



A new species of cryptically coloured day gecko (*Phelsuma*) from the Tsingy de Bemaraha National Park in western Madagascar

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Abstract

Phelsuma borai **sp. nov.** (Squamata: Gekkonidae) is described from the Tsingy de Bemaraha National Park, a deciduous dry forest on a karstic limestone massif in western Madagascar. The new species, known from a single specimen only, has a greyish-brown ground colouration and the ability of remarkable colour change. In terms of colouration and morphology it most closely resembles *Phelsuma mutabilis*, which might occur in sympatry, but differs by scalation, colouration and strong genetic divergence.

Key words: Squamata, Gekkonidae, *Phelsuma*, new species, Madagascar, Tsingy de Bemaraha National Park

Introduction

Most of the 1250 species of currently recognized geckos (Uetz 2009) are nocturnal and cryptically coloured. The genus *Phelsuma* represents one of the most remarkable exceptions, comprising diurnal geckos of mostly bright green colouration, often with red and blue colour elements, that probably have evolved in Madagascar but subsequently colonized many other islands in the western Indian Ocean. The closest known relative of *Phelsuma* probably is *Rhoptropella ocellata*, a cryptically coloured gecko from dry habitats in South Africa and Namibia (Austin *et al.* 2004). Recent molecular phylogenetic studies (Rocha *et al.* 2007, 2009; Raxworthy *et al.* 2007) suggest that the few cryptically coloured *Phelsuma* species from Madagascar (*P. breviceps*, *P. mutabilis*, *P. standingi*) occupy rather basal positions and occur in dry habitats of the west and southwest. These data would suggest that the ancestor of *Phelsuma* was a dry-adapted gecko species from Africa that first colonized dry areas of western Madagascar by oversea dispersal before the genus spread into more humid habitats and radiated into the wealth of colourful species that today are considered typical for *Phelsuma*. To support or reject this hypothesis, a full species inventory of *Phelsuma*, and especially of greyish species from arid western Madagascar is essential.

In the following, we describe a new, cryptically coloured *Phelsuma* that resembles *P. mutabilis* and was captured during a survey in the Tsingy de Bemaraha massif in western Madagascar. This bizarre limestone massif with steep slopes and sharp needle-like peaks is largely covered by deciduous dry forest and has recently revealed a remarkable number of new species of amphibians and reptiles (e. g. Schimmenti & Jesu 1996; Jesu *et al.* 1999; Nussbaum & Raxworthy 2000; Vences *et al.* 2000; Glos *et al.* 2005; Köhler *et al.* 2007; Glaw *et al.* 2007, 2009; Andreone & Randrianirina 2008) and its herpetofauna is still far from being sufficiently known (Bora *et al.* in press).