



A new species of *Bibarba* (Teleostei: Cypriniformes: Cobitidae) from Guangxi, China

TIE-JUN WU¹, JIAN YANG^{2,3} & LI-HUI XIU²

¹Guangxi Academy of Fishery Sciences, Nanning 530021, P.R. China

²School of Environment and Life Sciences, Guangxi Teachers Education University, Nanning, 530001, P.R. China

³Corresponding author. E-mail: yj1981yj@163.com

Abstract

A new loach species of the genus *Bibarba* is described from a cave (Hongshuihe River basin) in Guangxi, China. The new species, *Bibarba parvoculus*, can be distinguished from its only congener *Bibarba bibarba* by pigmentation patterns on fins and side of the body, shape of snout, counts of fin rays, eye diameter, caudal-peduncle length, and preanal length.

Key words: *Bibarba*, new species, Cobitinae, China

Introduction

The loach genus *Bibarba* was erected by Chen and Chen (2007), with *Bibarba bibarba* Chen & Chen 2007 as the type species. The genus is currently placed in the family Cobitidae, subfamily Cobitinae. *Bibarba* has been diagnosed as possessing two pairs of barbels, suborbital spine relatively thick and short, bifid, and with a strong medio-lateral process, head without scales, body scales small, lateral line short, not exceeding the length of pectoral fins, caudal fin slightly emarginate, anus near anal fin, caudal peduncle with ventral adipose crest, males smaller than females, and with proportionally longer and thicker pectoral fins, and lamina circularis present in the third pectoral fin ray and not located on the base of fin (Chen and Chen, 2007). *Bibarba bibarba* was recognized as the single species of the genus and distributed in the Chengjiang River, an upstream tributary of the Pearl River drainage in Du'an County, Guangxi, China. In September 2008 one specimen of a cave-dwelling loach was collected in Jicheng village, Tianhe Town, Luocheng County, Guangxi Zhuang Autonomous Region, China. The specimen has two pairs of barbels and a bifid suborbital spine and was recognized as a species of *Bibarba*. Additional 4 specimens of the same species were later collected in the same cave in November 2010. Careful examination of the five specimens revealed they represent of an undescribed species.

Material and methods

Methods for sampling meristic and morphometric characters follow those provided in Chu and Chen (1989) and Chen and Chen (2007), respectively. Counts and measurements were made on the left side of specimens when possible. Measurements were made with digital calipers; data were recorded to nearest 0.1 mm. Subunits of the head are presented as proportions of head length (HL). Head length and other measurements of body parts are presented as proportions of standard length (SL). Specimens are preserved in the collection of Guangxi Academy of Fishery Sciences (GAFS) and the collection of Guangxi Teachers Education University (GTEU). Data for *Bibarba bibarba* is from Chen & Chen (2007). The synchrotron radiation X-ray microtomography (SR- μ CT) was performed at BL13W1 beamline of Shanghai Synchrotron Radiation Facility (SSRF). The suborbital spine was attached on the micropipette tip that was vertically mounted on the sample stage, and imaged by monochromatic synchrotron X-ray at the energy of 18.0 keV. The X-rays penetrating through the specimen were recorded as two-



FIGURE 6. The pool where *Bibarba parvoculus* was collected from the cave in Jicheng village, Tianhe Town, Luocheng County, Guangxi, China. Photography by Jiahu Lan.

Acknowledgments

We are grateful to Dr. Maurice Kottelat, National University of Singapore, for the etymology suggestions. We thank Dr. You He, Shanghai Institute of Applied Physics, Chinese Academy of Sciences, for providing 3D rendering of suborbital spine. This work was funded by the National Natural Science Foundation of China (NSFC 31460556 and 31471961), Scientific Research Fund of Guangxi Provincial Education Department (2013YB139), and Guangxi Natural Science Foundation (2012GXNSFBA053035).

References

- Chen, Y.X. & Chen, Y.F. (2007) *Bibarba bibarba*: a new genus and species of Cobitinae (Pisces: Cypriniformes: Cobitidae) from Guangxi Province (China). *Zoologischer Anzeiger*, 246, 103–113.
<http://dx.doi.org/10.1016/j.jcz.2007.02.002>
- Chu, X.L. & Chen, Y.R. (1989) *The Fishes of Yunnan, China. Part I: Cyprinidae*. Science Press, Beijing, 377 pp. [in Chinese]