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## **NEW RECORD OF MINERVARYA NILAGIRICA (JERDON, 1853), FROM IDUKKI DISTRICT, KERALA STATE, INDIA**

### ***Selvaraj selvamurugan***

*Translational Health Science and Technology Institute Building (THSTI), Faridabad-121001*

*Corresponding author E mail: selva199420@yahoo.in*

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#### **ABSTRACT**

Here, report on the *Minervarya nilagirica* (Jerdon, 1853), among the study period of May 2021, from Idukki district, Kerala state. In this record identified by based on the photographs. This is the first record of species from the Western Ghats, from Kerala state, India. In this paper deals with distribution and discussions, about the *minervarya nilagirica* species.

**Keywords:** *Endangered, Minervarya genus, Idukki.Frog.Kerala*

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### **1. INTRODUCTION**

The Asian frogs variably assigned to the genera *Fejervarya* Bolkay, 1915, *Minervarya* Dubois, Ohler & Biju, 2001, and *Zakerana* Howlader, 2011, popularly referred to as Rice Frogs (e.g., Sumida et al. 2007), Cricket Frogs (e.g., Suwannapoom et al. 2016), or *fejervaryan* frogs, represent a major unsolved phylogenetic and taxonomic conundrum. Currently, *Minervarya* and *Zakerana* are considered junior synonyms of *Fejervarya* (Dinesh et al. 2015, Frost 2017). *Minervarya* is a genus of frogs in the family *Dicroglossidae*. Species of this genus have been found from eastern India, including the Andaman Islands to northern Thailand.

Globally, there are about 7,356 known amphibian species belonging to three living orders (Frost 2015). From January 2004 until March 2015 the world has witnessed the discovery and description of 1,786 species of amphibians (Amphibia Web 2015). At the same time, 36 species of amphibians are extinct and over 1,957 species are threatened (Monastersky 2014). The golden era of amphibian systematic in India was during the British Raj from the 1850s to 1925 (Biju 2001), followed by the period from 2000 to 2015 (Amphibia Web 2015), when vast number of amphibians were described from our country. Of the 384 species found in India (Dinesh et.al. 2015).

The *Minervarya* genus from the State of Kerala in southern Western Ghats, which are formally described on the basis of integrative evidence. In addition, we provide remarks on the taxonomic status of certain poorly known taxa. New insights from this study aim to facilitate a better working taxonomy for this rather large and taxonomically challenging genus, as well as guide future research on ecology, biogeography, evolution, and conservation of its members.

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### **2. STUDY AREA**

Vandi periyar (Coordinates: 9°34'12"N 77°5'26"E) is a Village in Azhutha Block in Idukki District of Kerala State, India (Figure 1). It belongs to Central Kerala Division. It is known for tourism, tea and coffee plantations, black pepper and other spice products. A number of tea factories are situated in the town.



Figure 1.A map showing study area vandi periyar, Idukki district, kerala state,India.



**Figure 2. *Minervarya nilagirica* (Jerdon, 185) species.****Table 1. Scientific classification**

Kingdom	Animalia
Phylum	Chordata
Class	Amphibia
Order	Anura
Family	Dicroglossidae
Subfamily	Dicroglossinae
Genus	<i>Minervarya</i>
Species	<i>Minervarya nilagirica</i> (Jerdon, 1853)

### 3. DESCRIPTION

Small-sized frog. Snout blunt. Tympanum distinct, more than half diameter of eye. Eyes large. Strong supra-tympanic fold from eye to shoulder. Numerous ridges on the back. Large inner metatarsal tubercles present. Colour-Dorsum brown with brick red markings. Lips and limbs are cross-banded. Habit, Semi-aquatic. *Minervarya* is a genus of frogs in the family Dicroglossidae from south Asia (Sri Lanka, the Indian subcontinent including Pakistan, Nepal, and Bangladesh), and Nepal and Bhutan. They are sometimes known as the Cricket frogs or Rice frogs.

### 4. DISCUSSIONS

The genus *Minervarya* is among the most widely distributed, commonly occurring, and taxonomically Herpetological confusing groups of dicroglossid frogs in India. Recent studies have provided evidence that this genus contains complexes of morphologically conserved but genetically divergent taxa—some widely distributed across South and Southeast Asia, and many particularly restricted to the Western Ghats region of the Indian Peninsula—posing several challenges in resolving long-standing taxonomic confusions.

The recognised thirty-five species of the genus are predominantly distributed in South Asia (India including the Andaman and Nicobar Archipelago, Sri Lanka, Pakistan, Nepal, Bhutan, and Bangladesh), with only two members found in the Southeast Asian countries of Myanmar and Thailand, and neighbouring regions of southern China (Frost, 2021; Khatiwada et al., 2021). Most of these (31 species) are known to occur in India, with the highest diversity (23 species) and endemism (21 species) in the Western Ghats Biodiversity Hotspot, which encompasses the southwest coast of the Indian Peninsula (Dinesh et al., 2015; Frost, 2021; Garg and Biju, 2017). However, several species of the region, such as *Minervarya brevipalmata*, *M. modesta*, *M. murthii*, *M. mysorensis*, *M. nilagirica*, *M. parambukulamana*, and *M. sauriceps*, are known only from their original descriptions or type specimens, in the absence of any new collections or reliable reports ever since their descriptions (Garg and Biju, 2017).

This taxon was originally described as *Rana nilagirica* based on specimens from “marshes in the Wynaad and Neelgherries”, with a brief description (Jerdon, 1853). However, the original name-bearing type of this nominal species was subsequently reported to be lost (Jerdon, 1870). However, despite its largely undoubted status as a distinct species as well as availability of a name-bearing type, *Minervarya nilagirica* is known only from the region of its original type locality. Our extensive collections of minervaryan frogs from the Western Ghats results in the following major findings: (1) significant extension of the geographical range of *Minervarya nilagirica* based on morphologically and genetically identified records from the Anaimalai hills (south of Palghat gap) to the hill ranges of Nilgiris, Siruvani, Wayanad, Coorg, and Chikmagalur, including Kemptholey ghat, Shiradi ghat, and Kudremukh regions (north of Palghat gap), altogether encompassing the states of Tamil Nadu, Kerala, and Karnataka. Here, find the *Minervarya nilagirica* species recorded from vandiperiyar village, Idukki district, Kerala state in India (Figure 2). Parmar and Trivedi (2018) and Khandla et al. (2019) recorded the Nilgiri frog, *Minervarya nilagirica* from the environs of two cities in Gujarat State, Rajkot and Jamnagar. However, this species is distributed only in the high hilly forests of the southern Western Ghats. According to Frost (2020), it is found at 800–1600 m elevation and within the forest of Wynaad (Kerala) and the Nilgiri Hills (Tamil Nadu).

### 5. CONCLUSION

Here, for the first time, we report specimens for the species of *Minervarya nilagirica* in this region Identified, based on detailed photos. 154 were described between 2000 and March 2015, among which 111 are from the Western Ghats. At the current pace, with new technologies, tools, and more taxonomists working on amphibians in the country, it is likely that several new species will get described in the near future.

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