

## Contributions to the study of bagrid fishes 14. The systematic position of the species of *Mystus* Scopoli known from China

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**Abstract.** Bagrid catfishes of the genus *Mystus* Scopoli are dominant in India and the East Indies and are rare in China. Eight nominal species have been reported as occurring in China and referred to as *Mystus*, *Aoria* or *Macrones* and their synonyms. Based on examination of type material it has been shown that with two exceptions all should be retained within *Mystus*. The two exceptions, *Aoria cornula* Chu (misprint for *A. corsula* (Hamilton)) is of doubtful occurrence in China and *Macrones sinensis* Bleeker belongs to the family Cranoglanididae.

**Keywords.** *Mystus*; bagrid fishes

### 1. Introduction

Fishes of the genus *Mystus* Scopoli (= *Macrones* Dumèril) are found distributed from Syria in the west through Pakistan, India, Sri Lanka, Bangladesh, Burma, Thailand, Vietnam, Malaya, Indonesia and up to Yun Nan in China. The genus is well represented in India, Burma, Thailand, Malaya and Indonesia, with maximum concentration of species in India. Elsewhere it is poorly represented. Jayaram (1968) suggested that the genus may not occur in China and that the few species reported from China may be only relicts, in the sense that they have been replaced by a better evolved, more common and widely distributed genus *Pelteobagrus*. The species are:\*

1. *Aoria amemiyae* Kimura. 2. *Macrones argentivittata* Regan. 3. *Macrones chinensis* Steindachner. 4. *Macrones elongatus* Günther. 5. *Aoria cornula* Chu -- *Aoria corsula* (Hamilton). 6. *Hemibagrus macropterus* Bleeker. 7. *Macrones pluriradiatus* Vaillant. 8. *Macrones sinensis* Bleeker.

The systematic position of *Macrones argentivittata* Regan was investigated earlier and a note published (Jayaram 1974). The type of *Macrones chinensis* Steindachner and *Macrones pluriradiatus* Vaillant were also studied. The present paper discusses the systematic position of all the above species so far reported from China.

\*In 1968, only six species were thought of as occurring in China; Dr. Wu, Hsien-wen, Wu-Han brought to the author's attention the occurrence of *M. elongatus* Günther and *Hemibargus macropterus* Bleeker, in China which are also included now.

## 2. *Mystus amemiyae* (Kimura)

1934. *Aoria amemiyae* Kimura, *J. Shanghai Sci. Inst.*, (3) 1: 165–168, plate 5, figure 2 (type locality, Howchwan, Szechwan province).

Kimura (1934) described this species from two specimens 205 and 149 mm in total length. It has not been recorded subsequently. The description and illustration clearly show the essential features.

The caudal fin is 'well forked, tips sharply pointed' with the upper lobe a little longer than the lower. The anal fin has 11 rays. Maxillary barbels very long, extending far backwards of dorsal origin or end of dorsal base. The peculiar feature is that the body is very low, 10.0 or 10.4 in standard length. Kimura considered the species as allied to *Macrones chinensis* Steindachner differing from it in having fewer anal fin rays, lower and longer adipose dorsal fin, a smooth dorsal spine, a more depressed body, and without any markings on body.

The type specimens of *A. amemiyae* are deposited in the museum of the Institute of Hydrobiology, Wu-Han, Hupeh Province, People's Republic of China (nos. 1,470 and 1,471). Dr. Wu Hsien-wen of the same institute has kindly examined these type specimens, and found that the occipital region and dorsal surface of the head is smooth, covered with skin, without any granules. In fishes of the genus *Pelteobagrus* Bleeker, the dorsal surface of the head, especially the occipital region is uncovered, if not the skin is rugose with granular markings and also the anal fin possesses in general more than 15 rays. As such, *amemiyae* is best retained within *Mystus*, rather than reallocated to *Pelteobagrus*.

## 3. *Mystus argentivittatus* (Regan)

1905. *Macrones argentivittata* Regan, *Revue Suisse Zool.* 13: 390, plate 5, figure 2 (type locality, 'China')

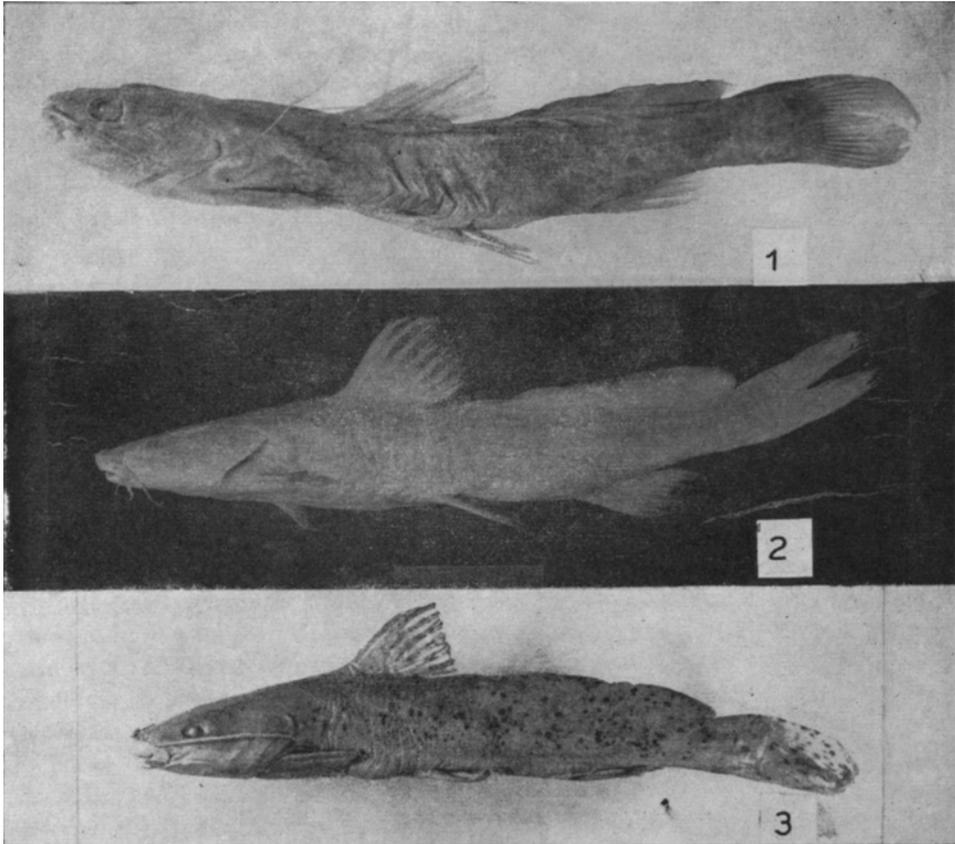
Regan (1905) described this species from three examples 39 to 41 mm in standard length. The present author has examined all the three syntypical specimens, preserved in the Museum d'Histoire naturelle, Geneva. The species was redescribed with a lectotype designation (Jayaram 1974); and it was indicated then that its generic position would be clarified after specimens of the remaining Chinese species of *Mystus* were examined.

The main characters of this species which help in its generic placement are as follows: the caudal fin is forked; the anal fin has 14 or 15 rays; the body is deep 3.33 to 3.80 in standard length; all barbels are shorter than head length.

The species is somewhat similar to *Pelteobagrus virgatus* (Oshima) which was also first described under *Aoria* Jordan (= *Mystus* Scopoli), but *argentivittatus* has deeper body and general features akin to *Mystus* species. The species has not been recorded subsequent to Regan's description. It is also best kept within *Mystus*.

## 4. *Mystus chinensis* (Steindachner)

1883. *Macrones chinensis* Steindachner, *S. B. Akad. Wiss. Wien. Math. Nat.*, 88(1): 1111, plate 8 (type locality, Canton, China).



**Figures 1-3.** 1. *Mystus pluriradiatus* (Vaillant). Lateral view of type specimen 92-47, Museum National d'histoire Naturelle, Paris. 2. *Pelteobagrus elongatus* (Günther). Lateral view of type specimen 1855.9.19.1909, BMNH, London. 3. *Pelteobagrus chinensis* (Staindachner) Lateral view of type specimen, Naturhistorisches Museum, Wien.

Unlike the other species so far discussed this species has been recorded since its description. Rendahl (1933) gave a good description. Through the kind courtesy of Dr. Paul Kahsbauer the present author examined the type of this species preserved in the Naturhistorisches Museum, Wien, Austria. The caudal fin is forked. Maxillary barbules extend up to pectoral fin base. The type specimen (398 mm in standard length) has the following data: the body depth is 6.74 times in standard length. Eye diameter is 7.4 times in head length. Anal fin has 13 (i, 12) rays. The occipital region is rugose.

The general features are as in species of *Mystus* and the body build, anal fin ray count and characteristics favour its retention under this genus.

### 5. *Mystus elongatus* (Günther)

1864. *Macrones elongatus* Günther, *Cat. Fish Brit. Mus.*, 5: 71 (type locality, Singapore).

1943. *Macrones elongatus* Nichols, *Fresh water. fish. China*, 9: (as a synonym of *M. chinensis* Steindachner).

Günther (1864) described this fish from a single specimen 236 mm in standard length, obtained at Singapore ex Haslar Hospital collection. Koller (1927) recorded this fish again from Hainan. It is noteworthy that both records are from islands surrounded by sea water. Subsequent to Koller's record no published reports of its occurrence elsewhere are available, though the Vienna Natural History Museum has three examples all from Hainan. The present author has seen these three specimens and with the kind courtesy of Dr. Peter J. Whitehead, he has been able to obtain photographs of the type, besides some essential data on the type specimen of *M. elongatus* preserved in the BMNH.

These data from the type and of the examples compared with *M. chinensis* Steindachner indicate that the two are clearly distinct (figure 2). *M. elongatus* is separable from *M. chinensis* by its smaller eyes, shorter dorsal spine and the insertion of the pelvic fins more anteriorly than in *M. chinensis*. Further, the dark spots present on the body of *M. chinensis* are absent here. The barbels are also much shorter in *M. elongatus*. The occiput is rugose.

This species is also best retained within *Mystus*.

### 6. *Mystus menoda* (Hamilton) = *Mystus cornula* (Chu)

The specific name *cornula* is a misprint for *Aoria corsula* (Hamilton) = *Mystus menoda* (Hamilton) which is known from Orissa, Bengal, Assam up to Burma. Its record from Yun Nan is based on Anderson (1879) and quoted in turn by Chaudhuri (1911). Chu (1932) included it in an index of Chinese species without description. Its occurrence in China is doubtful (Nichols 1943). The species is best omitted from Chinese lists.

### 7. *Mystus macropterus* (Bleeker)

1870. *Hemibagrus macropterus* Bleeker, *Versl. Med. Kon. Amsterdam*, 4(2): 257 (type locality, Yang-tse-kiang).

Bleeker (1870) described this fish from a specimen 175 mm long. Nichols (1943) considered it as closely allied to *Aoria amemiyae* Kimura and synonymised the latter with Bleeker's species. From the published data available *H. macropterus* differs from *A. amemiyae* in having a deeper body, shorter barbels and a longer anal fin (with 15 rays). The species has not been recorded subsequently.

As it is similar to *A. amemiyae* it is kept under *Mystus*. *Hemibagrus* Bleeker (*H. nemurus* Val., type species) is a synonym of *Mystus* (Günther 1864).

### 8. *Mystus pluriradiatus* (Vaillant)

1892. *Macrones pluriradiatus* Vaillant, *Bull. Soc. Philom.*, 4 (8): 126 (type locality, 'Tonkin', Indo-China=Vietnam).

Vaillant (1892) described this species from a single specimen 157 mm in standard length. The body depth is reported to be 8 times in standard length; the maxillary barbels extend to the pelvic fin base and the anal fin has 9 rays. No illustration of the fish was published.

The present author examined the holotype preserved in Museum National d'histoire Naturelle, Paris. The specimen is registered under No. 92-48 with the type locality as Tonkin, China. Bertin and Esteve (1950) listed this specimen in their catalogue of type specimens of fishes in the Paris Museum.

The specimen is well preserved and is in good condition. However, it has been labelled, perhaps subsequently, as synonymous with *Mystus planiceps* Valenciennes, which is an error. *M. planiceps* has 14 rays in the anal fin and differs considerably in many other features from *pluriradiatus*.

This species is referable to *Mystus* in view of the short anal fin and general body characters. No further records of this species are known. As the species has not been illustrated a photograph of the type (figure 1) and a redescription is given here.

*Material*: One ex., holotype, No. 92-487, *Nat. Hist. Mus.*, Tonkin, 'China' (see below), Coll. Pavie, 156 mm standard length.

*Description*: Body depth, 7.54, head length 3.77, head width 5.1, head depth 8.63, pre-dorsal length 2.67, post-dorsal length 1.67, prepelvic distance 2.02, all in standard length. Eye 6.3 in head length, 1.89 in interorbital width, 2.14 in snout length. Dorsal spine 2.3, pectoral spine 2.04 in head length. Adipose dorsal fin base longer than anal fin base, latter 2.51 in former. Least depth of caudal peduncle 2.28 in its length. Dorsal fin I, 8(all branched), pectoral fin I, 8, pelvic fin i, 5, anal fin i, 9, caudal fin 7+8 rays.

Median longitudinal groove on dorsal surface of head shallow, not extending to occipital base. Occipital process subcutaneous 2.0 times longer than broad at base, not extending to predorsal plate. Premaxillary band of teeth 6 times as long as broad;

slightly interrupted in the middle; teeth on palate in a continuous semilunar band, those on lower jaw in two curved bands separated feebly in middle, all teeth uniformly villiform. Maxillary barbels reach midway between pelvic origin and pectoral and, nasal barbels reach anterior border of orbit, outer mandibular pectoral base, inner pair up to opercular bend ventrally, outer and inner pair inserted at different levels. Dorsal spine feeble, short, smooth, pectoral spine with 12 antrorse teeth along inner edge. Pelvic fins do not reach anal fin. Longest anal ray not extending to caudal fin. Caudal fin forked, upper lobe slightly longer. Lateral line simple, straight.

*Colour:* Dull brownish, head pale, ventral surface white, adipose and caudal tinged dark brown.

*Distribution:* The type locality is cited in the original description as 'Tonkin, China'. Dr Wu, Hsien-wen informs that Tonkin is an old name of a region of Vietnam and 'China' here is actually Indo-China. However northern Vietnam is drained by the Song Koi (=Red River) whose head waters are in Yun Nan, China, and the distribution of the fish may extend to China also, though records from the area are lacking.

#### 9. *Macrones sinensis* (Bleeker)

1873. *Macrones sinensis* Bleeker, *Ned. Tijdschr. Dierk.* 4: 125 (type locality 'China').

In his account of the ichthyological fauna of China, Bleeker (1873) merely mentions this species basing it on a coloured picture which he did not publish. No description of it seems to have been ever made. The iconotype is preserved in the Rijksmuseum van Natuurlijke, Leiden and through the kind courtesy of Dr M Boeseman, Bleeker's unpublished figure of this interesting fish has been studied.

This species does not belong to Bagridae, but to Cranoglanididae Myers. The systematic position of *M. chinensis* has been discussed by Jayaram & Boeseman (1976). Reference may be made to Jayaram (1955) for justification of Cranoglanididae as a separate family.

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