PISCES.

By Samuel Garman.

The fishes, twenty-nine species, secured by this Expedition were taken at various points on the Yangtze Kiang and its affluent the Min, between Kiating and Shasi sixty miles or more below Ichang, Hupeh. Three of the species are Chinese perches, Siniperca, also said to be found in Japan; one is a clupeoid, Coilia, heretofore known as marine, the presence of which so far from the mouth of the river is probably due to a habit of spawning in fresh water; another is an Ophicephalus of wide range in eastern Asia; three others are siluroids, one of them very widely distributed, another peculiar to the locality, and a third apparently undescribed; twenty are cyprinoids which taken together might indicate rather less dependence on barbels in their region than farther to the south or to the west; three of these species appear to be undescribed; and finally one of the species is an eel, Monopterus, which has been taken in numerous localities of China, India, the East Indian Archipelago, and Japan. In early days the fishes of the valley of the Yangtze were more distinct, because more isolated, than at present. By means of the Grand Canal all streams of moderate length between Hangchow on the south and Pekin on the north were linked together so that the basin of the Hwang Ho, draining into the Gulf of Chihli, and that of the Yangtze Kiang drained into the Yellow Sea are no longer so far as concerns their fishes to be treated as distinct faunal regions. This connection by the Canal accounts for the fact that Basilewsky, 1855, has described so many of the species contained in the present series, from collections in great part made in streams flowing into the Gulf of Chihli, and also for the fact that his types and specimens from the Yangtze differ so little. The Chinese types described by Bleeker were mainly taken near the mouth of the Yangtze, as were those described by Steindachner and the earlier of those of Günther. By later contributions Sauvage, Günther, and Regan have added to the knowledge of the species much nearer the sources of the river. The localities traversed by Mr. Zappey were thus pretty well surrounded by the localities of earlier workers. In the following list additions to original descriptions and variations of individual specimens are recorded by the partial diagnoses appended.

SERRANIDAE.

SINIPERCA CHUA-TSI (Basilewsky) Gill.

A number of specimens of the Chinese perch that would usually be placed under *S. chua-tsi* separate readily into two groups:— one, the species proper, characterized by an eye about one sixth of the length of the head, or one and one half times the interorbital width, and on which the maxillary reaches beyond a vertical from the hind edge of the eye, and another in which the eye is nearly one fourth of the length of the head, or about twice the interorbital width and in which there is a considerable distance behind the end of the maxillary in front of a vertical at the hind border of the orbit. In the numbers of fin-rays or in markings the two groups show little difference, but the scales on the specimens with the small eyes appear to be smaller. The presence of the two forms in the same locality may be ascribed to individual variation in a single species, or may be credited to an intermixture of two quite distinct species at some time or in some parts of their respective ranges. The two figures published by Basilewsky, 1855, represent the small-eyed form. Kner, 1867, under the same name, figured a specimen, in which the eye is much larger and the maxillary approaches a vertical from the hind edge of the orbit, which might better be placed in the group with large eyes, though the type of the latter described below has a still larger eye and an orbit extending farther backward than the end of the maxillary. As the theory of a mixing of two forms originally distinct is favored here, the large-eyed one is described as *Siniperca knerii* and certain characters of the specimen chosen for a type are noted.

Ichang.

SINIPERCA KNERII, sp. nov.

D. 12 + 14, A. 3 + 9, V. 6, P. 2 + 14; Ll. $125\frac{25}{70}$ ca.

Similar to *S. chua-tsi*, but differing in a much larger eye. Diameter of orbit five sixths of its distance from the extreme end of the snout, nearly twice the width of the interorbital space, or twice the greatest width of the maxillary, or equal to the distance from the orbit to the front of the intermaxillary. Maxillary subtending the anterior three fourths of the eye. Dorsal origin above that of the pectoral; spinous portion twice as long as the soft; spines increasing in length to the fifth, which is about one third of the length of the head, a little shorter than the soft rays, or than the second anal spine which last is the longest and most robust on the body. First and third anal spines shorter and

more slender than the second. Markings differing little from those of the small-eyed form.

Type:—No. 29844 M. C. Z. Hupeh: Ichang.

SINIPERCA SCHERZERI Steindachner.

Agrees closely with the figure by Steindachner, the most noticeable difference being in the larger size and greater number of the teeth on the posterior edge of the operculum.

Ichang.

OPHICEPHALIDAE.

OPHICEPHALUS ARGUS Cantor.

D. 48, A. 32; Ll. $63\frac{8}{18}$.

Kiating.

CLUPEIDAE.

COILIA NASUS Schlegel.

D. 13, A. 98, P. 6 + 11; Ll. 76.

Ventral serration with twenty-two teeth in front of the ventral fins and thirty-six behind their origins. Intermediate between *C. nasus* and *C. ectenes* Jordan and Starks but not to be separated from the former.

Kiating.

CYPRINIDAE.

CYPRINUS CARPIO Linné.

D. 22, A. 8, V. 9, p. 17; Ll. $35\frac{6}{6}$; Phar. teeth 3.1.2 | 2.1.3; 4 barbels.

Shasi.

CARASSIUS CARASSIUS (Linné) Nilsson.

D. 20, A. 8, V. 9, P. 16; Ll. $29\frac{7}{6}$; Phar. teeth 3 | 3; no barbels.

Ichang.

PARABRAMIS PEKINENSIS (Basilewsky) Bleeker.

Abramis pekinensis BASIL., 1855, Nouv. mem. Soc. nat. Mosc., **10**, p. 237, pl. 6, f. 2.
Acanthobrama pekinensis BLEEKER, 1860, Ichth. Arch. Ind. Prodr., **2**, Cypr., p. 282.
Culter pekinensis KNER, 1867, Novara fische, p. 360, pl. 14, f. 4.
Chanodichthys pekinensis GÜNTHER, 1868, Cat., **7**, p. 327.
Parabramis pekinensis BLEEKER, 1871, Nat. verh. k. akad., **12**, p. 80.

D. 3 + 7, A. 3 + 32, V. 9, P. 17; Ll. $53\frac{12}{7}$; Phar. teeth 5.4.2 | 2.4.4.

These specimens are not as dark on the body or fins as that figured by Basilewsky, but the scales have the light centres surrounded by puncticulations of brown. Distally each of the fins is darker. The general effect of the color is silver rather than brown. Body keeled from the pectorals backward to the end of the anal base. Dorsal origin midway from end of snout to base of caudal. Kner's figure does not represent the species very well, as it is too slender; the description is good. Basilewsky described the species from affluents of Chihli; Mr. Zappey secured it at Ichang.

Opsariichthys acutipinnis (Bleeker) Günther.

Barilius (Barilius) acutipinnis Bleeker, 1871, Nat. verh. k. akad., **12**, p. 81, pl. 13, f. 1.
Opsariichthys acutipinnis and *O. bidens* Günt., 1873, Ann. mag. nat. hist., ser. 4, **12**, p. 249.

The figure of *O. acutipinnis* was made from a half grown specimen. The description of *O. bidens* also was drawn from a specimen not fully developed. The specimens at hand make it evident that *O. bidens* is a synonym. The notches of the jaws are very evident on some and hardly noticeable on others. There is much variation in individuals aside from the peculiar sexual changes in the fins and the tubercles of the cheeks. The pharyngeal teeth vary from 4.2 to 4.3 and to 4.3.1. The difference in numbers of rays or of scales is not great. In the adult the markings on the fins and flanks are like those of *O. platypus*, but the interradial spots are more distinct, and on some the lower half of the face is blackish.

Kiating, Min River.

Garra (Ageneiogarra) imberba, subgen. nov. sp. nov.

D. 13 (4 + 9), A. 8, V. 10, p. 17; Ll. $50\frac{6}{4}$, head to D. 17; Phar. teeth 5.4.2 | 2.4.5, slender, pointed.

Body elongate, greatest depth about equal to length of head or one seventh of the total length, compressed posteriorly, depressed and broadened in front. Head wider than deep, flattened below, slightly convex, both longitudinally and transversely, on the top. Snout very wide, short, broadly rounded across the end. Eye moderate, less than one fourth as long as the head and behind its mid length, in width of orbit less than half the interocular space. Nostrils close together, nearer to the eye than to the end of the snout. Snout without a lobe above, as in *G. lamta*, but with a group of pits at each side of the middle

of the upper surface. Mouth large, inferior, outline somewhat arched transversely; upper lip fringed, connected at the angles with a fold passing a short distance behind that at the hind edge of the disk; jaws sharp-edged. The deep transverse groove in front of the disk, behind the lower jaws, is not continued at its sides. No barbels. Pectorals short, reaching more than half way to the ventrals. Middle of dorsal base half way from snout to base of caudal; fin as high as long, hind margin deeply indented. Ventrals shorter than the dorsal, but extending a little farther backward, origins below the eighth ray of the dorsal. Anal smaller than the ventrals, origin midway between the bases of the ventrals and the base of the caudal. Caudal deeply notched. Total length 10.5 inches.

Lower surfaces uniform yellowish; back darker yellow to brownish, each scale with a transverse darker streak on its forward portion, those on the lateral line a little more distinct.

The generic diagnosis of Garra being modified so as to include *G. imberba*, with Bleeker's subdivisions, based on the number of barbels, the subgenera Garra, with four barbels, Discognathus with two, and Ageneiogarra with no barbels, are readily distinguished.

Type:—No. 29835 M. C. Z. Western Szechuan: Kiating, Min River. W. R. Zappey.

Onychostoma laticeps Günther.

D. 4 + 8, A. 3 + 5, V. 9, P. 16; Ll. $49\frac{8}{5}$; Phar. teeth 5.3.2 | 2.3.5, slender, pointed.

Slight differences from the type are to be seen among these specimens. Head short, about one fifth of the length to the base of the caudal, moderately broad, blunt, arched from the snout to the eyes and across the interorbital region. Eye one fourth of the length of the head, in front of its mid length. No barbels. Mouth large, arched, reaching the sides of the head below the eyes; lower jaws very strong, with a slight knob below the symphysis; upper jaws thin and protrusive (downward); upper lip thin, distinct. Pectorals small, pointed, reaching a vertical from the origin of the dorsal. Dorsal with a strong serrated spine, the fourth ray longer than the head, hind margin of fin concave, angles acute, middle of base in the middle of the total length without the caudal. Ventral origin below the sixth dorsal ray, outer angle acute. Anal short, pointed, origin midway from the origins of the ventrals to the base of the caudal, third ray as long as the head. Caudal deeply notched, lobes

acute. Scales moderate, longitudinally with fine striations. Lateral line in the middle of the side of the tail. Largest specimen eleven inches.

Lustrous golden, darker on upper half of body and head; fins darker.

Originally described from Huisien.

Ichang.

CTENOPHARYGODON IDELLUS (Valenciennes) Günther.

D. 10, A. 11, V. 9, P. 20; Ll. $43\frac{7}{5}$, 18 scales from head to dorsal; Phar. teeth 4.2 | 2.5.

Top and sides of head darkened by dots of black pigment; scales of back and flanks similarly darkened near the edges; fins dark on their edges, distally thickly dotted with black; lower surfaces uniform light.

Shasi.

MYLOLEUCISCUS ATRIPINNIS, gen. nov. sp. nov.

D. 10, A. 11, V. 9, P. 21; Ll. $42\frac{7}{5}$; 16 scales in front of the dorsal; Phar. teeth 5 | 5, in a single series.

Form resembling that of *Ctenopharygodon idellus*, elongate, compressed and rather deep in the caudal region. Head about one fourth and depth two ninths of the length from end of snout to base of caudal, a little deeper than broad posteriorly, pointed in front, subquadrangular in cross section; crown broad posteriorly, convex transversely. Eye large, length two ninths of that of the head; bones of the orbital series narrow, preorbital bone little longer than deep. Mouth moderate, somewhat oblique, width and length about equal; maxillary hardly reaching a vertical from the orbit; intermaxillary protractile. No barbels. Pharyngeal teeth in a single series of five, two of which are very broad, stout, rounded molars, the remaining three being longer, more slender, and compressed with crowns of a different shape and concave. Fins rather small. Pectorals reaching two thirds of the distance to the ventrals. Dorsal origin midway from end of snout to base of caudal. Ventral origin below the third ray of the dorsal, fin not reaching as far back as the dorsal. Anal origin midway from origins of ventrals to base of caudal. Caudal notch not half the length of the fin.

Body dark with puncticulations of black; fins blackish.

Type:— No. 29817 M. C. Z. Hupeh: Shasi. W. R. Zappey.

The genus Myloleuciscus may be characterized by a single series of pharyngeal teeth, some of which are extremely broad, short, rounded molars and

others are longer, more slender and compressed, and have oblique, concave, pointed crowns. It is probable that *Leuciscus aethiops* Basilewsky, 1855, belongs to this genus. Günther's use of that species as the type of his genus Myloleucus, 1873, will not interfere, since the name Myloleucus had been applied by Cope, 1871, to other species not congeneric. Myloleucus of Günther, 1873, was "characterized by extremely broad, molar-like pharyngeal teeth, in a single series."

SQUALIOBARBUS CURRICULUS (Richardson) Günther.

D. 10, A. 11, V. 9, P. 17; Ll. $45\frac{7}{3}$; Phar. teeth 5.3.2 | 2.3.4, compressed, pointed.

Dorsal origin midway from snout to base of caudal. Origins of the ventrals below the third ray of the dorsal. Anal origin midway from the axils of the ventrals to the base of the caudal. A minute barbel at the angle of the mouth.

Silvery; blackish on the bases of the scales of the flanks and the back, forming longitudinal vittae; silver-white under the edge of the opercle to the shoulders; fins dusky.

Ichang.

SQUALIOBARBUS ELONGATUS Kner.

D. 12, A. 12, V. 10, P. 19; Ll. $68–70\frac{10}{4}$, 30 scales from head to dorsal.

Mouth reaching to a vertical from the nostril, not to the anterior border of the eye. No barbels. Preorbital bone very large, close to the eye the nostrils and the mouth cleft; suborbitals narrow, elongate. Pharyngeal teeth 5.4.2 | 2.4.4, compressed and hooked. Peritoneum blackish, silvered. Origin of the dorsal halfway from the end of the snout to the base of the caudal, very little farther back than the origins of the ventrals. Scales lustrous silver; back darker, olivaceous. A close ally of *Squaliobarbus dahuricus* Basilewsky from Mongolia and Mantchuria but distinguished by fewer scales in the lateral line and by the position of the dorsal, nearer the head.

Ichang.

XENOCYPRIS NITIDUS, sp. nov.

D. 3 + 7, A. 3 + 9, V. 9, P. 18; Ll. $60\frac{8-9}{5}$.

Body much compressed, not keeled below, depth, or length of head, about two ninths of the length, without the caudal. Eye large, two sevenths of the head, equal its distance from the end of the snout. Suborbital bones narrow,

elongate. Snout produced. Mouth inferior, transverse, bent backward at the preorbital bone. Pharyngeal teeth 6.4.2 | 2.4.6, larger compressed pointed and rigid, smaller slender and movable in the inner rows. Pectorals small, not reaching the ventrals. Ventral origins below the middle of the dorsal base. Third ray of the dorsal strong, as long as the head. Anal small, base twice as far from the bases of the ventrals as from the base of caudal. Dorsal origin a little forward of midway from end of snout to base of caudal, fourth ray in the mid length, spine as long as the head. Caudal deeply notched. Scales moderate.

Cheeks and scales silvery; upper half of body, and top of head brownish.

Intermediate between *X. tapeinosoma* Bleeker and *X. argentea* Günther. *Xenocypris nitidus* is more elongate and less oval than *X. lampertii* Popta; the eye is larger and about half its length is in the hinder half of the head, it is also about twice as far from the upper outline of the head as from the lower; there is no keel in front of the vent; there are more scales in the lateral line and fewer in the transverse; and the origin of the dorsal is farther forward.

Types:—No. 29822, 29823 M. C. Z. Hupeh: Shasi. W. R. Zappey.

Hemiculter leucisculus (Basilewsky) Bleeker.

D. 9, A. 16, V. 6, P. 15; Ll. $45\frac{7}{3}$, head to dorsal 19 scales.

Dorsal origin in the middle of the length from the end of the snout to the base of the caudal, at a vertical from the hind ends of the bases of the ventrals. Pectorals acuminate, ending in front of the origins of the ventrals at a distance greater than the length of the orbit.

The type of this species was taken in streams flowing into the Gulf of Chihli. The specimens in this collection were taken at Shasi on the Yangtze Kiang.

Among individual variations it is to be noticed that on some specimens the lateral line rises abruptly above the base of the anal, on four scales, then continues for eight scales in the middle of the caudal pedicel in a direct line; on others the rise is as gradual as that figured by Bleeker.

Culter dabryi Bleeker.

D. 3 + 7, A. 3 + 26, V. 9, P. 15; Ll. $64\frac{11-12}{5-6}$.

Depth equal four seventeenths of the length to the base of the caudal; head equal two ninths of the same length. Nape slightly convex. Abdominal

edge trenchant from the pectorals to the anal. Eye large, diameter nearly one sixth of the head; longer than the distance from the end of the snout. Mouth nearly vertical, maxillary reaching below the hinder nostril. Preorbital bone deeper than long; suborbitals narrow. Pharyngeal teeth 5.4.2 | 2.4.5, compressed, pointed, hooked at the apex. Dorsal origin half the length of the orbit behind the middle of the length from snout to base of caudal; third spine strong, as long as the head. Caudal pedicel longer than deep in the free portion. Lateral line curving downward on the flank and again up to the middle of the pedicel. Total length, six inches.

Silvery; back brownish or olive tinted.

Shasi.

LUCIOBRAMA TYPUS Bleeker.

D. 10, A. 13, V. 10, P. 15; Ll. $150\frac{28}{12}$ ca.

Head long, pointed, scaleless, one fourth of the total length. Eye in the foremost third of the head. Mouth little longer than the eye; maxillary reaching nearly to the orbit. Dorsal origin in the middle of the length from the eye to the end of the caudal, about one length of the dorsal base farther back than the origin of the anal. Pectorals small. Pharyngeal teeth 5.1 | 1.5 nearly straight, slender, tapering to a point. Bleeker says of these teeth, "valde gracilibus insertis uniseriatis acicularibus vix curvatis 4 | 4," which indicates a considerable variation, with need of some change in the generic diagnosis. Caudal notch deep, lobes subequal. Bright silvery, somewhat darkened on the back.

Ichang.

HEMIBARBUS MACULATUS Bleeker.

D. 3 + 7, A. 3 + 6, V. 9, P. 20; Ll. $49\frac{7}{5}$.

Maxillary barbels half as long as the orbit. Orbit half as long as the snout, or two ninths of the length of the head. Pharyngeal teeth 5.4.2 | 2.4.5, pointed. Dorsal origin halfway from end of snout to base of caudal. Ventral origins below the fifth ray of the dorsal. Anal origin equidistant from ventral origins and base of caudal. About eight darker blotches on the second row above the lateral line, apparently under the scales; below these the scales are silvery, above they are darker and with dorsal and caudal fins somewhat maculate with dark.

Ichang.

Saurogobio dumerilii Bleeker.

D. 9, A. 9, V. 8, P. 16; Ll. $59\frac{7}{3}$.

A prominence below the symphysis of the lower jaws. Barbel reaching below the middle of the eye. Pharyngeal teeth 5 | 5; two of these teeth, in each series, are molar-like, resembling those of *Myloleuciscus atripinnis* but not so much differentiated. Dorsal origin at one thir[illegible] the distance from the end of the snout to the base of the caudal, and ana[illegible]gin in the hindmost fourth of this length. End of dorsal and ends of ventr[illegible] opposed. Pectorals reaching a vertical from the origin of the dorsal. Scales of the lateral line and below plain golden; three of the vertebral rows with brown hind margins, three other rows at each side of the dorsal three with a brown spot on the middle of the hinder edge of each scale, forming longitudinal vittae. Bases of fins yellow, distal portions darker. Total length $10\frac{1}{2}$ inches.

Ichang, Shasi.

Coripareius, gen. nov.

Body compressed, deep in the caudal pedicel, dorsal and ventrals in the forward half; head tapering, entirely covered by thick skin; snout produced, blunt. Mouth narrow, inferior, lips thick. Maxillary barbels present. Pharyngeal teeth 5 | 5 or 4, compressed with large crown. Scales moderate, lateral line straight, in the middle of the tail. Dorsal small, without osseous ray, above the ventrals. Anal short.

Type. *C. cetopsis* (Kner).

Coripareius cetopsis Kner.

?Gobio heterodon Bleeker, 1864, Ned. tijd., **2**, p. 26.
Labeo cetopsis Kner, 1867, Novara fische, p. 351, pl. 15, f. 2.
Barbus cetopsis Günther, 1868, Cat., **7**, p. 135.
Saurogobio cetopsis Bleeker, 1871, Nat. verh. k. akad., **12**, p. 8.

D. 9, A. 9, V. 8, P. 19; Ll. $54\frac{7}{6}$.

The body is rather narrow, depth, or length of head, about one fifth of the total. Head posteriorly as wide as deep, tapering forward, prominent and bluntly rounded at the end of the narrow snout. Nostrils large, close together, near the eye. Eye small, one eighth or less of the head, with a comparatively wide adipose ring. Mouth as wide as long, cleft broadly rounded in front or subtruncate. Lips thick. Barbels two, reaching the hind edge of the preopercle. Entire head, including the opercles covered with loose thick skin.

Pharyngeal teeth 5 | 5 or 4, compressed with expanded crown. All fins acuminate. Pectorals reaching the origins of the ventrals, or a vertical from the fifth ray of the dorsal. Dorsal short, without an osseous ray, entirely in the anterior half of the total length, hardly reaching the mid length when depressed; height equal length of head. Ventrals short; origins below the third dorsal ray. Anal small; origin equidistant from that of caudal and origins of ventrals. Caudal deeply notched, lobes pointed, upper longer. Lateral line on middle of flank and tail, straight. Scales moderate.

Lustrous golden, more olive on back and head; each fin with a blackish area in the distal half, tipped with white behind the black.

Luchow, Ichang, Shanghai.

Rhinogobio typus Bleeker.

D. 10, A. 9, V. 8, P. 16; Ll. $47\frac{6}{6}$.

Maxillary barbel reaching behind the middle of the eye. Length of orbit half of its distance from the end of the snout. Pharyngeal teeth in two series 5. 2 | 2.5, crowns hooked at the apex. Origins of pectorals below the fourth ray of the dorsal, fins extending to the origins of the ventrals. Ninth ray of the dorsal in the middle of the length from the snout to the base of the caudal; third ray shorter than the head. Anal origin about midway from ventral origins to base of caudal. Caudal deeply notched, lobes sharp; caudal pedicel elongate, not deep.

Ichang.

Pseudogobio filifer, sp. nov.

D. 10, A. 9, V. 8, P. 13–14; Ll. 42–$44\frac{5}{3}$.

Body elongate, slender, depth about one seventh and head one fifth of the total length. Eye moderate, one fourth of the head, nearly two thirds as long as the snout. Snout one third the head length. Mouth not reaching a vertical from the eye; upper jaws the longer. Maxillary barbels extending farther back than the eye. Dorsal origin above the origins of the ventrals. Outer angles of pectorals and ventrals thread-like, second ray longest. Pectorals reaching behind the bases of the ventrals. Ventrals reaching nearly as far back as the end of the dorsal. Anal origin about midway from origins of ventrals to base of caudal. Caudal deeply notched, lobes acuminate. Middle of dorsal base equidistant from end of snout and base of caudal. Scales large; lateral

line descending little on the flank, ending on the middle of the tail. Form more slender than that of *P. rivularis*, as figured by Steindachner; back less high, dorsal lower; pectorals and ventrals much more produced; colors somewhat similar, but having a lateral band of silver with faint darker cloudings.

Lustrous silvery below the lateral lines; above the lines darker, blotched, and clouded faintly with brown. Fins, dorsal and caudal, with several oblique rows of small spots of darker brown parallel with the hind borders of the fins and not as in *P. sinensis* Kner.

Types:—No. 29833, 29834 M. C. Z. Hupeh: Changyan[illegible]sien, Yangtze Kiang River. W. R. Zappey.

BOTIA VARIEGATA Günther.

D. 12, A. 8, V. 10, P. 15; Ll. $215\frac{55}{60}$; total length 15 inches.

Body compressed, depth nearly one seventh of the total length. Head compressed, little less than one fourth of the total, greatest width about two fifths of the length. Snout narrower than deep, high and broadly rounded at the end. Eye small, hardly one twelfth of the length of the head. Suborbital spine strong, rather slender pointed, not bifid. Barbels six; the maxillary applied to the side of the head reach the end of the snout. Mouth moderate, as wide as long; cleft subtruncate in front; upper jaws with a prominence on the symphysis. Cheek with small scales in front of the operculum backward from the mouth. Pectorals and ventrals with a membranous fold in the axils. Dorsal origin equidistant from eye and base of caudal. Ventral origins below the third ray of the dorsal. Anal origin halfway from the origins of the ventrals to the base of the caudal. Dorsal, pectorals, and anal slightly concave on the hind margin; ventrals little convex. Caudal deeply notched. Outer angles of all fins acute. Depth of caudal pedicel two fifths of its length.

Brownish; head with narrow vermiculations and spots of bluish; each fin with about four oblique irregular and broken bands of brown; body with about six broad transverse bands of dark brown; the first and narrowest behind the gill opening, the second between pectorals and dorsal, the third on the origins of the ventrals, the fourth at the end of the dorsal base, the fifth above the anal, and the sixth, as long as deep, on the base of the caudal.

The specimen described shows some variations from the type, though both were from the same locality.

Ichang.

SILURIDAE.

SILURUS ASOTUS Linné.

Ichang.

PSEUDOBAGRUS VACHELLII Richardson.

Luchow, Ichang.

LIOCASSIS NASO, sp. nov.

D. 2 + 7, A. 16, V. 6, P. 1 + 11.

Depth of body one sixth, and length of head one fifth of the total length. Head about as broad as high at the occiput, narrowing forward, and from below to the crown. Crown straight from the nape to end of snout. Snout produced, subtruncate, and curving upward and forward from the mouth; not depressed and thin as in species of Macrones, little wider than deep at the end. No labial teeth; palatal teeth in a transverse band narrowly divided in the middle. Eyes lateral covered by skin, folds rudimentary, above and below. Barbels eight; maxillary slender, not reaching the gill opening, narial reaching the middle of the eye. Nostrils separated; anterior in front of the snout; posterior near the eyes, with a slender barbel in front. Skull covered by thin skin, with a minute spine on each of the ridges above the snout. Denticles of the dorsal spine weaker than those of the inner side of the pectoral spines. Caudal deeply notched. Adipose fin shorter than the head.

Brownish, with clouded areas at the top of the head, at the sides of the dorsal and behind it.

Type:—No. 29847 M. C. Z. Hupeh: Ichang. W. R. Zappey.

SYMBRANCHIDAE.

MONOPTERUS JAVANENSIS Lacépède.

Muraena alba ZUIEW, 1793.
Monopterus javanensis LACÉPÈDE, 1800.

The arrangement of the colors on this eel is suggestive that the back and upper surfaces are exposed to the more direct rays of light; these portions of the body are dark while the lower half is much lighter and even white. Further, the chin and throat are much darker than the balance of the lower surfaces, which is probably due to the habitual carriage of head and neck raised above the horizontal.

Washan; from a marsh near the Tung River, at an altitude of 6,000 feet or more.