



A new species of genus *Hoplobatrachus* (Anura, Dicroglossidae) from the coastal belt of Bangladesh

MAHMUDUL HASAN¹, MITSURU KURAMOTO², MOHAMMED MAFIZUL ISLAM¹,
MOHAMMAD SHAFIQU ALAM¹, MD. MUKHLESUR RAHMAN KHAN³ & MASAYUKI SUMIDA^{1,4}

¹Institute for Amphibian Biology, Graduate School of Science, Hiroshima University, 1-3-1 Kagamiyama, Higashihiroshima 739-8526, Japan. E-mail: mhasan_fish@yahoo.com

²3-6-15 Hikarigaoka, Mumakata, Fukuoka 811-3403, Japan

³Department of Fisheries Biology and Genetics, Faculty of Fisheries, Bangladesh Agricultural University, Mymensingh 2202, Bangladesh

⁴Corresponding author. E-mail: msumida@hiroshima-u.ac.jp

Abstract

A new cryptic species of the genus *Hoplobatrachus* from Cox's Bazar district of Bangladesh is described and compared with its relevant congeners both in morphology and mitochondrial gene sequences. The new species differs from its close relative *H. tigrinus* in having a distinct broad black band from the eye, through the nostrils, to the anterior edge of the upper jaw, another black band along the lateral margin of the upper jaw, and a narrow inter-orbital distance relative to eyelid width and inter-nostril distance. Advertisement calls of the new species are similar to those of *H. tigrinus* but differ in dominant frequency and number of pulses. Based on mitochondrial DNA sequence data, this species was proved to genetically divergent from *H. tigrinus* at 3.2% for the 16S rRNA gene and 14.2% for the *Cytb* gene. The known distribution range of the new species is restricted to the southeastern corner of Bangladesh and it seems to be endemic in this coastal belt.

Key words: *Hoplobatrachus litoralis* sp. nov., Dicroglossidae, Morphology, Advertisement call, Mitochondrial DNA, Bangladesh

Introduction

The genus *Hoplobatrachus* comprises large robust frogs with numerous ridges or warts on the back and extensive webbing between toes. Individuals are semi-aquatic and live mostly near water edge of ponds, marshes, rivers, and flooded rice paddies. The following four species are currently recognized (Frost 2011): *H. crassus* in south to east India, Sri Lanka, Nepal, and Bangladesh; *H. occipitalis* in western and central Africa; *H. rugulosus* (= *H. chinensis*, used by some authors [eg., Kosuch *et al.* 2001] as its nomenclature status is unclarified) in Myanmar, southern China, Taiwan, Thailand, and peninsular Malaysia; and *H. tigrinus* in east Afghanistan, north Pakistan, India, Sri Lanka, Nepal, Bangladesh, and Myanmar. All of these species were described during the early to middle 19th century, and no new species has been reported far more than a century thereafter.

In our previous study (Hasan *et al.* 2012), we revealed the existence of two genetically different forms of *H. tigrinus* in Bangladesh. Divergence in mitochondrial 16S rRNA gene sequences was 6.0% between specimens from Mymensingh and Cox's Bazar districts. One of the forms is widely distributed throughout Bangladesh, whereas the other occurs only in the southeastern corner of Bangladesh. The type locality of *H. tigrinus* is "Bengale" (Bengal), India (Frost 2011). The distribution and molecular comparison clearly indicate that the wide-ranging form corresponds to the nomen *H. tigrinus*. Therefore, the other form is described as a new species. Morphological comparisons of the new species were performed with *H. tigrinus* and *H. rugulosus*, and new molecular data are presented.