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Comparative larval morphology in Madagascan frogs of the genus *Guibemantis* (Amphibia: Mantellidae)

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Abstract

We describe the tadpole morphology for four species of frogs classified in the endemic Madagascan genus *Guibemantis*, based on larval specimens identified by DNA barcoding. The tadpoles of *Guibemantis kathrinae* and *G. tornieri* are reported for the first time. The tadpole of *G. kathrinae* has a heterogeneous coloration, emarginated oral disc bordered with papillae and one row of submarginal papillae. Labial tooth row formula is 6(2–6)/3(1). Number of labial teeth per millimetre is variable in each row, ranging from 36 to 64. The tadpole of *G. tornieri* is very similar to that of *G. timidus* (previously considered conspecific with *G. tornieri*) except for the patched coloration of *G. tornieri* (vs. rather uniform in *G. timidus*). The tadpole of *G. depressiceps* is characterized by having a higher number of teeth per millimetre in all tooth rows than the other species of the group. The tadpole of *Guibemantis liber* differs from the other species by having a lower number of upper labial tooth rows (two, three or four vs. five or more). No morphological differences were found between larvae of *G. liber* from two separate localities, Ranomafana and Andasibe. In general, the *Guibemantis* larvae examined (except *G. liber*) are morphologically similar to each other but several of the characters examined were highly variable within populations and species, highlighting the usefulness of molecular tools for their identification.

Key words: Amphibia, Mantellidae, *Guibemantis*, tadpole description, systematics

Introduction

Within the family Mantellidae, endemic to Madagascar and the Comoros, *Mantidactylus* Boulenger, 1895 was long seen as the most species-rich and morphologically heterogeneous genus (Glaw & Vences 2003). The large number of species with a high

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