(227)

Range Extension and Vocalisation of Endangered Shrub Frog, *Pseudophilautus zorro* (Amphibia: Rachophoridae) in Sri Lanka

Bandara C.[2], Herath B.[3], Karunarathna N.[4], De Silva S.[1], Adhikari H.[1], Wijayathilaka N.[1*]

[1]Department of Zoology, Faculty of Applied Sciences, University of Sri Jayewardenepura, Nugegoda, Sri Lanka
[2]Faculty of Science and Technology, Uva Wellassa University, Badulla, Sri Lanka
[3]Department of Ecology, Environment and Evolution, La Trobe University, Melbourne, Victoria, Australia
[4]Department of Veterinary Public Health and Pharmacology, Faculty of Veterinary Medicine and Animal Science, University of Peradeniya, Peradeniya, Sri Lanka

Abstract

Gannoruwa shrub frog, *Pseudophilautus zorro*, is an endemic species known only from four locations in and around Kandy, Gannoruwa forest, home gardens in Triverton estate, Hanthana and Udawaththakele forest reserves. Despite their cryptic nature calling males are conspicuous once identified their vocalisation. Hence, we describe their vocalisation and acoustic characters. We recorded *P. zorro* from Hanthana (80.6141° E, 7.2497° N; 700 m a.s.l.) and measured six common call characters of 92 calls from four males. We identified four call types based on wave form structure and spectrogram. Type 1 calls were the most frequently emitted call type (93% of 518 calls recorded) having the average call duration 5.1±1.2 mili-seconds. Vocalising frequency of the species ranged between 3,100 Hz and 3,600 Hz. During our field excursions in 2014-2017, we heard similar vocalisation in two sites well away from its known range, Katugasthota (80.6199° E, 7.3302° N; 470 m a.s.l) and Ovilikanda (80.5926° E, 7.4538° E; 470 m a.s.l). We confirm the identity as *P. zorro* using the morphological characters. Again, on 18th September, 2014 we sighted the species during an excursion to Kukulamalpotha (80.7819° E, 7.5527° N; 460 m a.s.l) in Knuckles reserve. Since the site was very far from the known range of *P. zorro*, we obtained toe tips from two individuals and confirm their identity genetically by having 0% uncorrected pairwise genetic distance for 16S gene fragment (~510 bp). With three new found locations their Extent of Occurrence and Area of Occupancy has been increased by 14 times (from 20 km^2 to 291 km^2) and by 2 times (from 16 km^2 to 28 km^2) respectively. New found populations considerably expanded the species-range and the knowledge of their vocalisation can further use to explore new populations. This study confirms that *P. zorro* is not restricted as previously thought.

Keywords: New population, Bioacoustics, Shrub frogs, Extent of occurrence