



A likely microendemic new species of terrestrial iguana, genus *Chalarodon*, from Madagascar

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Abstract

A new species of the hitherto monotypic genus *Chalarodon* is described from southern Madagascar and a lectotype (ZMB 4360) is designated for *C. madagascariensis* Peters, 1854. The new species of terrestrial iguana, *Chalarodon steinkampi* sp. nov., is defined by several morphological characters and by concordant differentiation in mitochondrial and nuclear DNA with >5% uncorrected pairwise genetic distance in the 16S rRNA gene. It can be most clearly recognized by the presence of smooth (vs. keeled) gular and ventral scales, a spotted pattern extending from flanks onto belly, and an unpigmented throat. The new species is known from only a small area between the villages of Amboasary Sud and Esomony, located west of the Andohahela Massif, while *C. madagascariensis* appears to be widespread over much of southern and western Madagascar. We highlight the need for further exploration of this unprotected region which might host several other microendemic species.

Key words: Taxonomy, *Chalarodon steinkampi* sp. nov., Iguanidae, Oplurinae

Introduction

Iguanas (Iguanidae sensu lato) are a species-rich radiation of lizards with a peculiar disjunct geographic distribution. They predominantly occur in the New World, with over 1000 Neotropical species distributed in 11 major clades that are recognized as either families or subfamilies. The Iguanidae also contains two relictual insular clades: three species of *Brachylophus* occur in the Pacific Ocean on the Fiji archipelago and neighboring islands (Keogh *et al.* 2008; Noonan & Sites 2010) and seven species of the subfamily Oplurinae (with the two genera, *Oplurus* Cuvier and *Chalarodon* Peters) in the Western Indian Ocean region are endemic to Madagascar and the Comoros archipelago (Blanc 1977).

Although recent time tree analyses provide different divergence times of the Malagasy iguana clade from its South American sister group (Noonan & Chippindale 2006; Okajima & Kumazawa 2009; Crottini *et al.* 2012), all these studies agree in placing the divergence into the Mesozoic. The ancestor of oplurines might have dispersed to Madagascar via Antarctica and evolved in isolation after these land masses became completely isolated (Noonan & Chippindale 2006; but see Ali & Aitchison 2009).

Among Malagasy iguanas, the genus *Oplurus* contains six rock-dwelling, terrestrial or arboreal species, and is morphologically characterized by rows of enlarged and sometimes spiny scales encircling the tail (Blanc 1977; Cadle 2003; Münchenberg *et al.* 2008). The genus *Chalarodon* is on the contrary monotypic, represented by a single described species. *Chalarodon madagascariensis* is a terrestrial species commonly observed on the sandy soils of forested or bushy areas of the sub-arid to semi-arid southern and western regions of Madagascar (Blanc 1969, 1970). It can be easily differentiated from *Oplurus* by its smaller size, longitudinal dorsal crest (especially marked in sexually mature males) running from the occipital region to the mid-length of the tail, and absence of

The new species *C. steinkampi* likely qualifies for one of the Red List threat categories according to the classification of the International Union for the Conservation of Nature (IUCN 2001), but given the limited available data, we here propose to consider its status as Data Deficient (DD).

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