A distributional record of Sacred Grove Bush Frog from Chota Nagpur Plateau, Jharkhand

Amphibians play a vital role in maintaining ecological balance as they are closely associated with terrestrial and aquatic ecosystems. Further, the amphibians are considered as a climatic indicator species globally and their depletion can drastically alter the populations of other organisms. A total of 8,700 species of amphibians are known from around the world (Frost 2024) of which 454 species are reported from India (Dinesh et al. 2024).

The states of Jharkhand and Bihar have highlighted in few sporadic expeditions and have documented a total of 14 species of anurans belonging to eight genera and one family (Annandale & Rao 1918; Venkateswarlu & Murthy 1972; Inger & Dutta 1986; Sarkar 1991). Thus, I believe the state of Jharkhand is considerably underrepresented when it comes to anuran studies. Having said this, herein, I present the first distributional record of an endemic, rare and 'Critically Endangered' frog *Raorchestes sanctisilvaticus* (Das & Chanda, 1997) from the Dalma Wildlife Sanctuary (DWS) in Jharkhand.

Raorchestes sanctisilvaticus: A & C—Dorsal view | B & D—Ventral view of the specimen. © Rahul Kumar.

The tropical regions of Asia and Africa are home to over 300 species belonging to family Rhacophoridae (Biju et al. 2010). Sacred Grove Bush Frog *Raorchestes sanctisilvaticus* (Das & Chanda, 1997) was originally described as *Philautus sanctisilvaticus* but later, the nomenclatural name was changed to *Raorchestes sanctisilvaticus* (Mirza et al. 2019). *R. sanctisilvaticus* originally described from the Kapildhara Falls, Amarkantak of Jabalpur District, Madhya Pradesh in central India based on three specimens by Chanda (1997). *R sanctisilvaticus* is distributed across the northern part of Eastern Ghats and Deccan Peninsula from Orissa (Frost 2024) and south-east of Madhya Pradesh (Das & Chanda 1997; Venkataraman et al. 2013). Moreover, the distribution status indicated

Forest and the macrohabitats where observations were made during the study in the Dalma Wildlife Sanctuary, Jharkhand. © Rahul Kumar.

by Mirza et al. (2019) that the species is quite common and abundant throughout the Deccan Peninsula and northern Eastern Ghats and the conservation status of *R sanctisilvaticus* listed as 'Critically Endangered' under IUCN Red List category (Das et al. 2004).

The current study was conducted in the DWS, which is located in Jamshedpur District of Jharkhand that possess thick forest and mountain ranges. The Dalma Wildlife Sanctuary which lies between 22.775–22.950 N and 86.054–86.442 E, covers over an area of 193.5 km^2. The forest of DWS comes under the category of dry peninsular sal forest and shows properties of northern dry mixed deciduous forest (Champion & Seth 1968). It has an average elevation of 914 m.

The sanctuary shares borders with Purulia District of West Bengal. The present study also adopted visual encounter survey (VES) method followed by Veith et al. (2004) to detect the herpetofaunal diversity in all micro habitats within the study area and the time frame followed after sunset (1800–2100 h), at night (2200 h), and before dusk (1600–1700 h) and sometimes in the morning hours. Species were recorded with parameters such as humidity, temperature, and elevation.

While investigating the herpetofauna of the DWS with survey party of Gangetic Plain Regional Centre, Patna of Zoological Survey of India, I came across an unusual dark-coloured small frog under loose soil and near the bushes of Pinderabera Forest rest house (22.8947 N & 86.1971 E; 687.1 m) on 22 June 2017.

The frog was photographed and the species identification was done with the help of literature. Further, morphometry taken for the species comparison as follows snout-vent length (SVL) was taken to the nearest 0.1mm using a digital caliper: SVL 19 mm. On-site humidity was measured at 87%. The species was confirmed based on the morphological characters and keys and also with assistance of expertise. *R. sanctisilvaticus* has a wider short head than long, robust body small sized in the rhacophorid and with a narrow waist, roof of the head is flattened, large eyes with a distinct supra tympanic fold that extends through the posterior corner of the eye and passing over the tympanum to the rictus near the forelimb attachment and the tympanum is small and concealed (Venkataraman et al. 2013). The dorsum is dark brownish without any pattern but forehead is slightly darker than the rest of the body, throat and abdominal region is light brown and grey and underside of thighs is covered with large and flattened tubercles.

The tips of fingers dilated into large, rounded and flattened disks with circum-marginal grooves, webbing on the fourth toe up to basal subarticular tubercles on the inner side and to the distal subarticular tubercle on the outer side (Das & Chanda 1997; Venkataraman et al. 2013). While VES survey along with *Raorchestes sanctisilvaticus* the other species like the Marbled Toad *Duttaphrynus stomaticus*, Common Asian Toad *Duttaphrynus melanostictus*, Skittering Frog *Euphlyctis cyanophlyctis*, Indian Bullfrog *Hoplobatrachus tigerinus*, Asian Cricket Frog *Fejervarya limnocharis*, Assam Tree Frog *Chirixalus simus*, Pierre's Wart Frog *Minervarya pierrei*, Jerdons Bullfrog *Hoplobatrachus crassus*, Ornate Narrow-mouthed Frog *Microhyla ornata*, Indian Burrowing Frog *Spaherotheca breviceps* and Common Indian Treefrog *Polypedates maculatus* were frequently observed.

The major threats of *Raorchestes sanctisilvaticus* are habitat destruction and fragmentation. Having said this, *R. sanctisilvaticus* is consider to be significantly rare, and Critically Endangered. Therefore, the species requires more conservation attention from governmental policymakers and other non-governmental conservation agencies to protect such species more effectively. Further, macro and micro habitat destruction, deforestation, pollution and unregulated tourism are all threatening the wildlife sanctuary (Verma 2011).

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