



## 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 km<sup>2</sup> 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-