

# NOTES ON TWO HOMALOPTERID FISHES FROM SZECHUAN, CHINA.

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## INTRODUCTION.

During his visit to the U. S. A. in 1949, Dr. S. L. Hora, studied the Homalopterid material preserved in several natural history museums of the U. S. A. and has already made a brief report<sup>1</sup> on it. Among the fishes he examined in the Museum of Zoology, University of Michigan, he found one specimen of *Hemimyzon* Boulenger and one of *Sinogastromyzon* Fang which, for want of time, he could not study in detail there, but requested their loan in order to examine them in Calcutta. Through the kindness and courtesy of Dr. Reeve M. Bailey, Curator of Fishes, these specimens were received in Calcutta, in May 1950. As Dr. Hora was then preparing for an expedition to the Western Himalayas, he very kindly entrusted the material to me for detailed investigation. He has now checked my results and helped me in the preparation of this article. I am grateful to him for his guidance and generous help.

The two specimens under report formed part of the Chinese collection of Dr. Cora D. Reeves and according to the information recently supplied by her they were purchased from the markets of Chengtu and Kiating, Szechuan. Kiating is a small city at the junction of two mountain streams to form the first branch of the Yangtse above Chungking. To Dr. Bailey she wrote :

“ I went up to Chungking on a larger river steamer for Kiating that evening and came into that port at the head of the steam-boat navigation the next day. I haunted the small fish market for a day or two and picked up the fish from there. The fish from Chengtu I also got by looking over what the fishermen found and brought into the market.”

The specimens are in an excellent state of preservation. Dr. Hora had already referred the *Hemimyzon* specimen to *H. abbreviata* (Günther) provisionally and detailed examination confirms his identification. The *Sinogastromyzon* specimen was regarded by him as a likely new species. He stated :

“ 57 scales along the lateral line, 10-11 rows between the lateral line and the base of dorsal, 21 predorsal scales ; P.12/12 ; V.6/12-13 ; two rows of prominent papillae on the anterior lip, the posterior lip is crenulated there are two barbels at each angle of the mouth.” (Hora, 1950, *loc. cit.*).

When the above characters are evaluated against the known range of variation in the scale-counts and number of fin rays, the specimen falls well within the limits of *S. szechuanensis* to which Dr. Bailey had already assigned it when forwarding

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<sup>1</sup> Hora, S. L., *Rec. Ind. Mus.* XLVIII (1), pp. 45-58 (1950).

the specimens. Both the specimens under report differ, however, from the earlier descriptions of the two species in certain respects and as very few specimens belonging to these species are known in the museum collections, notes on certain features showing variations are given below for convenience of reference in future.

**Hemimyzon abbreviata** (Günther).

1892. *Hemimyzon abbreviata*, Günther, in Pratt's *Snows of Tibet*, p. 248.

1932. *Hemimyzon abbreviata*, Hora, *Mem. Ind. Mus.* XII, pp. 301-302, pl. xi fig. 8.

D.2/6 ; P.11/11 ; V.3/11 ; A.2/5.

*Material*.—One specimen collected from Szechuan, Chengtu or Loshan (Min river drainage), Cora D. Reeves, about 1940, bearing No. U.M.M.Z. 15815 of the Museum of Zoology, University of Michigan.

The specimen agrees in all important characters with the description of *Hemimyzon abbreviata* given by Hora.<sup>1</sup> The number of pectoral and pelvic rays and the dorsal fin formula does not quite exactly fit in with that of *H. abbreviata*. In this specimen, only 2 rays of the dorsal fin are simple instead of 3 and the pectoral and pelvic fins possess 22 (11/11) and 14 (3/11) rays respectively *versus* 24 and 15 as given by Hora in his description of the species.

*Measurements in millimeters.*

Total length including the caudal .. .. .	103.0
Length of caudal fin .. .. .	24.0
Length of head .. .. .	17.0
Width of head .. .. .	13.0
Height of head at occiput .. .. .	7.0
Length of snout .. .. .	10.0
Diameter of eye .. .. .	2.0
Interorbital width .. .. .	7.0
Breadth of body in front of pelvic fin .. .. .	18.0
Height of body in front of dorsal fin .. .. .	10.5
Length of caudal peduncle .. .. .	16.5
Longest ray of dorsal fin .. .. .	21.0
Longest ray of anal fin. .. .. .	15.0
Length of pectoral fin .. .. .	23.0
Length of pelvic fin .. .. .	18.5

**Sinogastromyzon szechuanensis**, Fang.

1930. *Sinogastromyzon szechuanensis*, Fang, *Contr. Biol. Lab. Sci. Soc. China* (Zool. Ser.), VI, pp. 99-103 (Szechuan, no definite locality).

1944. *Sinogastromyzon szechuanensis*, Chang, *Sinensia* XV, p. 53 (Luhsien and Chengtu, Szechuan).

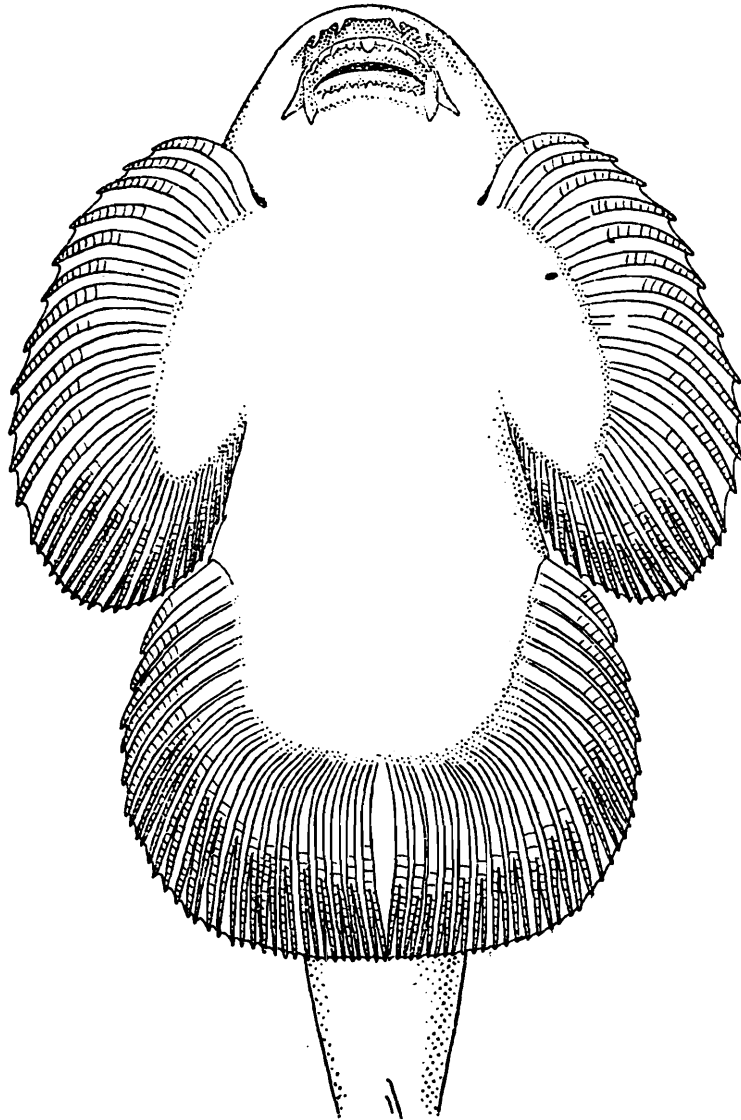
1949. *Sinogastromyzon szechuanensis*, Chen and Liang, *Quar. Journ. Taiwan Mus.* II, p. 163 (Omei, Szechuan).

As the distinguishing characters of the 5 species included under this genus very much overlap, it is proposed to describe this specimen in detail with figures so as to facilitate reference in future.

<sup>1</sup> Hora, S. L., *Mem. Ind. Mus.* XII, pp. 300-302 (1932).

D.3/9 ; P.12/12 ; V.6+2/12 ; A.1/5.

The head and the body are dorso-ventrally depressed with the ventral surface greatly flattened. The dorsal profile is but slightly arched. The length of the head is contained 5.3 times in the total length and its height is only half its length. The snout is broad and rounded and is free from tubercles. The eyes are placed dorso-laterally and are not visible from the ventral surface ; they are contained 3 times in the length of the snout and are about 1.5 times apart. The nostrils are placed just in front of the eyes and are fairly conspicuous. The

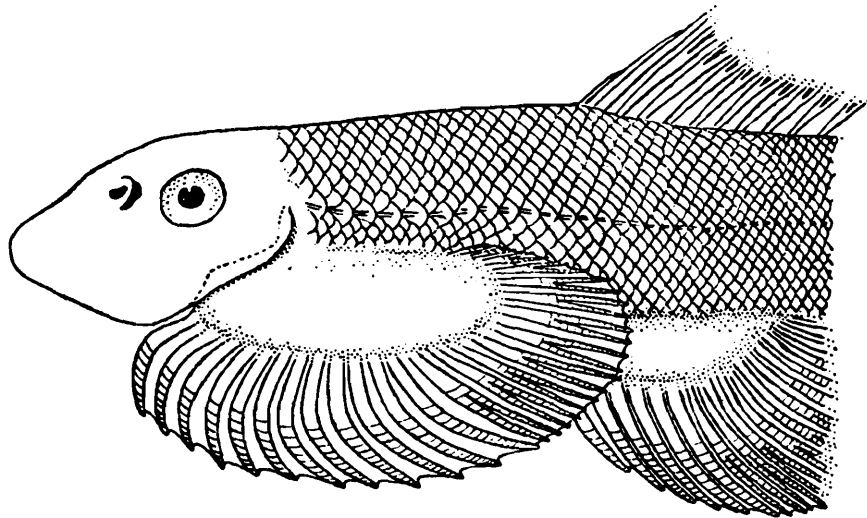


TEXT-FIG. 1.—Ventral view of *Sinogastromyzon szechuanensis*. Note the number of simple and branched rays in the pectoral and pelvic fins  $\times 2$ .

mouth is placed on the ventral surface considerably behind the tip of the snout ; the jaws are bordered by papillated lips ; the upper lip has nine small papillae. There are 4 small barbels in the notches on the rostral fold, in front of the anterior lip. There is a pair of barbels at each angle of the mouth, the outer one being longer and stouter. The gill-openings are small and restricted above the bases of the pectoral fins.

The origin of the dorsal fin is just behind the insertion of the pelvics, and is nearer to the tip of the snout than to the base of the caudal fin. The pectoral fins are horizontally inserted and are provided with *muscular bases which are free from scales*; the inner rays being longer than the outer. Each fin is composed of only twelve undivided rays. The outer rays are not padded. The pelvics are also horizontally placed and form a disk-like structure on the ventral surface. They extend beyond the anal opening but do not reach the base of the anal fin. The pelvics are provided with muscular bases, which are naked. The anal fin is small and is inserted a short distance from the pelvics. It does not reach the base of the caudal fin. The longest ray of the anal fin is twice the length of its base. It is provided with a papilla. The least height of the caudal peduncle is about one-third of its length.

The depth of the body is contained about 7.3 times in the total length. The body is covered with small scales which are keeled; they are absent on the ventral surface as far as the anal opening. The lateral



TEXT-FIG. 2.—Lateral view of *Sinogastromyzon szechuanensis*, showing the naked muscular bases of the pectoral and pelvic fins. Note the extent to which the muscular bases are naked  $\times 2$ .

line is complete. A scale from below base of dorsal fin is small and oval in outline. The circuli and radii are very inconspicuous. The nucleus is eccentric and disorganised.

In spirit, the colour is brownish and is marked with irregular dark patches. The ventral surface is pale olivaceous.

The present specimen differs from Fang's description of *szechuanensis*<sup>1</sup>, in the following characters:—

1. Vent with papilla and placed equidistant from bases of pelvics and origin of anal fin, *versus* nearer bases of pelvics than origin of anal fin.
2. The number of scales along the lateral line is 57 *versus* 64 in *szechuanensis*.
3. The pectoral fin possesses only 12 branched rays *versus* 13 in *szechuanensis*.

<sup>1</sup> Fang, P. W., *Contr. Biol. Lab. Sci. Soc. China* VI (9), pp. 99-103 (1930).

4. The pelvic fin possesses only 20 rays (8/12) *versus* 21 rays (6-8/15-13).
5. The upper lip has only one row of 9 papillae *versus* 11 in *szechuanensis*.

The above-noted differences would have justified the retention of the present specimen as a separate subspecies, if Chang had found these differences constant in the 4 specimens he reported upon from Luhsien and Chengtu. His specimens were 64-67 m.m. in standard length and gave the following counts for fin-rays and scales :—

D. 3/8 ; A. 2-3/5 ; P. 23-25 (11-13/12-13) ; V. 20-22 (5-6+2-3/12-13) ; L. 1. 61-64 ; L. tr. 11/8-9-A.

*Material*.<sup>1</sup>—A single specimen : No. U.M.M.Z. 15816, Museum of Zoology, University of Michigan, Ann Arbor, Michigan, U. S. A.

*Measurements in millimeters.*

Total length including the caudal fin	..	..	..	80.0
Length of caudal fin	..	..	..	17.0
Length of head	..	..	..	15.0
Width of head	..	..	..	15.0
Height of head at occiput	..	..	..	7.5
Length of snout	..	..	..	9.0
Diameter of eye	..	..	..	3.0
Interorbital width	..	..	..	5.0
Breadth of body in front of dorsal fin	..	..	..	11.0
Breadth of body in front of pelvics	..	..	..	16.0
Length of caudal peduncle	..	..	..	15.0
Least height of caudal peduncle	..	..	..	5.5
Longest ray of dorsal fin	..	..	..	15.0
Longest ray of anal fin	..	..	..	10.0
Length of base of anal fin	..	..	..	5.0
Length of pectoral fin	..	..	..	24.0
Length of pelvic fin	..	..	..	23.5

<sup>1</sup> Fang, P. W., *Sinensia* II, (3), pp. 48-53 (1931).