



Short Communication

First record of the Nepal cricket frog, *Fejervarya nepalensis* (Dubois, 1975) from Meghalaya, North East India

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Abstract

Five species i.e. *Fejervarya nepalensis*, *F. pierrei*, *F. sengupti*, *F. syhadrensis* and *F. teraiensis* are present in North East India. The species *F. nepalensis* is reported for the first time from Meghalaya.

Keywords: First record, Meghalaya, Nepal Cricket Frog, North East India

Introduction

Anuran frogs of the genus *Fejervarya* Bolckay, 1915 are, perhaps, the most widely distributed Asian amphibians in the world. Presently, the genus *Fejervarya* includes around 45 species worldwide, of which 29 species are found to occur in India, mostly in the Western Ghats (Frost, 2017). Of these 29 species, only 5 species are known to occur in North-East India. They are *F. nepalensis* (Dubois, 1975), *F. pierrei* (Dubois, 1975), *F. syhadrensis* (Annandale, 1919), *F. teraiensis* (Dubois, 1984) and *F. sengupti* Purkayastha & Matsui, 2012 [Ao *et al.*, 2003; Borthakur *et al.*, 2007; Ningombam and Bordoloi, 2007; Ahmed *et al.*, 2009; Mathew and Sen, 2010; Purkayastha and Matsui, 2012]. So far, only 4 species of *Fejervarya* viz. *F. syhadrensis* (Annandale, 1919), *F. teraiensis* (Dubois, 1984), *F. pierrei* (Dubois, 1975) and *F. sengupti* Purkayastha & Matsui, 2012, have been reported to occur in Meghalaya.

Recently, during joint field surveys to the Sacred Groves of East Khasi Hills District, Meghalaya, undertaken by one of the authors (IJK) along with staff of the Forest Resources Division, Forest Department, Government of Meghalaya; several specimens of *Fejervarya*, among other anurans species, were collected. Taxonomic studies on this collection revealed some of these frogs to be *Fejervarya nepalensis* (Dubois, 1975). The species has never been recorded from Meghalaya, though it has been

hypothesised to occur in areas in between its reported range of distribution. So this present paper, besides proving this hypothesis also forms the first record of the species from the State.

Material and Methods

Altogether 12 specimens of *F. nepalensis* were collected from 2 different localities during 2 field surveys to Sacred Groves and/or Community Protected Forests of East Khasi Hills District of Meghalaya. The specimens were collected during the day from grassy areas near small streams flowing in the vicinity of these study sites. The specimens are preserved in 5% formalin solution and registered/deposited in the Zoological Survey of India, North Eastern Regional Centre, Shillong.

Abbreviations Used

V/A/NERC	:	Vertebrate/Amphibia/North Eastern Regional Centre
ASL	:	Above Sea Level
SVL	:	Snout Vent Length

Systematic Position

Phylum	:	CHORDATA
Class	:	AMPHIBIA

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Order : ANURA
Family : DICROGLOSSIDAE

Fejervarya nepalensis (Dubois, 1975)

Materials examined: 3 ex. Regn. No. V/A/NERC- 1220, Meghalaya, East Khasi Hills, Sohra Khliehshnong, Umiong 'Law Adong, 25°17'05.6"N; 91°41'43.6"E; alt. 1312 m ASL, 04.xi.2014, ZSI & Meghalaya Forest Department survey party; 9 exs. Regn. No. V/A/NERC-1221, Meghalaya, East Khasi Hills, Lyniong village, Lyniong Sacred Grove, 25°25'91.4"N; 91°42'62.0"E; alt. 1674.56 m ASL, 20.x.2014, ZSI & Meghalaya Forest Department survey party.

Diagnostic characters: Small-sized frogs (SVL: 35.12-38.73). The body is somewhat oblong oval, and the dorsum is covered with oblong tubercles forming four longitudinal folds and several other short tubercles on the body and tibia (Figure 1); a distinct but narrow mid-dorsal line always present, with or without red patches. Head is dorsally pointed and laterally rounded, with the snout jutting over the lower jaw; nostrils closer to the snout tip; tympanum small, round, inconspicuous and spotted; relative finger length $2 < 1 < 4 < 3$, the 1st finger scarcely longer than the 2nd; subarticular tubercles globular; inner metatarsal tubercle oval and flat; outer metatarsal tubercle small and oval; tibio-tarsal articulation reaches between eye and nostril. Ventrums smooth (Figure 2).



Figure 1. *Fejervarya nepalensis*, Dorsal View.



Figure 2. *Fejervarya nepalensis*, Ventral View.

Distribution: India: Arunachal Pradesh, Assam, Nagaland, Manipur, Meghalaya and Sikkim in North-East India, and Haryana and Uttarakhand in the rest of India. *Elsewhere:* Bangladesh, Bhutan and Nepal.

Remarks: Recorded here for the first time from Meghalaya in North-East India. The specimens were collected from pristine environments of the Sacred Groves of the State located at high altitudes (1312 – 1675 m ASL) way above the elevation (below 500 ASL) they are generally known to occur (Bordoloi & Shrestha, 2009).

Discussion

North East India, of which Meghalaya is a part, is one of the mega biodiversity hotspots of the world. It is home to a rich and diverse fauna and flora, including endemic species of plants and animals. It is expected to house a rich amphibian diversity too, but in comparison to the Western Ghats – another mega biodiversity hotspot— the number of amphibian species known or described from this Region is far too less. This trend is seen in the documented records on the *Fejervarya* species too, wherein only 5 out of 29 species known from India are recorded from this Region. However, this does not mean that the amphibian

or *Fejervarya* diversity in this region is poor, but rather it indicates that the region is still largely unexplored and that there is a lot of scope for future works to be carried out in the entire region to bring out the true picture; especially in the light of the latest information garnered from molecular and morphological studies, restricting the distribution of *Fejervarya limnocharis* to Indonesia, Malaysia, Thailand, Laos and Cambodia, which means that the populations from India, Bangladesh, Japan and other places associated with this name may probably represent unnamed species of *Fejervarya* (Toda *et. al.*, 1998; Dubois & Ohler, 2000; Veith *et. al.*, 2001; Biju, 2001; Djong *et. al.*, 2007; Matsui *et. al.*, 2007; Frost, 2017). In this scenario, there is the likelihood that re-examination of the *F. limnocharis* reported earlier from North-East India, in general, and Meghalaya, in particular, may yield yet un-described species of the genus or result into them being identified as any of the known species from the Region.

But the task at hand is immense, so until such time, it is reiterated that the *Fejervarya* species available in Meghalaya include *F. pierrei* (Dubois, 1975), *F. syhadrensis* (Annandale, 1919), *F. teraiensis* (Dubois, 1984), *F. sengupti* Purkayastha & Matsui, 2012 and with this present report, also, *F. nepalensis* (Dubois, 1975). In other words, all the 5 species of *Fejervarya* currently known from North-East India are found in Meghalaya.

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