



Pretty in pink: A new treefrog species of the genus *Boophis* from North-Eastern Madagascar

K. C. WOLLENBERG¹, F. ANDREONE², F. GLAW³ & M. VENCES^{1,4}

¹Division of Evolutionary Biology, Zoological Institute, Technical University of Braunschweig, Spielmannstr. 8, 38106 Braunschweig, Germany. E-mail: kc.wollenberg@tu-bs.de

²Museo Regionale di Scienze Naturali, Via G. Giolitti 36, 10123 Torino, Italy. E-mail: franco.andreone@regione.piemonte.it

³Zoologische Staatssammlung München, Münchhausenstr. 21, 81247 München, Germany. E-mail: frank.glaw@zsm.mwn.de

⁴Corresponding author. E-mail: m.vences@tu-bs.de

Abstract

Treefrogs of the genus *Boophis* comprise the most species-rich genus among all Malagasy frogs. In this paper we describe a new species to be added to this genus from Masoala Peninsula and nearby areas. Related populations have been found in three localities of North-Eastern Madagascar (Tsararano, Marojejy, and Anjanaharibe-Sud), and molecular data indicate that at least the Marojejy population is strongly differentiated. The new species has an attractive pink or reddish colour pattern on a green ground colour. It bears a strong similarity to *Boophis bottae* and *B. rappiodes* in morphological appearance, but is genetically very distinct from these and other members of the *Boophis rappiodes* group. *Boophis ulftunni* sp. n. belongs into a separate evolutionary lineage probably related to the *Boophis microtypanum* group, a lineage of highland species from Central Eastern Madagascar which otherwise have very different phenotypes and advertisement calls. We here include *B. ulftunni* in a new phenetic species group, the *Boophis ulftunni* group.

Key words: Amphibia, Anura, Mantellidae, *Boophis ulftunni* sp. n., *B. microtypanum* group, *B. rappiodes* group, *B. ulftunni* group, systematics, Madagascar, phylogeny

Introduction

The genus *Boophis* Tschudi contains a species-rich radiation of Malagasy treefrogs (Blommers-Schlösser and Blanc 1991; Vences *et al.* 2002; Cadle 2003). Taking into account the latest species descriptions, over 50 species are known from Madagascar, and one still undescribed species occurs on the Comoro island of Mayotte (Glaw and Vences 2006; Köhler *et al.* in press). The genus is currently divided in two subgenera, and the nominal subgenus *Boophis* is further divided into eight species groups, several of which probably do not constitute monophyletic units (Glaw and Vences 2006; Glaw *et al.* 2006). Since the works of Blommers-Schlösser (1979), systematic studies have increasingly revealed that *Boophis* contains high numbers of morphologically similar cryptic species (e.g., Glaw *et al.* 2001). This is especially true for a series of small to medium-sized species of predominantly green colour which initially (Blommers-Schlösser 1979) were classified in the *B. luteus* group and the *B. rappiodes* group. A large number of green *Boophis* species have been discovered since, most of them bearing extremely low morphological and chromatic divergence, but exhibiting high bio-acoustic and genetic differences to their congeners.

More recent studies furthermore suggest that different lineages of green *Boophis* exist which may not be closely related. Vences and Glaw (2005) noted that several species related to *Boophis mandraka* Blommers-Schlösser are in fact phylogenetically distant from other species in the *B. rappiodes* group, although all of