

REDESCRIPTION OF CATFISHES *AMBLYCEPS ARUNACHALENSIS* NATH & DEY AND *AMBLYCEPS APANGI* NATH & DEY (TELEOSTEI: AMBLYCIPITIDAE)

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plus web supplement of 1 page

ABSTRACT

Amblyceps arunachalensis and *A. apangi* are redescribed. *A. arunachalensis* has been resurrected from synonymy with *A. mangois*. *A. arunachalensis* markedly differs from *A. mangois* in general appearance of the body, the caudal fin lobes, eye diameter, caudal peduncle height, interorbital space, and the number of vertebrae. *A. arunachalensis* differs from *A. apangi* in characteristics relating to the rictal fold, caudal peduncle length, caudal peduncle height, caudal fin, fold on lips, adipose fin, and number of vertebrae.

KEYWORDS

Amblycipitidae, *Amblyceps apangi*, *A. arunachalensis*, *A. mangois*, fishes, redescription, revalidation

ABBREVIATIONS

ZSI- Zoological Survey of India, Itanagar; NATP- National Agricultural Technology Project; MUMF - Manipur University Museum of Fishes

Ng (2005) recognized 13 species of the genus *Amblyceps* Blyth out of which the four species distributed in the Ganga-Brahmaputra drainage are *A. apangi* Nath & Dey, *A. laticeps* McClelland, *A. mangois* (Hamilton) and *A. tenuispinnis* Blyth. Genus *Amblyceps* is characteristic in having: epiphyseal commissure of supraorbital sensory canals immediately anterior to, and not passing through, epiphyseal bar; anterior cranial fontanel narrowing abruptly along its posterior end; fifth ceratobranchial expanding medially at its posterior tip; pinnate-like rays along anterior margins of the several procurent caudal fin rays immediately anterior to upper and lower outermost branched caudal fin rays; transverse crest along entire posterior margin of roof of supraoccipital and pterotic; lateroposterior process of horizontal lamina of urohyal short or vestigial, shorter than horizontal lamina; upper hypurals fused with compound centrum; anterior nostril situated immediately anterior to base of nasal barbel, and both lips with double folds (Chen & Lundberg, 1995). It is also characteristic in having a prominent cup-like skin flap above the base of the pectoral spine (Hora, 1933).

Nath & Dey (1989) described *A. apangi* and *A. arunachalensis* from Dikrong River, Arunachal Pradesh, India. The existence of the two species had attracted less attention till the recent work of Ng (2005) who treated *A. apangi*, a valid species and *A. arunachalensis*, a synonym of *A. mangois*. As the descriptions of *A. apangi* and *A. arunachalensis* by Nath & Dey (1989) are inadequate, an attempt has been made in the present study to redescribe the two species based on specimens collected from Arunachal Pradesh, India. *A. arunachalensis* is resurrected from synonymy with *A. mangois*.

MATERIAL AND METHODS

Measurements were made on left side of the body with dial calipers to the nearest 0.1mm using method of Ng & Lim (1995), for head length Ng & Kottelat (1998) and for adipose fin base length Ng & Kottelat (2000). Counts and measurements were made on the left side of specimens wherever possible. Subunits of the head are presented as proportions of head length (HL). Head length and measurements of body parts are given as proportions of standard length (SL). Specimens were processed for vertebrae counts following Hollister (1934) and counted following Roberts (1989). Fin rays were counted under a PC based binocular stereo-zoom microscope (Olympus Model SZ40) using transmitted light.

Specimens for the study are deposited in Manipur University museum of Fishes (MUMF). Specimens deposited in Department of Zoology, Rajiv Gandhi University and ZSI Arunachal Pradesh was compared.

Amblyceps arunachalensis Nath & Dey, 1989

(Image 1^w)

Material examined

3 ex., 15.i.2005, Dikrong River, Doymukh, Arunachal Pradesh, India, coll. Millo Ruja, 68.1-82.7mm SL (MUMF 6401); 11 ex., 8.ix.2004, Dikrong River, Doymukh, Arunachal Pradesh, India, coll. Millo Ruja, India, 72.0-85.5mm SL (uncatalogued).

Distribution

India: Arunachal Pradesh (Brahmaputra basin).

Diagnosis

Jaws with lower longer than upper; rictal fold reduced; head almost round, its maximum width 88.3-89.4% its length, depth at occiput 70.4-71.4% its length; eye diameter 7.0-9.0% HL; interorbital space 44.2-44.4% HL; gape width 50.4-51.2% HL; caudal peduncle height 50.5-51.2% its length; HL 18.5-19.0% SL; skin tuberculated, pinnate like rays on outer margin of procurent rays of caudal fin present; caudal fin with upper lobe longer, length of longest ray of lower lobe 75.1-76.0% length of longest ray of upper lobe; adipose fin widely separated from caudal fin.

Description

Body long, slender gradually getting compressed

^w See Images in the websupplement at www.zoosprint.org

Table 1. Morphometric data of *Amblyceps arunachalensis* and *A. apangi*

Characters	<i>A. arunachalensis</i>	<i>A. apangi</i>
Percentages standard length		
Head length	18.5- 19.0	21.1-23.0
Body depth (at dorsal)	15.0-15.4	13.0-13.7
Body depth (at anus)	14.6-14.7	14.2-16.0
Snout length	05.5-06.0	08.0-08.3
Caudal peduncle length	22.0-22.6	18.4-20.0
Dorsal fin base	10.4-11.2	08.0-08.3
Adipose fin base	17.2-17.8	13.4-15.0
Pectoral fin length	14.4-15.4	12.5-13.3
Pelvic fin length	09.7-10.6	10.0-10.2
Anal fin length	17.0-18.0	14.0-14.2
Percentages head length		
Head depth (nape)	70.4-71.4	43.5-46.2
Head width (maximum)	88.3-89.4	69.5-76.5
Eye diameter	07.0-09.0	08.0-09.0
Interorbital space	44.2-44.4	27.0-30.2
Gape width	50.4-51.0	43.5-49.4
Internarial	19.1-20.2	17.0-17.6
Caudal peduncle height % its length	50.5-51.2	71.0-73.0

posteriorly. Head short, almost rounded. Mouth terminal with lower jaw longer than upper. Lips with double folds. Teeth in upper jaw as narrow band with posterior extensions on both sides and separated by a very narrow gap, those in lower jaw in a semicircular band, separated in middle. Prominent fold of skin present posterior to opercular flap. Fleshy rim of posterior naris an incomplete tube with posterior notch while that of the anterior naris a complete tube. Eyes small and subcutaneous.

Barbels: Four pairs, compressed throughout their length, nasal when adpressed extends upto dorsal end of head. Maxillary extends upto middle of pectoral fin base. Outer mandibular beyond posterior end of pectoral fin base. Inner mandibular extends upto isthmus.

Fins: Dorsal fin origin vertically through middle length of pectoral fin bearing I, 6 rays, the spine feeble and hidden beneath skin. Adipose fin at vertical level of anal fin origin, its posterior margin round and widely separated from caudal fin. Pectoral fin with I, 7 rays, spine smooth and comparatively stronger. It extends upto vertically through just behind middle length of dorsal fin base. Pelvic fin origin just beyond vertical level of middle of interdorsal distance, bearing I, 5 rays. Anal

fin situated in front of vertical level of adipose fin origin, bearing V, 9 rays. Caudal fin deeply forked, upper lobe longer, two outer most branched rays longest, bearing 6+9 rays. Length of longest ray of lower lobe 75.1-76.0% length of longest ray of upper lobe.

Skin on body and head tuberculated. Lateral line absent.

Vertebrae: 21+19 (40).

Colour: Body grey. Fins plain, tinged grey.

***Amblyceps apangi* Nath & Dey, 1989**

(Image 2^w)

Material examined

4 ex., 15.i.2005, Dikrong River, Doymukh, Arunachal Pradesh, India, coll. Millo Ruja, ; 60.0-77.8mm SL (MUMF 6404); 2 ex., 11.iv.2004, Dikhu River, Moalenden Mokochung, Nagaland, India, coll. Bendangkokpa Jamir, 74.8 & 81.2mm SL (MUMF 6408); 7 ex., 8.ix.2004, Dikrong River, Doymukh, Arunachal Pradesh, India, coll. Millo Ruja, India, 75.8-92.0mm SL (uncatalogued).

Distribution

India: Arunachal Pradesh, Nagaland (Brahmaputra basin). Ng (2005) reported it from West Bengal (Tista drainage).

Diagnosis

Jaws equal, rictal fold large and very well developed; skin smooth; pinnate-like rays absent; adipose fin not confluent with caudal fin but very closely placed appearing to be confluent; caudal fin truncate; head length 21.1-23.0% SL; head depth 43.5-50.5% its length; head width 69.5-76.5% HL; interorbital space 27.0-30.2% HL; gape width 43.5-49.4% HL; caudal peduncle height 71.0-73.0% its length.

Description

Body long gradually getting compressed posteriorly. Head narrow and depressed. Mouth terminal with upper jaw longer than lower. Lips thick. Rictal fold very well developed, its upper and lower lobe continue to basal part part of maxillary barbell on each side. Teeth in upper jaw in broad band with posterior extensions on both sides and separated by a very

Table 2. Comparative characters between *Amblyceps arunachalensis*, *A. apangi* and *A. mangois* (Image 3^w).

Characters	<i>A. arunachalensis</i>	<i>A. mangois</i>	<i>A. apangi</i>
Head length% SL	18.5-19.6	20.0-21.0	21.1-23.0
Head depth (nape)% HL	70.4-71.5	70.0-74.1	43.5-46.2
Eye diameter% HL	07.0-09.0	10.1-13.0	07.5-09.0
Interorbital space% HL	44.2-44.4	48.2-51.0	27.0-30.2
Rictal fold	reduced	reduced	large
Caudal peduncle length% SL	22.0-22.6	17.0-19.5	18.4-20.0
Caudal peduncle height% its length	50.5-51.6	91.4-93.0	71.0-73.0
Body depth% SL	15.0-15.4	17.1-18.3	12.3-13.0
Caudal fin shapes	upper lobe longer	lobes pointed & upper lobe slightly longer	lunate or truncate
Skin nature	tuberculated	smooth	smooth
Fold on lips	double folds	double folds	single fold
Adipose fin confluence with caudal fin	widely separated	widely separated	adipose almost touching caudal
Pinnate like rays	present	present	absent
Vertebrae	21+19	20+16	24+19
Length longest ray lower lobe %	75.1-76.0	94.3-95.0	-

narrow gap, those in lower jaw in a semicircular band, separated in middle. Prominent fold of skin present posterior to opercular flap. Fleishy rim of posterior naris an incomplete tube with posterior notch while that of the anterior naris a complete tube. Eyes small and subcutaneous.

Barbels: Compressed throughout their length. Nasal when adpressed posteriorly reaches to about $\frac{3}{4}$ of head length. Maxillary and outer mandibular reaches beyond posterior base of pectoral fin. Inner mandibular reaches about $\frac{3}{4}$ of head length.

Fins: Dorsal fin with i-ii, 5-6 rays, origin vertically through middle length of pectoral fin. Adipose fin origin at vertical level of posterior base of anal fin; its posterior margin tapering almost touching the principal rays of caudal fin. Pectoral fin with I, 6, i or I, 6 rays. It extends upto vertically through just behind middle length of dorsal fin base. Pelvic fin with I, 5 rays. Anal fin with iii-iv, 7 rays. Caudal fin emarginated, bearing 7+7 rays, second outer branched rays on upper and lower longest.

Lateral line pores at tip of short tube like structure, pores arranged in pairs, each pair separated by a short gap. Specimen from Dikhu R. Nagaland have more distinct lateral line pores, those from Dikrong River Arunachal Pradesh have thick mucous covering and lateral line less conspicuous.

Vertebrae: 24+19 (43).

Colour: Body grey. Fins plain.

DISCUSSION

Ng (2005) could not examine material referable to *A. arunachalensis*. On the basis of his comparison with the illustrations and data (inadequate as stated above) of Nath & Dey (1989, 2000), he considered the fish a junior synonym of *A. mangois*. The present examination of specimens from Arunachal differs from *A. mangois* in smaller eyes, narrower interorbital space, longer and slender caudal peduncle, slender body and more number of post anal and total vertebrae, longer upper lobe of caudal fin (Table 1). Thus *A. arunachalensis* is treated here as valid species.

While describing *A. apangi*, Nath & Dey (1989) distinguished it from *A. mangois* based only on the presence of lateral line, longer maxillary barbells and from *A. arunachalensis* in its subcylindrical body, longer adipose fin and in its truncate caudal fin. Ng (2005) showed its similarity with *A. murraystuartii* Chaudhuri of Irrawady basin in their truncate caudal fin, but separated in having longer head, more vertebrae and colour of body. Detailed examination of *A. apangi* from Dikrong river, Arunachal Pradesh clearly shows its difference from *A. mangois* and *A. arunachalensis* in depressed head and body, larger rictal folds, intermediate caudal peduncle height and smooth skin (Table 2). *A. apangi* is also distinct in its absence of pinnate like rays.

According to Chen & Lundberg (1995), pinnate-like rays are present along anterior margins of several procurrent caudal fin rays immediately anterior to upper and lower outermost branched caudal fin rays. According to Ng & Kottelat (2000) pinnate-like rays are present on median caudal fin rays. We have not observed the same on the median caudal fin rays but these rays are found on anterior margins of several procurrent

rays in *A. mangois* and *A. arunachalensis*. The same character is however lacking totally in *A. apangi*. Ng & Kottelat (2000) and Ng (2001) reported that the character is pronounced in the species of Indian region.

Comparative material

Amblyceps mangois: MUMF 4154 & 4155, 2 exs., 42.5-50.0mm SL, Jiri R., Jiri, Manipur-Assam border. – uncat. 6 exs., 35.6-48.6mm SL, Barak R., Silchar (all Brahmaputra basins).

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