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A new *Stumpffia* (Amphibia: Anura: Microhylidae) from the Ranomafana region, south-eastern Madagascar

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Abstract

We describe a new species of small-sized frogs from degraded rainforest patches in the southern central east of Madagascar. *Stumpffia miery* **sp. nov.** has a snout-vent length of 13–15 mm and can be distinguished from all other nominal species of *Stumpffia* by its body size and absence of toe reduction combined with length reduction of fingers I, II and IV in external view. The advertisement call is a single tonal chirping note that ranges in duration between 51–88 ms and is emitted after relatively regular inter-note intervals (duration of 2679–4247 ms, call repetition rate 0.3/sec, frequency range 7700–8300 Hz, dominant frequency 7751–8225 Hz). Its type locality is the Ambolo forest fragment close to Ranomafana village in southeastern Madagascar. Molecular data from DNA sequences of one mitochondrial and one nuclear gene indicate a high divergence from all nominal species of *Stumpffia*, suggesting that it represents a strongly differentiated independent evolutionary unit. *Stumpffia miery* **sp. nov.** is apparently able to tolerate some degree of habitat degradation and therefore is probably not threatened with extinction.

Key words: Amphibia, Anura, Microhylidae, *Stumpffia miery* **sp. nov.**, 16S rRNA, RAG1

Introduction

Madagascar is renowned for the high degree of endemicity of its biota. In most major taxonomic groups, the wide majority or even all native species are endemic to the island (Goodman & Benstead 2003; Vences *et al.* 2009). Amphibians in Madagascar are represented by frogs only (salamanders and caecilians are absent) but their species richness is very high. The five independent clades of Malagasy frogs contain roughly 285 described species (Glaw & Vences 2007; AmphibiaWeb 2012), and in addition a large number of candidate species that require taxonomic revision and formal description (Vieites *et al.* 2009).

Species diversity is unevenly distributed among Madagascar's biomes, with highest values for most clades found in the tropical rainforests of the east and north of the island (Lees *et al.* 1999; Colwell & Lees 2000). Although several groups of frogs have their centres of species richness and local endemism in either the northern or southern extremes of this rainforest band (Wollenberg *et al.* 2008; Kaffenberger *et al.* 2012), the ranges of many species overlap in the central portions of the eastern rainforest (Lees *et al.* 1999; Andreone *et al.* 2005a).

The Ranomafana National Park (RNP), located in the southern central East of the island (Andreone 1994), is one of the largest protected areas in Madagascar and corresponds to one of the highly diverse regions. Even on a global level the Ranomafana region is exceptionally diverse for amphibians, with almost 120 species and candidate species known for the area (Glaw & Vences 2007; Vieites *et al.* 2009; own unpubl. data). The region primarily consists of low- and mid-elevation rainforest, mainly concentrated in RNP and in forest fragments around the national park (Andreone 1994). The largest number of frog species belongs to the endemic Malagasy-Comoran family Mantellidae (90 species and candidate species), followed by the Microhylidae (19), Hyperoliidae (2) and

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