseous spine and rays. Dorsal fin inserted above the interspace between two dorsals. Tail forked. Lateral line complete, running to base of tail. Scales small. Abdomen or pelvic fins immediately before anal origin.

River and pond fishes of China.

Synopsis of

1. Gill-rakers free or only loosely attached to the teeth with smooth masticatory surface.
2. Gill-rakers with the ends completely fused to the teeth of teeth transversely striated...

Aristichthyinae

Ann. Carnegie Museum

Oblong, compressed. Mouth moderate, rather longer. Snout somewhat short, protractile; lips thin; postlabial teeth at the corners of mouth. Barbels none. Eye depressed to the level of the snout, very closely set, but with free ends. Gill-membranes united to form a narrow isthmus and then narrowly attached to the lateral line little decurved, running to the base of the tail.

¹ Contribution from Fisheries Experiment Station, Agriculture and Forestry, Department of the National Government.