



A new species of *Raorchestes* (Amphibia: Anura: Rhacophoridae) from mid-elevation evergreen forests of the southern Western Ghats, India

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Abstract

A new species of the shrub frog genus *Raorchestes* Biju, Souche, Dubois, Dutta and Bossuyt is described as *Raorchestes kakachi* sp. nov. from Agastyamalai hill region in the southern Western Ghats, India. The small sized *Raorchestes* (male: 24.7–25.8 mm, n = 3 and female: 24.3–34.1 mm, n = 3) is distinguished from all other known congeners by the following suite of characters. Snout oval in dorsal view; tympanum indistinct; head wider than long; moderate webbing in feet; colour on dorsum varying from ivory to brown, blotches of dark brown on flanks, brown mottling on throat reducing towards vent; inner and outer surface of thigh, inner surface of shank and inner surface of tarsus with a distinct dark brown horizontal band which extends upto first three toes on upper surface. A detailed description, advertisement call features, ecology, natural history notes and comparison with closely related species are provided for the new species.

Key words: Shrub frogs, Agastyamalai, Taxonomy, Acoustics, Western Ghats

Introduction

The Western Ghats of India harbors a high diversity of amphibians, particularly shrub frogs of the genus *Raorchestes* (Biju *et al.* 2010). Molecular phylogenetic work by Biju *et al.* (2010) on the genus *Philautus* resulted in its segregation into *Philautus* Gistel, *Pseudophilautus* Laurent and *Raorchestes*. The genus *Raorchestes* comprises of relatively small frogs (15–45 mm), active at night, vomerine teeth absent, transparent/translucent vocal sac while calling and direct development without free swimming tadpoles (Biju *et al.* 2010; Li *et al.* 2011). Here, we report a new species of *Raorchestes* from Kakachi Tea Estate in the mid-elevation evergreen forests of Kalakad Mundanthurai Tiger Reserve (KMTR) from the Agastyamalai hill range, southern Western Ghats, India, making the total species in *Raorchestes* in Western Ghats to 40.

Material and methods

Study area. The study was carried out in the Kakachi tea estate and the adjacent forests of Kalakad Mundanthurai Tiger Reserve (KMTR). The reserve covers an area of 895 km² and is located between 8.416667° N to 8.883333° N latitude and 77.166667° E to 77.583333° E longitude with the altitude ranging from 40 m to 1,800 m amsl. It experiences two monsoons, the southwest (June–September) and the northeast (October–January) receiving a mean annual rainfall of about 3,000 mm (Ganesh *et al.* 1996). Kalakad Mundanthurai Tiger Reserve comprises of a matrix of habitats ranging from thorny scrub forest in the foothills to the wet evergreen forests in higher elevations and has a high diversity and endemism of flora and fauna (Johnsingh 2001). The species described herein was col-