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SOME CHINESE FRESH-WATER FISHES¹

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XXVIII.—A COLLECTION FROM CHUNGAN HSIEN, NORTHWESTERN FUKIEN

Realizing that numerous vertebrate species had first come to light from this somewhat remote locality, Mr. Clifford H. Pope took pains to obtain a complete collection of fresh-water fishes here. In the 34 species which comprise it there are only three which are, so far as known, locally endemic, two of these described as new in this paper. However, what might be called the interesting Fukien fish fauna is largely dominant, and, but for recent work in localities faunally allied, there would have been more new forms.

Leiocassis tenuifurcatus, new species

DESCRIPTION OF TYPE.—No. 9681, American Museum of Natural History, from Chungan Hsien, northwestern Fukien, collected April to September, 1926, by Clifford H. Pope.

Length to base of caudal, 155 mm. Depth in this length, 7.7; head, 5. Eye in head, 5; snout, 3; interorbital, 3.7; maxillary, 3; width of mouth, 2.7; maxillary barbel, 3; width of head, 1.4; depth of peduncle, 3.5; its length (from anal axil), 1; dorsal spine, 1.7; pectoral spine, 1.7; longest dorsal ray, 1.3; pectoral, 1.4; ventral, 1.6; longest anal ray, 1.7; caudal lobe, 1.1; length of adipose, 1; its height, 5.5; dorsal interspace, 0.7.

Dorsal, I, 7; anal, 18.

Body not compressed in front, compressed behind; eye somewhat superolateral; interorbital slightly convex; snout, rather soft and shapeless, extending distinctly beyond the transverse mouth; lips thick, slightly striate; orbital rim with a slight fold; top of head covered by thick skin, the backward bony process from the skull not quite meeting the forwardly directed one from dorsal plate; gill-membranes narrowly joined at base, free from isthmus; scapular process exposed, pointed, striate. Dorsal spine with slight serrations behind; pectoral spine smooth in front, barbed behind; pectoral reaching two-thirds the distance to ventral, ventral five-sevenths to anal; adipose low in front, moderate and free behind; caudal deeply forked, with broad lobes, the upper and lower groups of rays connected by membrane in the notch; moderate keels on the peduncle above and below; dorsal origin slightly nearer end of snout than to anal origin, its distance from snout 2.5 in that from base of caudal.

Color in alcohol: body and fins dark purplish gray, paler below.

A single cotype has standard length 160 mm.; depth, 6.5; head, 5; eye, 5; anal rays, 19.

¹Publications of the Asiatic Expeditions of The American Museum of Natural History, Contribution No. 105.

Botia compressicauda, new species

DESCRIPTION OF TYPE.—No. 9682, American Museum of Natural History, from Chungan Hsien, northwestern Fukien, collected April to September, 1926, by Clifford H. Pope.

Length to base of caudal, 91 mm. Depth in this length, 5.9; head, 4.7. Eye in head, 10; snout, 3.1; interorbital, 8; maxillary, 3.8; maxillary barbel, 6; width of body, 2.2; depth of peduncle (forward of keels), 1.7; its length, 1.3; pectoral, 2; ventral, 2.2; longest dorsal ray, 2; longest anal ray, 2; caudal lobe, 1.2.

Dorsal, 9; anal, 7. Scales about 165.

Body strongly compressed, particularly the peduncle; mouth inferior, strongly curved; two barbels on snout and one on maxillary (on each side); small eye with a free rim; a small erectile backwardly-directed spine below eye; gill-membranes broadly joined to breast below origin of pectoral. Dorsal origin midway between base of caudal and middle of opercle, over ventral base; pectoral reaching one-fourth the distance to ventral, ventral one-half to anal; caudal moderately forked; the peduncle expanded in regularly scaled keels above and below.

Color in alcohol purplish gray, rather uniform; fins grayish; caudal paler, delimited by a narrow dusky streak across its base.

Eight cotypes, measure 63 to 93 mm. in standard length, have the dorsal origin midway between base of caudal and the hind third of preopercle to margin of opercle, and the largest have vague dark marks on the caudal.

The 34 species in the Chungan Hsien collections may be analyzed as follows.

KNOWN ONLY FROM CHUNGAN HSIEN

1. <i>Liobagrus anquillicauda</i> Nichols.	Many
2. <i>Leiocassis tenuifurcatus</i> , new.	2
3. <i>Botia compressicauda</i> , new.	9

KNOWN FROM FUKIEN

4. <i>Leiocassis crassilabris macrops</i> Nichols. ¹	Few
5. <i>Glyptosternon fokiensis</i> Rendahl (not typical). ¹	Few
6. <i>Barbus caldwelli</i> Nichols.	Few
7. <i>Barbus hemispinus</i> Nichols.	Few
8. <i>Homaloptera caldwelli</i> Nichols.	Many
9. <i>Crossostoma davidi</i> , Sauvage.	Many
10. <i>Crossostoma fascicauda</i> Nichols (not typical). ²	Many
11. <i>Hemimyzon zebroides</i> Nichols.	Many
12. <i>Siniperca elongata</i> Nichols.	3

KNOWN FROM FORMOSA AND FUKIEN

13. <i>Barbus matsudai</i> (Oshima)	Few
14. <i>Varicorhinus tamusiensis</i> (Oshima)	Many
15. <i>Megalobrama macrops</i> (Günther)	Few

¹Also from Hokou, northeastern Kiangsi.

²A majority of specimens much like *fascicauda* and quite unlike *davidi*, but a small minority are intermediate between these two forms.

DESCRIBED FROM CHEKIANG

- | | |
|---|------|
| 16. <i>Opsariichthys chekianensis</i> Shaw (Chekiang). | 1 |
| 17. <i>Gobius davidi</i> Sauvage and Dabry de Thiersant (western Chekiang). | Many |

KNOWN FROM THE YANGTZE VALLEY AND FUKIEN

- | | |
|---|------|
| 18. <i>Leiocassis tenuis</i> (Günther). | Many |
| 19. <i>Acheilognathus barbatus</i> Nichols (not typical). | 1 |
| 20. <i>Pseudogobio sinensis</i> (Kner). | 1 |
| 21. <i>Siniperca scherzeri</i> Steindachner. | 2 |

OF GENERAL SOUTHERLY DISTRIBUTION

- | | |
|---|------|
| 22. <i>Fluta alba xanthognatha</i> (Richardson). | Many |
| 23. <i>Clarias fuscus</i> (Lacépède). | Many |
| 24. <i>Hemiculter dispar</i> Peters. | Few |
| 25. <i>Cobitis taenia dolicorhynchus</i> Nichols. | Few |

OF GENERAL NORTHERLY DISTRIBUTION

- | | |
|--|-----|
| 26. <i>Parasilurus asotus</i> (Linnæus). | Few |
| 27. <i>Opsariichthys bidens</i> Günther. | Few |

OF GENERAL DISTRIBUTION

- | | |
|---|-----|
| 28. <i>Anguilla japonica</i> Temminck and Schlegel. | Few |
| 29. <i>Pseudobagrus fulvidraco</i> (Richardson). | Few |
| 30. <i>Cyprinus carpio</i> Linnæus | 1 |
| 31. <i>Carassius auratus</i> (Linnæus) | 2 |
| 32. <i>Zacco platypus</i> (Temminck and Schlegel). | Few |
| 33. <i>Hemibarbus labeo</i> (Pallas). | 2 |
| 34. <i>Misgurnus anguillicaudatus</i> (Cantor). | Few |

One half the forms (first four groups) have a more local distribution, as compared with the other half with a general distribution.

