

REDESCRIPTION OF *HARA HARA* (HAMILTON) AND *HARA HORAI* MISRA WITH  
A KEY TO THE SPECIES OF *HARA* BLYTH (PISCES : SISORIDAE)

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ABSTRACT

Fresh descriptions and figures of *Hara hara* (Hamilton) and the Neotype of *Hara horai* Misra are provided to record the additional points of difference between the two species. Taxonomic characters of *Hara jerdoni* Day and a revised key to the species of the genus *Hara* Blyth are also included.

INTRODUCTION

Tilak and Talwar (1976) have clarified the situation under which the holotype for *Hara horai* was not designated by Misra (1976) and they have now designated the second specimen from the type-locality as Neotype. From the details furnished by Tilak and Talwar (1976) it is clear that Misra (1976) drew up the description of *Hara horai* based on the figures published by Hora (1950) and presumably also his own manuscript notes prepared many years ago. As he did not designate any type material for the new species, it is clear that he did not have the actual material (ZSI regd. No. F. 11390/1, from Rerai & Duars, N. Bengal) before him at the time of drawing up of the description of the species. The specimen of *Hara hara*, figured by Hora (1950) and bearing the regd. No. F. 11390/1, is not traceable in the collections of Zoological Survey of India; the figures of this specimen (Hora, 1950) formed the basis of *Hara horai* Misra (Misra, 1976). The figures of *Hara hara*

(Hamilton) and the Neotype of *Hara horai* Misra are, therefore, not available and need to be provided. The present author has studied the material of *Hara hara* (Hamilton) and also the Neotype of *Hara Horai* Misra (the second specimen with regd. No. F. 11390/1, reregistered at FF. 955) and observe that the descriptions of the two species given by Misra (1976) are confusing and need amendment. The present study has also brought out some additional and trenchant points of difference between *Hara hara* and *Hara horai*, not mentioned by Misra (1976). Under the circumstances, therefore, it has been considered appropriate to give here fresh descriptions and figures of *Hara hara* (Hamilton) and Neotype of *Hara horai* Misra. The description of *Hara jerdoni* Day, given by Misra (1976), is also somewhat faulty. A redescription of *Hara jerdoni* Day, has been already provided by Tilak and Husain (in press). For sake of reference, the important points of *Hara jerdoni* are also given here. A revised key to the species of the genus *Hara* has been provided here.

## DESCRIPTIONS

**Hara hara** (Hamilton)

(Fig. 1 A—C)

1822. *Pimelodus hara* Hamilton, *Fishes of Ganges* : 190, 378 (Type-locality : Kosi river)  
 1860. *Hara filamentosa* Blyth, *J. Asiat. Soc. Beng.*, 29 : 151 (Type-locality : Tenasserim)  
 1976. *Hara filamentosa* : Misra, *Fauna of India, Pisces* (2nd ed.), 3 : 242.  
 1976. *Hara hara* : Misra, *Fauna of India, Pisces* (2nd ed.), 3 : 243.

B. VII, D. 1/6-7, P. 1/7, V. 1/5, A. 4/7-8,  
 C. 16

The body is moderately long with the ventral side flattened. The profile of the body rises from the tip of snout up to the base of the dorsal after which it slopes down to the base of the caudal fin. The head is somewhat flattened and its length is contained 4.5 times in the total length and 3.6—4.0 times in the standard length. The snout is depressed and is contained 2.0 times in the length of head. The eyes are small, subcutaneous, superior and lie in the posterior half of the head. The diameter of the eye is contained 9.0 times in head length, 4.4 times in snout and 3.0 times in the interorbital width. The nostrils are equidistant between the eye and the tip of the snout. The mouth is inferior and the upper jaw is longer with the lips papillated. The maxillary barbels reach the base of the pectoral fin. The outer mandibular barbels reach the gill opening while the inner mandibular barbels are somewhat smaller. The nasal barbels reach the tip of the snout as well as the anterior margin of the orbit. The median longitudinal groove does not reach the base of the occipital process which is twice as long as broad at the base. The occipital process is separated from the basal bone of the dorsal fin by an interspace. Both the jaws are beset with villiform teeth. The palate is edentulous. The

isthmus is wide and its width is contained from 2.5-2.6 times in the length of head. The depth of body is contained from 5.4-5.9 times in the total length and 4.3-4.7 times in standard length of body.

The scapular and cubito-humeral processes are well developed. The cleithral process is prominent but does not reach the pelvic fin. *The length of the cleithral process is contained from 1.6—1.8 times in the distance between the origin of the cleithral process and the base of the pelvic fin.* There is no adhesive thoracic apparatus.

The origin of the dorsal fin is nearer the adipose fin than the tip of the snout. The height of the dorsal fin is contained 1.1 times in the head length. The dorsal spine is strong with 6-7 serrations on the posterior border and an equal number of somewhat smaller and upwardly directed serrations on the upper side of the anterior border. The length of the base of the adipose fin is contained 1.28-1.35 times in the length of the base of the rayed dorsal fin. The adipose fin extends nearly an eye diameter behind the posterior end of the anal fin. The interdorsal space is contained 1.4 times in the base of the adipose and 1.8-1.9 times in the length of the base of the rayed dorsal fin, although in an example from Sadiya (Assam), the interdorsal space is somewhat longer than the adipose fin.

The pectoral fins are low. *The pectoral spine is small, longer than the head and does not reach the base of the pelvic fin.* The pectoral spine is flattened and strong. There are 15-17 spines (all pointing away from the base) on the outer border of the pectoral spine and 10-12 stronger spines (all pointing towards the base of the spine) on the inner border of the pectoral spine. The length of the pelvic fin is contained 1.7 times in the length of head. The origin of the pelvic fin lies below the middle of the dorsal fin. The

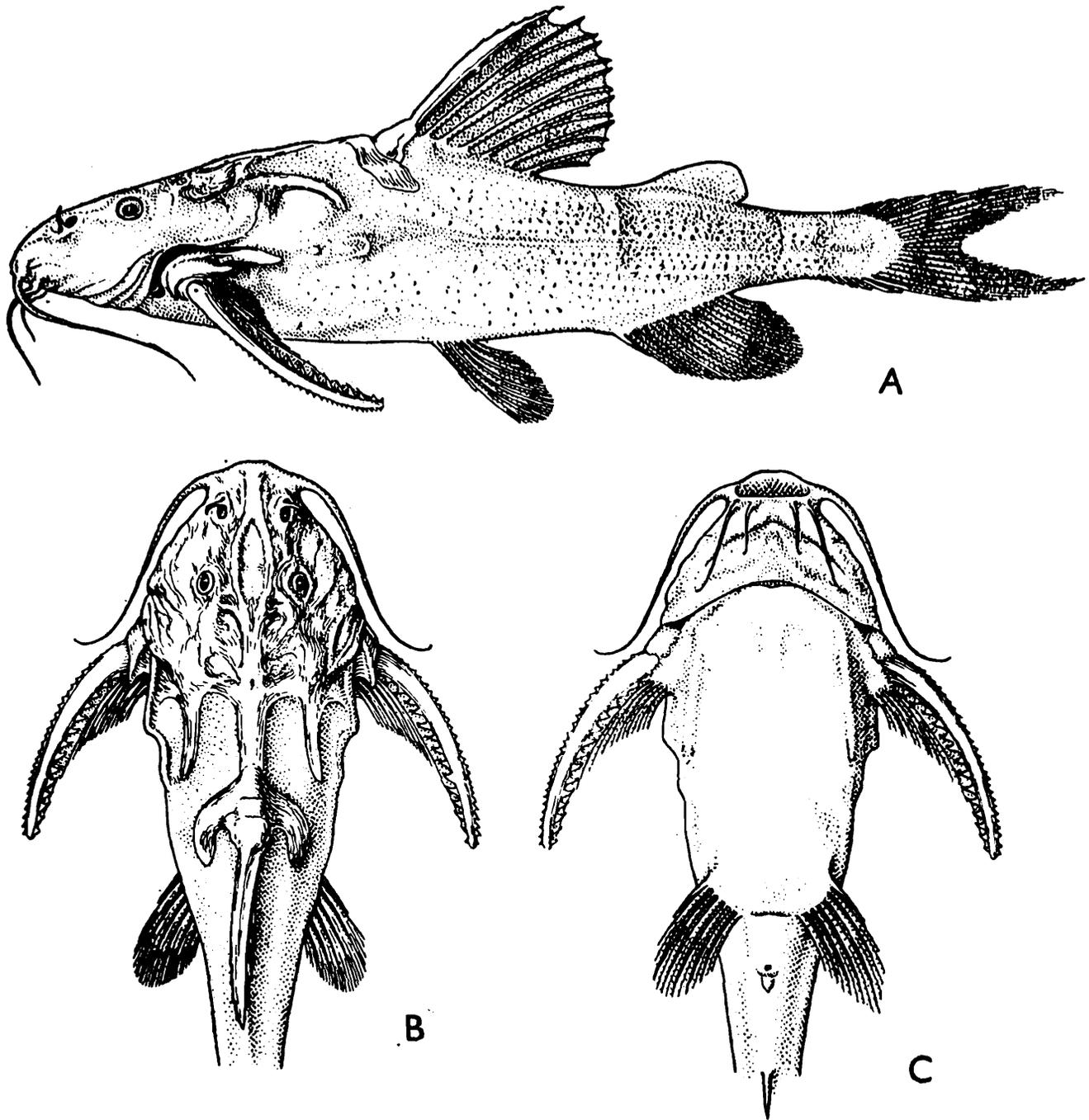


Fig. 1. *Hara hara* (Hamilton), A—Lateral view, (B-C) Head and anterior part of body  
 B—Dorsal surface C—Ventral surface.

pelvic fins lie nearer to the anal fin than the pectoral fins. The pelvic fins do not reach the anal fin nor does the latter the caudal base. The length of the anal fin is contained 1.3 times in the length of head. The origin of the anal fin lies opposite to that of the adipose dorsal and is far behind the rayed dorsal fin. The anal fin lies nearer the pelvic

base than the base of the caudal fin. The caudal fin is deeply forked with the lower lobe somewhat longer than the upper. The caudal peduncle is narrow and its least height is contained from 2.5-2.7 times in its length. The lateral line is complete.

The skin is tuberculated ; the tubercles

are arranged in a series of 3-4 rows above the lateral line and the same number below it. The dorsal side of the head is rugose.

The ground colour of the body is yellowish brown with four broad cross bands behind the dorsal fin; one below the rayed dorsal fin, the second below the adipose, the third on the caudal peduncle and the fourth on the base of the caudal fin. There are two cross bands each on the paired and media fins. There is a dark blotch at the end of the adipose fin.

*Remarks:* In the description of this species, the points related to the length of the cleithral process (Humeral process), serrations on the dorsal spine, the length of the base of the adipose dorsal in relation to that of the rayed dorsal fin, the interdorsal space in relation to the base of the adipose fin, the length of the pectoral fin in relation to the head length and relationship of the origin of the pelvic and anal fins to that of the rayed dorsal have been emended.

The relationship of the length of the cleithral process with the distance between the origin of this process and the base of the pelvic fin, and the relationship of the length of the pectoral spine with the length of the head and the distance between it and the base of the pelvic fin have been added as additional points of taxonomic importance for *Hara hara* (Ham.) and *Hara horai* Misra.

The material of *Hara filamentosa* Blyth from Burma (from Bassein, regd. No. 1453; Meetan, regd. No. F. 11049/1) in Zoological Survey of India, Calcutta has been examined and found that this material resembles *Hara hara* (Ham.) in all important details; the morphometric characters of this material fall within the range of variation of *Hara hara*. In the preserved material, the prolongation of the tip of the tails is not traceable; this has, probably, been the

only point of distinction between *Hara hara* and *Hara filamentosa*, as it was pointed out by Blyth (1860) himself. Fortitious prolongation of fins have been observed in some species of fishes and this character, therefore, may not be attached any taxonomic importance. Hora (1950: 201) also made observations on the relationship of these species, in the light of which as well as the present study, it is only appropriate to keep *Hara filamentosa* as a synonym of *Hara hara* (Ham.).

*Distribution:* India (slow-moving fresh-water rivers and streams in Uttar Pradesh, Assam and Orissa) and Nepal (Kosi river).

*Hara horai* Misra

(Fig. 2 A-C)

B, VII, D, II/6, P, I/6, V, 1/5,  
A, III/7, C, 16

The body is elongated although the anterior part is the widest. The ventral surface of the body is flattened. The head is depressed and ventrally flattened. The width of the head is shorter than its length by a diameter of an eye. The length of head is contained 3.3 times in standard length (caudal fin is broken). The snout is pointed and contained 1.85 times in the length of head. The eyes are subcutaneous and lie in the posterior half of the head. The diameter of eye is contained 9.55 times in the length of head, 5.0 times in snout and 3.00 times in the interorbital width. The mouth is inferior and the lips are papillated. The jaws bear patches of villiform teeth. The palate is edentulous.

The maxillary barbels have broad bases and reach the gill opening. The outer and inner mandibular barbels are shorter. The nasal barbels are small and do not reach the eye or tip of the snout. The median longitudinal groove on head does not reach the occipital process. The occipital process is separated

from the basal bone of the dorsal fin by an interspace and is twice longer than its width at the base. The scapular and cubito-humeral processes are well developed. *The cleithral processes are long but do not reach the pelvic fins. The length of the cleithral process is contained 1.38 times in the distance between its base and the origin of the pelvic fin.* A thoracic adhesive apparatus is absent.

The origin of the dorsal fin is nearer the adipose than the tip of snout. The height of the dorsal fin is contained 1.32 times in the length of head. The spine of the dorsal fin is strong and bears 8 serrations on the posterior side. The length of the adipose dorsal fin is

contained 2.1 times in the length of the base of the rayed dorsal fin. The origin of adipose fin lies behind that of anal fin but it extends to the end of the latter fin. The interdorsal space is almost equal to the length of the base of the adipose dorsal fin. The pectorals are low and horizontal. *The length of the pectoral spine is equal to the distance between the origin of the cleithral process and the origin of the pelvic fin. The pectoral spine reaches the base of the pelvic fin.* The pectoral spine is nearly equal to the length of the head. The pectoral spine is strong, flattened and bears 13 serrations on the inner border (all directed towards the base) and 22 on the outer border (all directed away from the base). The pelvic fins

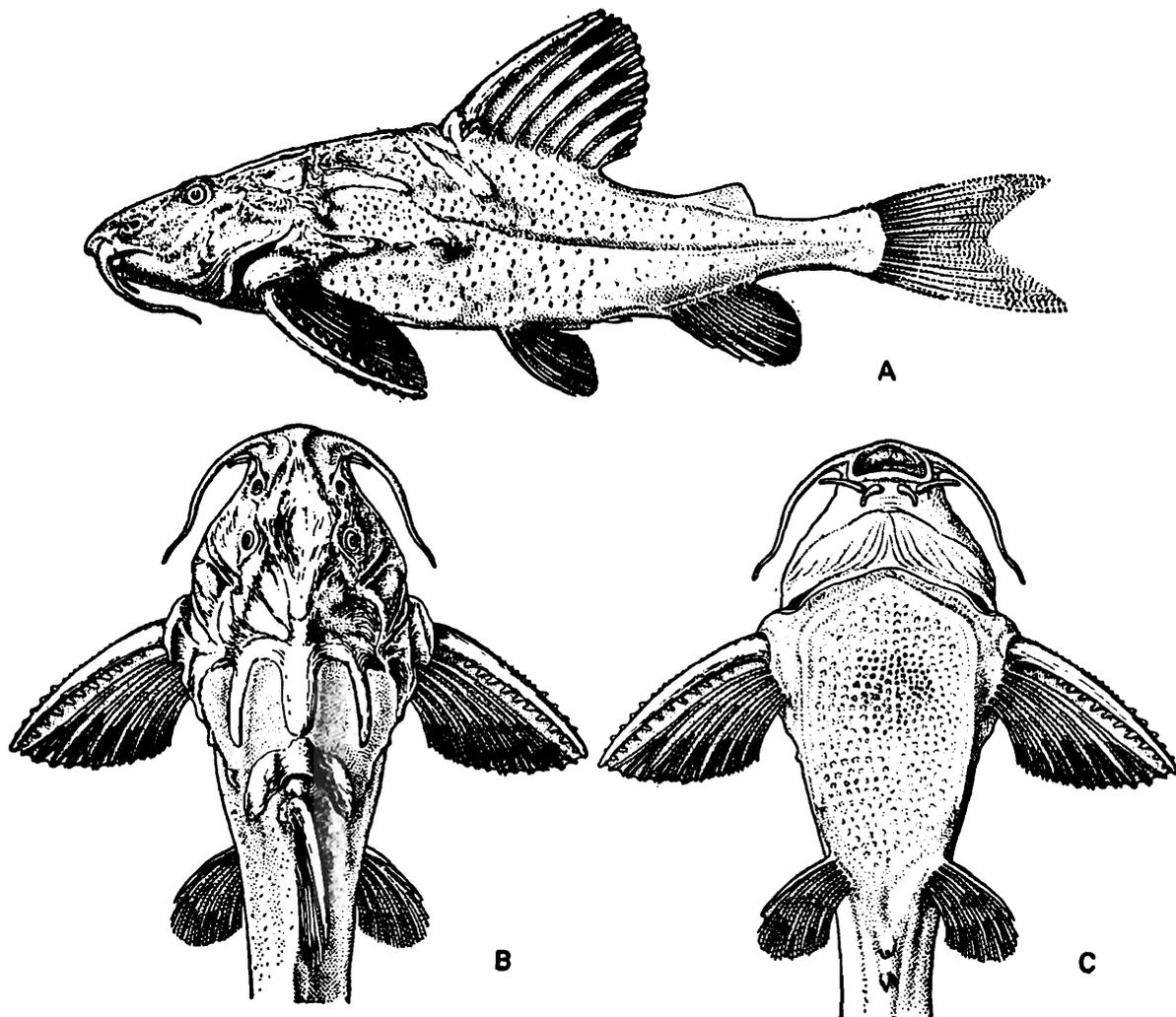


Fig. 2. *Hara horai* Misra, A—Lateral view, (B-C) Head and anterior part of body, B—Dorsal surface, C—Ventral surface.

do not reach the base of the anal fin nor does the latter the base of the caudal fin. The length of the pelvic fin is contained nearly 2.00 times in the length of head. The origin of the pelvic fin lies below the 2nd branched ray of the dorsal fin and lies nearer the anal base than that of the pectoral fin. The length of the anal fin is equal to the length of the pelvic fin and is contained nearly 2.00 times in the length of head. The caudal fin is forked; its lower lobe is longer than the upper. The least of the caudal peduncle is contained 2.25 times in its length. The lateral line is complete.

The body is profusely tuberculated on the dorsal and ventral sides. The dorsal side of the head is rugose.

The ground colour is yellowish brown. The pelvic and anal fins bear two cross bands each. There are faint cross bands on the body behind the level of the dorsal fin.

*Remarks* : The points connection with the relationship of the length of base of adipose dorsal fin with that of the rayed dorsal, number of serrations on the pectoral spine and the relationship of the pelvic fin have been corrected.

*Distribution* : India (Terai & Duars, N. Bengal).

#### Hara jerdoni Day

Tilak and Husain (in press) have provided a redescription and distribution of *Hara jerdoni* Day. The description of this species given by Misra (1976) differs from the description given by Day (1870) and Tilak and Husain (in press). The material of this species has been re-examined and pending publication of the paper by Tilak and Husain (in press), the following important taxonomic points of this species are given for sake of reference.

- (1) The eyes lie in the middle of head.
- (2) The length of the dorsal spine is contained 1.4 times in the length of head.
- (3) The adipose fin is smaller than the interdorsal space.
- (4) The origin of the pelvic fin lies below the last dorsal ray.
- (5) The origin of the anal fin lies opposite the adipose dorsal fin.
- (6) The least height of the caudal peduncle is contained 2 times in its length.
- (7) The length of the pectoral spine is much more than the distance between the origin of the cleithral process and the base of the pelvic fin. The pectoral spine crosses the middle of the length of the pelvic fin.
- (8) The length of the cleithral process is contained 1.23 times in the distance between the origin of the cleithral process and the base of the pelvic fin.

#### Key to the species of Hara Blyth

1. The pectoral spine may or may not reach the base of pelvic fin ; length of the cleithral process 1.38-1.8 times in the distance between the origin of the cleithral process and base of pelvic fin ..... (2)

The pectoral spine is very long and crosses the middle of pelvic fin length ; length of cleithral process 1.23 times the distance between origins of the cleithral process and the pelvic fin ..... *Hara jerdoni* Day

2. The pectoral spine reaches the origin of pelvic fin ; length of cleithral process 1.38 times in the distance between origins of cleithral process and pelvic fin ; adipose fin extends upto end of anal fin ..... *Hara horai* Misra

The pectoral spine does not reach the origin of pelvic fin ; length of cleithral process 1.6-1.8 times in the distance between origin of cleithral process and base of pelvic fin ; adipose fin extends nearly an eye diameter behind the posterior end of the anal fin ..... *Hara hara* (Ham.)

ACKNOWLEDGEMENTS

The author feels grateful to Dr. T. N. Anantakrishnan, Director, Zoological Survey of India, Calcutta and Dr. H. Khajuria, Deputy Director, High Altitude Zoology Field Station, Solan for favour of encouragement and facilities.

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