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SOME NEW CHINESE MINNOWS
(PISCES, CYPRINIFORMES)

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Through the kindness of Dr. Ernest A. Lachner, Division of Fishes, U. S. National Museum, we received for study large series of east Asian Cyprinidae in the collections of the National Museum. Many of these specimens were mentioned in recent revisional papers on some genera belonging to the subfamilies Gobiinae and Cultrinae. Among the U. S. National Museum collections were large series collected in 1961 by Kuntz and Wells on Taiwan Island. In these series, we found representatives of a new species and a new subspecies of Gobiinae. Another new species, belonging to the Cultrinae, was discovered among USNM specimens collected by D. C. Graham in Szechwan, upper Yangtze drainage. We also identified specimens in the collections of the Zoological Museum in Hamburg as a *Gobiobotia* from Fukien, Southeast China. This fish is closely related to the new species of *Gobiobotia* from Taiwan.

We thank Dr. E. A. Lachner for loan of specimens and for furnishing us information on specimens in the U. S. National Museum and for copies of papers; Prof. Dr. C. Kosswig for obtaining a financial grant for the senior author which allowed him to travel and study in Germany, and Dr. Kosswig and Dr. W. Ladiges for facilitating study of the cyprinids in the collections of the Zoological Institute and Museum in Hamburg; and Dr. Bruce B. Collette, Bureau of Commercial Fisheries Ichthyological Laboratory for providing photographs and radiographs of specimens, and for other valuable assistance.

SUBFAMILY GOBIOINAE
Genus *Gobiobotia* Pappenheim

Until recently only 11 species of the highly specialized genus *Gobiobotia* were known—eight from China and three from Korea. Most of these have restricted ranges. A single one, *G. pappenheimi*, is widely distributed from the Amur drainage to the Yangtze. Three new species were described by Banarescu and Nalbant (1966a) from China (mainland and adjacent islands). The species here described as new is the 14th within the genus.

***Gobiobotia intermedia* new species**

Diagnosis: A species of *Gobiobotia* with 7 branched rays in the dorsal fin; 37–39 scales in lateral line, 5–5½ between lateral line and dorsal fin origin, 2½–3 between lateral line and pelvic origin; body rather elongate; slender and low caudal peduncle; dorsal fin slightly in advance of pelvic fins, rarely exactly above them; distance from pectoral to pelvic origin greater than that from pelvic to anal origin; second ray of pectoral elongate; first pair of mental barbels inserted either slightly in advance or at the same level or even slightly behind the insertion of the maxillary barbel; scales on back in front of dorsal fin slightly keeled; eyes large; snout equal to or shorter than postorbital distance.

Affinities: This new species resembles *Gobiobotia kolleri* Banarescu and Nalbant in body shape and color pattern, differing from it in having the second pectoral ray elongate and the pelvic fins closer to the anal fin than to the pectoral origin; on the other hand, it resembles *G. kiatingensis* Fang and *G. ichangensis* Fang in general body form and elongate second pectoral ray, differing from them in number of scales and from *G. kiatingensis* also in its larger eyes.

It is remarkable that among the specimens of *G. intermedia intermedia* from Ping Tung Hsien, Taiwan, there are some in which the first pair of mental barbels is inserted slightly behind the maxillary barbels, other ones in which it is inserted at the same level; some on which the pelvics are inserted exactly below, others in which they are inserted slightly behind dorsal origin; the same variation in the position of pelvic fins occur in Fukien specimens of *G. intermedia fukiensis*. Both characters—position of the insertion of first mental barbel and position of pelvic fins—were previously considered as constant species characters in the genus of *Gobiobotia*.

Etymology: We chose the name *intermedia* because this new species is intermediate between *G. kolleri*, *G. naktongensis*, *G. kiatingensis*, and *G. ichangensis*.

Range: Taiwan Island and Minkiang drainage in Fukien Province, southeast China.

***Gobiobotia intermedia intermedia* new subspecies**

Figs. 1 and 3

Holotype: USNM 200245, one specimen, apparently immature, 48.0

mm SL, collected by Kuntz and Wells in an irrigation ditch near Ping Tung, Ping Tung Hsien, Taiwan, 25 January 1962.

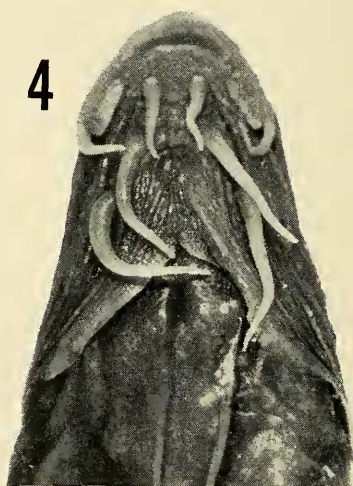
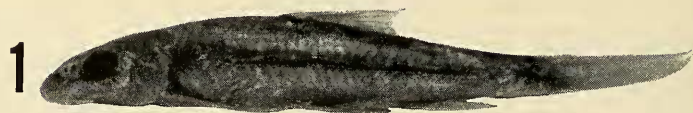
Paratypes: USNM 202593, five specimens, 41.0–51.0 mm SL.

Diagnosis: A subspecies of *Gobiobotia intermedia* with 37–38 scales in the lateral line, body depth 14–18 percent SL, first mental pair of barbels inserted at the same level or slightly behind insertion of maxillary barbels.

Description: D 3/7; A 2/6; L. lat. $37 \frac{5}{2\frac{1}{2}-3}$ 38.

Maximum body depth 14.4–17.8 percent SL (\bar{x} : 15.8); length of caudal peduncle 20.7–24.2 percent (22.5); least depth of caudal peduncle 7.7–9.7 percent (8.9). Dorsal profile only slightly convex, ventral profile horizontal. Head wider than deep, its length 23.4–26.8 percent SL (24.78); snout shorter than postorbital distance, its length 8.1–9.6 percent SL (8.65) and 34.5–35.6 percent of head length (35.7); eye diameter 5.5–6.9 percent SL (6.1), 22.4–25.8 percent of head length (24.6) and 87.0–100.0 percent of interorbital width (94.0). Maxillary barbels reaching under anterior fourth of eye; their length is 6.1–7.7 percent SL and 25.6–29.1 percent of head length. First pair of mental barbels inserted in some specimens slightly behind insertion of maxillary barbels, in other specimens at the same level; they reach slightly beyond insertion of second pair and behind vertical from anterior margin of eye; their length is 3.1–3.4 percent SL, 14.3–16.3 percent of head length. Second pair of mental barbels inserted behind vertical from anterior margin of eye, reaching far beyond insertion of third pair and almost to vertical from posterior margin of eye; their length is 4.3–5.3 percent SL and 17.9–20.0 percent of head length. Third pair inserted below middle of eye, reaching to or almost to margin of preopercle; their length is 5.5–8.0 percent SL and 22.4–28.4 percent of head length. Space between mental barbels papillose.

Origin of dorsal about equidistant between tip of snout and middle of caudal peduncle and between posterior margin of eye and last anal ray. Origin of pelvic fins below or slightly behind that of dorsal, nearer anal than pectoral origin; anal origin much nearer pelvic origin than caudal base. Pectoral fins in some specimens not reaching, in others reaching or even passing beyond pelvic origin; pelvic fins usually reaching or almost reaching anal fin origin. Lobes of caudal equal or almost equal. Predorsal distance 43.1–47.7 percent SL (\bar{x} : 45.6); preanal distance 66.5–71.0 percent (68.6); preventral distance 47.1–51.5 percent (48.5); distance from pectoral to pelvic origin 24.4–27.8 percent (26.25); distance from pelvic to anal origin 20.8–25.2 percent (22.32); length of pectoral fin 22.1–29.1; length of pelvic fin 19.7–22.4 percent; base of dorsal fin 13.9–16.6 percent; height of dorsal 19.3–23.6 percent; base of anal fin 9.8–10.8 percent; height of anal 15.4–19.5 percent. Second pectoral ray elongate. Vent much closer to pelvic axil than to anal fin origin. Dorsal scales in front of dorsal fin slightly keeled.



FIGURES 1-4. 1, *Gobiobotia intermedia intermedia* new subspecies Ping Tung, Taiwan. Holotype (USNM 200245). 2, *Gobiobotia intermedia fukiensis* new subspecies Fukien. Holotype (HZS 4044). 3, *Gobiobotia intermedia intermedia*. Ventral view of mouth. 4, *Gobiobotia intermedia fukiensis*. Ventral view of mouth.

Color Pattern: (Specimens in alcohol): light gray yellowish above, yellow whitish below; scales above lateral line bordered with blackish. A row of 7-8 round spots on sides along lateral line, in some specimens more of less confluent in a longitudinal stripe. Upper side of head dark gray. Minute, hardly distinct spots on dorsal and caudal fin; lower fins unspotted.

Gobiobotia intermedia fukiensis new subspecies

Figs. 2 and 4

Holotype: Zoolo. Staat. Zool. Mus., Hamburg, 4044, one specimen, 70.0 mm SL, Minkiang drainage, Fukien Province, 19 October 1907, obtained from Consul Siemssen.

Paratypes: ZSZM 4045 (5, 61.0–89.2) same locality and data.

Diagnosis: A subspecies of *Gobiobotia intermedia* with 37–39 scales in the lateral line, body depth 20–23 percent SL, first pair of mental barbels inserted slightly in advance of maxillary barbels.

Description: D 3/7; A 2/6; L. lat. $37 \frac{5-5\frac{1}{2}}{2\frac{1}{2}-3}$ 39.

Body depth 20.4–22.8 percent SL (\bar{x} : 22.2); length of caudal peduncle 21.0–21.8 percent (21.4); least depth of caudal peduncle 8.2–9.1 percent (8.65); head length 25.3–26.2 percent (25.9); snout slightly shorter than or equal to postorbital distance, its length 9.6–10.7 percent SL (10.1) and 37.0–41.0 percent of head length (39.0). Maxillary barbels reaching in most specimens under middle of eye. First pair of mental barbels inserted slightly in advance of maxillary barbels, reaching beyond insertion of second pair and almost to, or even slightly beyond vertical from middle of eye; second pair reaching under or almost under posterior margin of eye; third pair reaching under or even beyond margin of preopercle. Length of maxillary barbels 4.5–6.5 percent SL and 23.4–30.0 percent of head length; first pair of mental barbels 4.5–6.5 percent SL and 17.3–25.2 percent of head length; second pair 7.4–9.4 percent SL and 28.2–36.6 percent of head length; third pair 9.8–12.6 percent SL and 37.6–45.0 percent of head length.

Origin of dorsal about equidistant between tip of snout and middle of caudal peduncle and between anterior margin of eye and vertical from posterior margin of anal fin; origin of pelvic fins exactly under dorsal fin origin or slightly behind it. Second pectoral ray elongate. Predorsal distance 43.4–47.0 percent SL (\bar{x} : 45.2); preanal 69.5–72.5 percent (70.9); preventral distance 44.6–49.2 percent (46.2); distance from pectoral to pelvic origin 23.0–27.6 percent (25.2); distance from pelvic to anal origin 23.5–26.5 percent (25.2); length of pectoral fins 21.4–24.6 percent; length of pelvic fins 17.4–20.0 percent; base of dorsal 15.6–17.5 percent; height of dorsal 18.2–23.0 percent; base of anal 8.4–8.9 percent; height of anal 14.9–17.7 percent. Vent much nearer pelvic axil than anal origin. Dorsal scales in front of dorsal fin slightly keeled (the specimens apparently not mature).

Color Pattern: As in the nominal subspecies, but lateral spots hardly distinct and not confluent.

Microphysogobio Mori

A revision of the species of *Microphysogobio* was recently published by Banarescu and Nalbant (1966b), who recognized nine species, includ-

ing the Taiwan *Pseudogobio brevirostris* Günther; they considered *Pseudogobio fukiensis* Nichols and three other Chinese forms hitherto ascribed to *Pseudogobio*, as well as the Korean *Microphysogobio koreensis* Mori as subspecies of *M. brevirostris*, while they ascribed a series of specimens from Taichung, Taiwan, to the Upper Yangtze *Pseudogobio obtusirostris* Wu and Wang, which they considered a species of *Microphysogobio*, closely related to but specifically distinct from *Microphysogobio brevirostris*.

The examination of recent series from Taiwan leads us to conclusions somewhat different from those expressed in the recent revision.

Two specimens, USNM 191286, 78.0 and 82.0 mm SL (Figs. 5, 7); from a small stream in coastal plain at Hsin-chu Hsien, Chu-Tung agree with the lectotype and paratype of *Pseudogobio brevirostris* recorded by Banarescu and Nalbant: they have 39–40 scales in the lateral line; $2\frac{1}{2}$ between the lateral line and pelvic fin origin, depth 19.3–23.0 percent SL; head 21.8–23.8 percent, eye 5.5–6.2 percent, 25.0–26.0 percent of head length and 78.0–87.5 percent of interorbital width. In color pattern these specimens differ rather sharply from *fukiensis* and the other Chinese gudgeons included by Banarescu and Nalbant within *M. brevirostris* as subspecies, but approach the specimens from Taichung, Taiwan, ascribed by us to *M. obtusirostris* in having no lateral spots but a broad continuous dark stripe from eye almost to caudal base and an even more intensive dark round spot on caudal base. The same stripe can be recognized in the badly preserved paratype of *brevirostris* figured by Banarescu and Nalbant (1966b, Pl. I, Fig. 1) who did not pay enough attention to the color pattern. These two specimens belong thus to the nominal subspecies *Microphysogobio brevirostris brevirostris* (Günther).

A series of specimens from western coastal plain of Taiwan, described below as a new subspecies, have exactly the same color pattern but a much deeper body (depth 21.7–28.0 percent) and 35–37 scales, while those from Taichung, North Taiwan are intergrades, having depth 21.6–24.1 percent SL, scales 37–39, rarely 40. It is our present opinion that the Upper Yangtze *Pseudogobio obtusirostris* Wu and Wang is also a subspecies of *M. brevirostris*, approaching the west and north Taiwan populations of *M. brevirostris* in number of scales in the lateral line, number of scales between lateral line and pelvic axil (3, as against $2\frac{1}{2}$ in *M. brevirostris brevirostris*) and deep body. It seems, from the figure by Wu and Wang, that *P. obtusirostris* also has a longitudinal stripe, (yet slighter than in *brevirostris*), the small, sparse blackish minute spots mentioned by Wu and Wang in *obtusirostris* are present also in *brevirostris* and even the black spot above the pectoral fin mentioned by Wu and Wang as a characteristic of *obtusirostris* can be recognized in a few Taiwan specimens of *brevirostris*.

An active process of subspeciation within the species *Microphysogobio brevirostris* took place on Taiwan. We have no exact information on the locality from which Günther obtained the type-specimens (these are labelled only "Formosa"); the specimen from Tamsui River recorded by

Oshima (1919) belongs also to the nominal subspecies and those from Hsin-chu Hsien; we could not locate these two localities on the map, but presume they are in the eastern coastal plain. The new subspecies *M. brevirostris alticorpus* occurs in the western coastal plain and the intergrades in Taichung, north Taiwan. Because west Taiwan is opposite the mainland and the upper Yangtze, *M. brevirostris obtusirostris* is morphologically closer to the west Taiwan *M. brevirostris alticorpus* than to the probably east Taiwan *M. brevirostris brevirostris*, one can assume that the species arrived first in west Taiwan, when this island was still connected to the mainland, spread northwards along the western plain, then southwards along the eastern plain. During dispersal, the body became less deep and the scales smaller. Further intensive collections, from Taiwan rivers are necessary in order to clarify this problem.

***Microphysogobio brevirostris alticorpus* new subspecies**

Figs. 6 and 8

Holotype: USNM 192926, one specimen, 63.0 mm SL, collected by Kuntz and Wells in a small stream and roadside ditch a few miles away from Chia-I-Hsien, western coastal plain of Taiwan Agriculture area; March 1961.

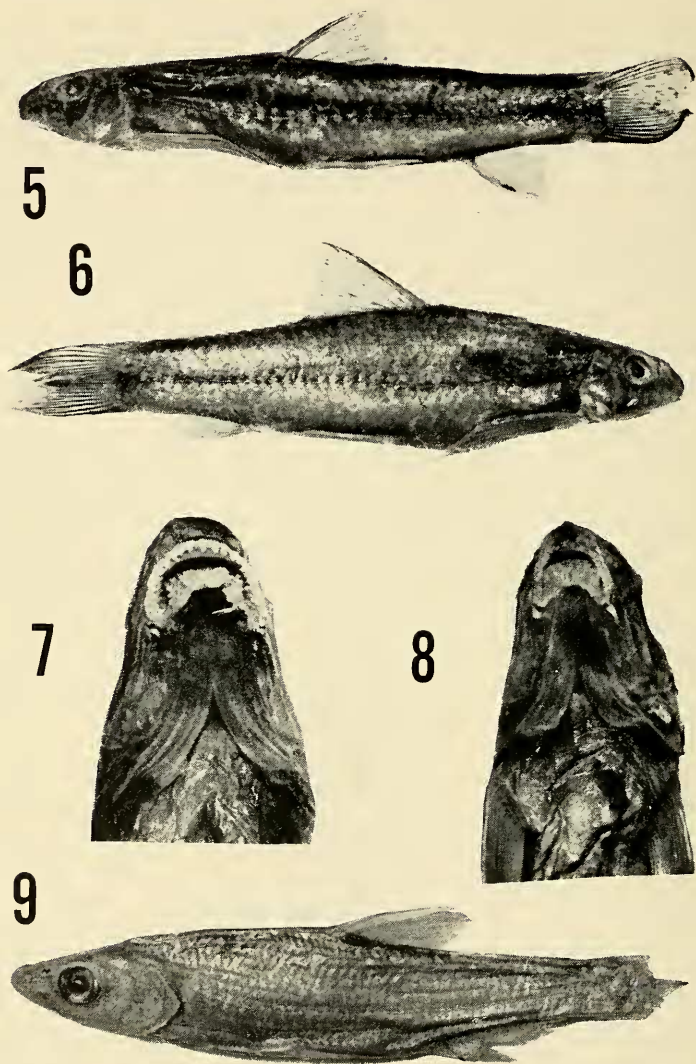
Paratypes: USNM 202592 (66 specimens, 36.0–60.7) same locality and collector.

Diagnosis: A subspecies of *Microphysogobio*, differing from *M. brevirostris brevirostris* in its deeper body (depth 21.7–28.0 percent SL), scales in lateral line 35–38, between lateral line and pelvic fin origin 3, eye 4.9–6.3 percent SL and 52–73 percent of interorbital width.

Description: D 3/7; A 2/6; L. lat. $35 \frac{5}{3}$ –37 (38).

Body deeper than in other forms of *Microphysogobio*, maximum depth 21.7–28.0 percent SL (\bar{x} : 25.32) in specimens 52–63 mm long; caudal peduncle length 15.7–20.9 percent (17.94); least depth of caudal peduncle 11.1–14.3 percent (12.98); head 20.1–23.2 percent (21.84); snout blunt, its length 7.1–8.2 percent SL (7.59) and 32.5–39.4 percent of head length (34.8); a notch in front of nostrils, eye high, superolateral, smaller than in the nominal subspecies, its diameter 4.9–6.2 percent SL (5.51), 24.2–27.0 percent of head length (25.23) and 52.5–73.0 percent of interorbital width (65.3). Barbel minute, about three times eye diameter. Interorbital flat. Mouth small, inferior, horse-shoe shaped; jaws covered by a horny sheath. Papillae on upper lip in one row, distinct, the median pair only slightly larger than the other. Lower lip with a pair of irregular mental pads (ovoid or more or less rectangular), often confluent on most of their length, and hardly distinct papillae in many rows on the sides on mental pads.

Origin of dorsal fins in most specimens, slightly nearer tip of snout than vertical from last anal ray; origin of pelvic fins behind that of



FIGURES 5-9. 5, *Microphysogobio brevirostris brevirostris* (Günther). Hsin-chu Hsien, Chu-Tung, Taiwan (USNM 191286). 6, *Microphysogobio brevirostris alticorpus* new subspecies. Chia-I, West Taiwan. Holotype (USNM 192926). 7, *Microphysogobio brevirostris brevirostris*. Ventral view of mouth. 8, *Microphysogobio brevirostris alticorpus*. Ventral view of mouth. 9, *Ancherythroculter wangi* (TCHANG). Suifu, Szechwan (USNM 87457).

dorsal fin. Caudal forked; dorsal fin slightly concave; pectoral fins not reaching pelvic axil, pelvic fins not reaching anal origin.

Predorsal distance 43.0–74.5 percent (73.0); preventral distance 49.0–55.5 percent (52.9); distance from pectoral to pelvic origin 27.1–33.9 percent (30.66); distance from pelvic to anal origin 20.7–23.2 percent (21.72); length of pectoral fins 24.1–26.4 percent (25.36); length of pelvic fins 18.7–21.4 percent (20.09). Breast in front of pectoral origin naked. Pharyngeal teeth in one row, usually 5 on each side.

Color Pattern: (Specimens in alcohol) light grayish above, yellowish below; scales above lateral line bordered with blackish. An intensive, 1–1½ scales broad dark stripe extends from opercle almost to caudal base; a more intensive almost blackish spot on base of caudal. Upper part of head dark. In some specimens a blackish spot present above base of pectoral, in a few another spot present on opercle immediately in front of pectoral fin. Several hardly distinct rows of spots on dorsal, caudal and pectoral and, quite slightly, on pelvics and anal.

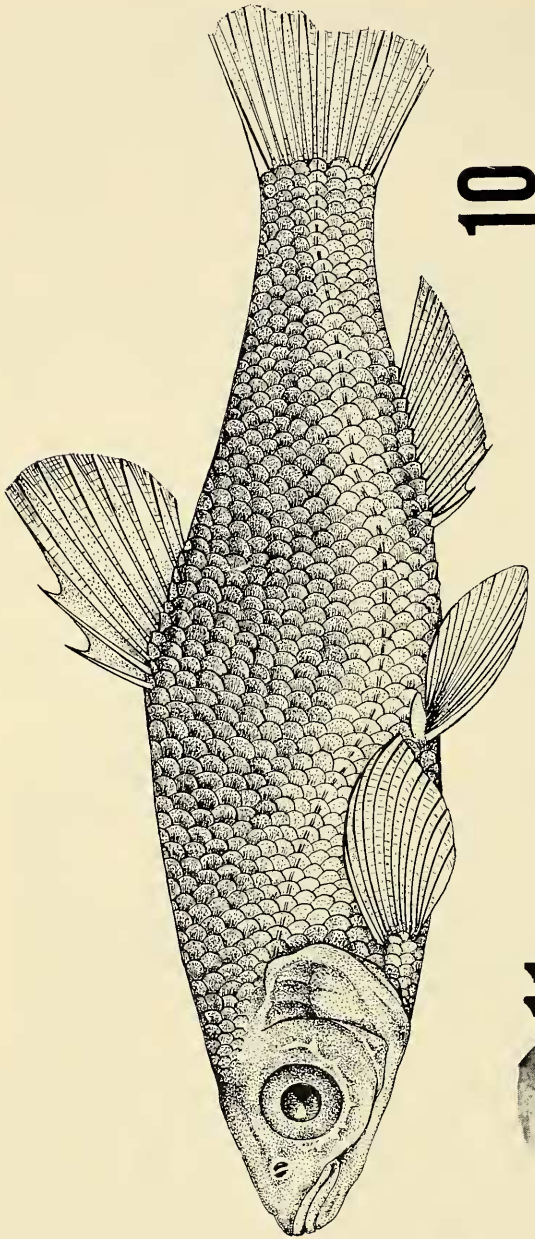
SUBFAMILY CULTRINAE

Ancherythroculter Wu

This genus was described by Wu in his recent (1964) volume on the Cyprinidae of China, for three species: a new species described by him as *A. nigrocauda*, *Erythroculter wangi* Tchang, and *Chanodichthys kurematsui* Kimura. This genus differs from *Erythroculter* in its bipartite swim-bladder (as against tri-partite in *Erythroculter*).

A single specimen of the species included by Wu in *Ancherythroculter* was available to us: *A. wangi* USNM 87457, Suifu, Szechwan, 112.0 mm SL (Fig. 9); this species approaches *Erythroculter mongolicus* in general body and head shape, and differs from it in its bipartite swim-bladder.

The delimitation of genera within the Cultrinae is rather arbitrary. The species included within *Ancherythroculter* differed from *Erythroculter* mainly in the bipartite swim-bladder, also in having usually fewer branched anal rays (most species of *Ancherythroculter* have no more than 22 branched anal rays, but *nigrocauda* has 23–27, *kurematsui* 21–26; *Erythroculter* usually has 23 or more, but *E. ilishaeformis* has 21–25, *E. mongolicus* 18–22) and fewer scales (usually 50–65, but *A. nigrocauda* has 66–70; most *Erythroculter* have more than 73 scales, but *E. hypselonotus* has 60–66). The new species *A. brevianalis* also approaches *Hemiculter*; in *A. brevianalis*, as well as in all other species of *Ancherythroculter* and of *Erythroculter*, the lateral line is almost straight, while in most species of *Hemiculter* it is bent abruptly downwards; but in *H. liui* and, to a lesser extent, in *H. bleckeri*, the lateral line is almost straight. Most species of *Hemiculter* have 11–14 branched anal rays and 43–58 scales, but *H. krempfi* has 16–18 branched anal rays, *H. dispar* up to 17 and *H. liui* 75 scales; the species of *Ancherythroculter* have usually 21–27 branched anal rays and 57–70 scales, but *A. nigrocauda*



FIGURES 10-11. 10, *Ancherythrociliter brevianalis* Banaresecu new species. Suifu, Szechwan. Holotype (USNM 87462). (Drawn by Mrs. M. Partatescu). 11, Scale from the caudal peduncle of *Ancherythrociliter brevianalis*.

has 23–27 branched anal rays, *A. brevianalis* 15–20 branched anal rays and 50–60 scales.

The scales on the caudal peduncle of both *Ancherythroculter wangi* and *A. brevianalis* (Fig. 10), are somewhat intermediate, as to the position of the focus, between those of *Erythroculter* (with an almost central focus) and those of *Hemiculter* (with a more basal focus); the basilateral angles of the scales of both *Ancherythroculter* are marked much better than those of *Hemiculter* and *Erythroculter*.

It is remarkable that the range of all four species of *Ancherythroculter* is restricted to the Upper Yangtze drainage.

***Ancherythroculter brevianalis* Banareescu new species**

Figs. 10 and 11

Holotype: USNM 87462, one specimen, 92.0 mm SL, collected by D. C. Graham at Suifu, Szechwan, October–November 1924.

Paratypes: USNM 202690 (2, 72.0–89.0), same data. USNM 86891 (1, 88.3), same locality and collector, 15.III–15.IV. 1929. USNM 91620 (6, 51.0–77.5), same locality and data. USNM 87458 (1, 116.2 mm), same locality, October–November 1924. USNM 91625 (6, 46.2–68.0), same locality, 15.III–15.IV. 1929.

Diagnosis: A species of *Ancherythroculter* with 16–20, rarely 15 or 21, branched anal rays, 50–60 lateral line scales and 12–14 gill rakers.

Description: D III/7; A 2 (15) 16–20 (21); L. lat. 50 $\frac{10-11}{3-4}$ 60; Sp. br. 12–14; D. phar. 4.4.2–2.4.5; 4.4.1–1.4.4; 5.4.2–2.4.4 or 4.4.2–2.4.4.

Body rather oblong and convex; body depth 22.0–29.2 percent SL (\bar{x} : 25.95; in holotype 26.1 percent); length of caudal peduncle 16.3–20.0 percent (\bar{x} : 17.7; in holotype 20.0 percent); least depth of caudal peduncle 9.8–11.2 percent (\bar{x} : 10.46; in holotype 10.9 percent); width of body 37.0–51.0 percent of depth. Both profiles more or less similar, dorsal one slightly more convex.

Head compressed, much deeper than wide; its length 25.0–27.4 percent SL (\bar{x} : 25.6; holotype 26.6); snout rather short and bluntly pointed, its length 6.5–7.5 percent SL (\bar{x} : 7.0; holotype 6.75) and 25.0–29.4 percent of head length (\bar{x} : 26.9; holotype 25.2). Eye lateral, its diameter 6.5–8.8 percent SL (\bar{x} : 7.8; holotype 7.6), 24.8–33.3 percent of head length (\bar{x} : 29.5; holotype 28.6 percent and 80.0–108.0 percent of inter-orbital width (\bar{x} : 95.2; holotype 87.5 percent). Mouth terminal, oblique, its cleft reaching under nostrils, the insertion of mandible behind vertical from anterior margin of eye but before the vertical from middle of eye. A small symphyseal knob present and a corresponding excavation on upper lip.

Origin of dorsal fin about equidistant between tip of snout and base of caudal (in some specimens slightly nearer to tip of snout, in others to base of caudal). Origin of pelvic fins before dorsal fin origin; origin

of anal fin slightly behind vertical from last dorsal ray but before the vertical from tip of depressed dorsal. Tip of pectoral fins not reaching pelvic fin origin in most large specimens, reaching it in some smaller specimens. Pelvic fins reaching or almost reaching anal fin origin. Edge of dorsal fin straight. The variation of number of branched anal rays is irregular; among the 17 specimens available (holotype and 16 paratypes) there were: 15 branched rays (one specimen), one (the holotype) with 16, 17 (4), 18 (2), 19 (2), 20 (6), and one with 21 branched rays (\bar{x} : 18.5 ± 0.41 ; $= 1.68$). Predorsal distance 48.0–52.0 percent SL (\bar{x} : 49.5; holotype 51.0 percent); preanal distance 58.5–64.0 percent; preventral distance 42.5–46.0 percent; distance from pectoral to pelvic origin 19.2–23.2 percent; distance from pelvic to anal origin 15.2–20.3 percent; length of pectorals 18.3–22.0 percent; length of pelvics 15.2–18.4 percent; base of dorsal to 10.6–14.3 percent; length of last dorsal spine 13.3–20.4 percent; length of first branched dorsal ray 17.2–23.8 percent; base of anal 17.5–26.6 percent (holotype 17.6 percent); height of anal 11.8–15.7 percent.

A scaleless keel present between pelvic and anal fins. Lateral line slightly arched from opercle to above posterior part of abdominal keel, then slightly ascending; on caudal peduncle straight, equidistant from ventral and dorsal side. Swim-bladder bipartite.

Color: (Specimens preserved in alcohol) yellowish, somewhat darker above; a hardly distinct but broad longitudinal stripe from opercle to caudal base. Fins unspotted. In life the animal is probably silvery.

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