

A New Blind Underground Species of the Genus *Protocobitis* (Cobitidae) from Guangxi, China

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Abstract: A new species of the genus *Protocobitis*, was discovered in an underground water source (110m depth) located about 5km away from the county town of Wuming, Guangxi, China, in May 2006. The new species, *Protocobitis polylepis* sp. nov., is distinguished from the single congener by the following characteristics: 1) light black pigmentation present vs. no pigmentation; 2) entire body covered with scales except for its head and abdomen vs. rudimentary scales present only along the midline of the body; 3) head length 24.1%-24.8% of SL vs. 19.8%-22.1% of SL; 4) body depth 16.2%-16.3% of SL vs. 11.5%-13.0% of SL; 5) Inner rostral barbel length 19.8%-21.0% of head length vs. 9.4%-11.8% of head length; outer rostral barbel length 28.6%-30.2% of head length vs. 15.3%-21.8% of head length; maxillary barbell length 44.6%-46.0% of head length vs. 22.4%-31.8% of head length.

Key words: *Protocobitis*; New species; Guangxi

中国广西原花鳅属穴居盲鱼一新种——多鳞原花鳅

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摘要: 2006年5月从广西武鸣县城5km的地下龙潭中发现了原花鳅属的一个新种。该新种被命名为多鳞原花鳅(*Protocobitis polylepis*), 与该属唯一已知种无眼原花鳅(*Protocobitis typhlops*)的鉴别特征如下: 1) 体背和体侧具淡的色素 vs. 色素完全退化; 2) 除头和腹部外身体其余部分被稀疏鳞片 vs. 稀疏鳞片仅见于体侧中线; 头长为体长 24.1%—24.8% vs. 19.8%—22.1%; 体高为体长 16.2%—16.3% vs. 11.5%—13.0%; 内侧吻须长为头长 19.8%—21.0% vs. 9.4%—11.8%; 外侧吻须长为头长 28.6%—30.2% vs. 15.3%—21.8%; 颌须长为头长 44.6%—46.0% vs. 22.4%—31.8%。

关键词: 原花鳅; 新种; 广西

中图分类号: Q959.4 文献标识码: A 文章编号: 0254-5853-(2008)04-0452-03

The loach *Protocobitis* occurs only in Guangxi, China (Yang, 1994). The genus is characterized by the following characteristics: bony bladder capsule absent, parapophysis of the 4th vertebra forming simple rib-like bone; rib absent, each vertebrae having only short and simple parapophysis; posterior margin of pharyngeal process truncated; first branched ray of pectoral fin in male slightly elongated without any flap-like projection on dorsal side of pectoral fin; dorsal fin origin in advance of pelvic fin origin. Only one species in the genus, *P. typhlops* has been known (Yang, 1994). In May 2006, we

collected two blind loach specimens from an underground water source located about 5 km away from the county town of Wuming, Guangxi. The two specimens were identified as new species of the genus *Protocobitis*.

1 Materials and Method

Counts and measurements follow Chu & Chen (1989) Measurements were made with dial callipers and recorded to the nearest 0.1mm. The examined specimens of *Protocobitis typhlops* belonged to the collections at

Received date:2008-05-19; Accepted date: 2008-06-04

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收稿日期: 2008-05-19; 接受日期: 2008-06-04

the Kunming Institute of Zoology (KIZ), the Chinese Academy of Sciences. Abbreviations used in the this paper are: D, number of dorsal-fin ray; A, number of anal-fin rays; P, number of pectoral-fin rays; V, number of pelvic-fin rays, C, number of branched caudal-fin rays and SL, standard length.

2 Results and Discussion

2.1 *Protocobitis polylepis* sp. nov.

Holotype. KIZ20060001, female, 33.0 mm SL; Guangxi: Wuming Co: from an underground water source near the county town; Zhang Sheng, May 2006.

Paratype. KIZ20060002, male, 1 ex. 26.1 mm SL;

same data as holotype.

Diagnosis. *Protocobitis polylepis* can be distinguished from the known species, *Protocobitis typhlops*, by the following characteristics: light black pigmentation present; body covered by rudimental scales except for head and abdomen; head length 24.1%-24.8% of SL; body depth 16.2%-16.3% of SL; inner rostral barbel length 19.8%-21.0% of head length; outer rostral barbel length 28.6%-30.2% of head length; maxillary barbel length 44.6%-46.0% of head length. Comparisons of characteristics between *P. polylepis* and *P. typhlops* are shown in Tab. 1.

Description. D.2/6-7; A.2/5; P.1/7; V. 1/4. Gill-

Tab. 1 Comparisons of characteristics between *Protocobitis polylepis* and *P. typhlops*

Characteristics	<i>P. polylepis</i> sp. nov.	<i>P. typhlops</i>
No. of specimens	2	6
Body length	26.1-33.0	39.0-54.0
Locality	Wuming Co.	Xiaao town of Duan Co.
Collecting date	May of 2006	Aug. of 1991
Black pigmentation	present	absent
Scales	scaled except for head and abdomen	rudimentary scales present only along midline of body
Head length	24.1%-24.8% of SL	19.8%-22.1% of SL
Body depth	16.2%-16.3% of SL	11.5%-13.0% of SL
Inner rostral barbel length	19.8%-21.0% of head length	9.4%-11.8% of head length
Outer rostral barbel length	28.6%-30.2% of head length	15.3%-21.8% of head length
Maxillary barbel length	44.6%-46.0% of head length	22.4%-31.8% of head length

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Body depth 16.2-16.3 (mean: 16.3) % of SL, head length 24.1%-24.8 (24.5) % of SL, length of caudal peduncle 17.6%-18.1 (17.9) % of SL, depth of caudal peduncle 8.1%-9.6 (8.4) % of SL, pre-dorsal length 56.7%-57.4 (57.1) % of SL. Head depth 65.4%-67.1 (66.3) % of head length, head width 53.9%-56.0 (55.0) % of head length. Depth of caudal peduncle 45.9%-53.2 (49.6) % of length.

Body was small and compressed (Fig. 1). Head length was longer than body depth. Dorsal profile of the body was slightly convex and the ventral profile straight. Dorsal fin origin was nearer to the caudal fin base than to the tip of the snout, and in advance of pelvic fin origin; distal margin of dorsal fin was straight; tip of folded dorsal fin surpassing vertical of pelvic fin tip and nearly reaching to the vertical of anus. Distal margin of pectoral fin was slightly convex. In male, the first and second branched rays of the pectoral fin were slightly elongated. Tip of pectoral fin reached 55.7%-70.3% of distance

between pectoral and pelvic fin origins. No auxiliary lobes at pectoral and pelvic fin bases. Pelvic fin origin was opposite to the base of first branched dorsal fin ray, tip of pelvic fin reached 66.4%-75.6% of distance between pelvic and anal fin origins, but not reaching to the anus. The anus was located immediately at the front of anal fin origin. Anal fin reached 69.1%-89.1% of length of caudal peduncle, distal margin was rounded. Caudal peduncle was elongated and compressed. Caudal adipose keel was underdeveloped. Distal margin of caudal fin was almost straight.

Head was elongated and compressed. Head length was larger than head width. Head depth was larger than head width and equal to body depth. The snout was fleshy and conical. Eyes were absent. Suborbital spin was weak, bifid, its length obviously shorter than the length of maxillary barbel. Nostrils close to each other, nearer to the base of the suborbital spin than to the tip of the snout. Anterior nostril forms a short tube. Mouth situated at ventral side of head. Upper lip is fleshy

without any furrows or papillae. Each side of the lower lip was separated from the other by a longitudinal mental groove at the middle of the lower lip. Each side of the lower lip had a developed and fleshy mental lobe. The posterior margin of each mental lobe had two barbel-like protuberances. There were three pairs of barbels. Inner rostral barbel almost reached to the corner of the mouth, its length was 19.8%-21.0% of the head length, outer

rostral barbel reached beyond the tip of the suborbital spine, its length was 28.6%-30.2% of the head length; maxillary barbell was very long and reached to the operculum, its length was 44.6%-46.0% of the head length. Lateral line was absent. Head was naked. Body was covered entirely in small scales except on the head and abdomen.

Gill rakers were short and blunt and widely arra-

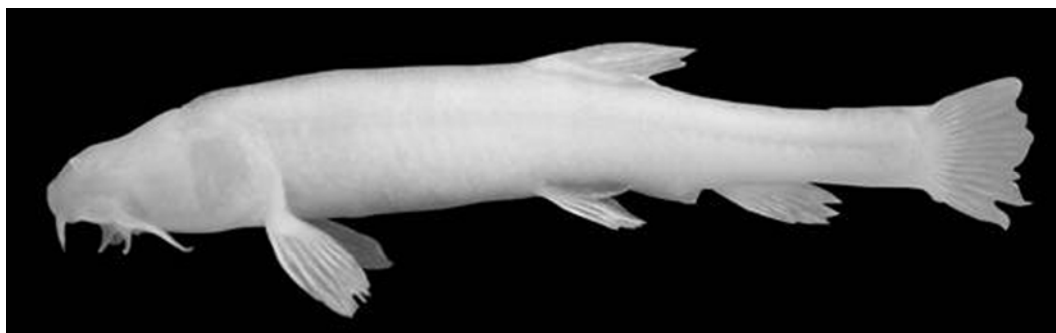


Fig. 1 *Protocobitis polylepis*, 060001, 33.0mm SL; Wuming, Guangxi

nged. Intestine was very simple and straight without loops. Posterior airbladder capsule was absent.

Sexual dimorphism. In the male, the first and second branched ray of the pectoral fin was slightly elongated and slightly more thickened than those in the female.

Colour pattern. Dorsal of head and side of body above lateral line was grayish with light pigment. Other

parts of the body were pale without pigment.

Distribution. *Protocobitis polylepis* has been known only from the locality where it was found, in an underground water source near the county town of Wuming, Guangxi.

Etymology. *polylepis* (Greek) , refers to the body being entirely covered by scales.

Reference:

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