

Two new canyon-dwelling frogs from the arid sandstone Isalo Massif, central-southern Madagascar (Mantellidae, Mantellinae)

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Abstract

We describe two new mantellid frogs of the subfamily Mantellinae from the arid sandstone Isalo Massif, central southern Madagascar. The first - assigned to the genus *Gephyromantis*, subgenus *Phylacomantis* - is a stream frog living in open canyons and associated gallery forest, and is phylogenetically related to *G. corvus* and *G. pseudoasper*. It has a larger maximum SVL than *G. corvus* (43 mm vs. 38 mm in the examined males) and is featured by a mostly contrasted and lighter dorsal pattern. Its advertisement call also differs from that of *G. corvus* in having more numerous and slightly longer notes per call composed of seven to ten sub-units, a clear harmonic structure, and a wider frequency spectrum with a higher dominant frequency. The second new species belongs to the genus *Mantidactylus*, subgenus *Brygoomantis*. It shares morphological and life history similarities with species of the subgenus *Ochthomantis*, in having comparatively expanded fingertips and leading a rupicolous and scansorial life.

Key words: *Gephyromantis*, *Mantidactylus*, Mantellidae, New species, Madagascar, Isalo, Arid environments

Introduction

The taxonomic discovery rate for the rich Malagasy frog fauna has been particularly high in the last decade, due to unprecedented research activity, the use of new study techniques, and the exploration of little studied areas (Köhler et al., 2005).

Within the bulk of more than 230 species (Glaw & Vences, 2006) the highest species diversity is clearly found along the eastern rainforest band (Andreone et al., 2005a), where the speciation process was fast and where the number of species was boosted by the rapid adaptation to the stream habitats (Vences et al., 2002). On the other hand, the biodiversity of the arid western parts of Madagascar has not been systematically surveyed to unveil patterns of amphibian richness and endemism. Studies carried out in the last years have already shown that many undescribed amphibian species are present also in these arid environments. Examples are the discovery of two new *Aglyptodactylus* species (Glaw et al., 1998), and, very recently, of *Scaphiophryne menabensis* Glos, Glaw & Vences (Glos et al., 2005), and even of a new species belonging to a new mantelline genus, *Tsingymantis antitra* Glaw, Hoegg & Vences (Glaw et al., 2006).

The Isalo Massif is a comparatively well-known sandstone area in central-southern Madagascar. It constitutes the main target of many tourists in Madagascar, who are attracted by the beauty of its landscape and by the spectacular canyons. A large portion of the Isalo surface is currently protected as a national park (Anonymous, 2003). The massif has been object of some herpetological works (Glaw & Vences, 1994; Raxworthy &