

A review of the African red-flanked skinks of the *Lygosoma fernandi* (BURTON, 1836) species group (Squamata: Scincidae) and the role of climate change in their speciation.

PHILIPP WAGNER^{1,4}, WOLFGANG BÖHME¹, OLIVIER S. G. PAUWELS² & ANDREAS SCHMITZ³

¹Zoologisches Forschungsmuseum Alexander Koenig & Leibniz Institut für Biodiversität der Tiere, Adenauerallee 160, D-53113 Bonn. E-mail: philipp.wagner.zfmk@uni-bonn.de, w.boehme.zfmk@uni-bonn.de

²Department of Recent Vertebrates, Institut Royal des Sciences naturelles de Belgique, Rue Vautier 29, 1000 Brussels, Belgium & Smithsonian Institution, Monitoring and Assessment of Biodiversity Program, BP 48, Gamba, Gabon. E-mail: osgpauwels@yahoo.fr

³Department of Herpetology and Ichthyology, Muséum d'histoire naturelle, C.P. 6434, 1211 Genève 6, Switzerland.

E-mail: andreas.schmitz@ville-ge.ch

⁴Corresponding author. E-mail: philipp.wagner.zfmk@uni-bonn.de

Table of contents

Abstract	1
Introduction	2
Material and methods	2
Results	4
<i>Lepidothyris fernandi fernandi</i> (Burton, 1836)	7
<i>Lepidothyris fernandi harlani</i> (Hallowell, 1844)	11
<i>Lepidothyris hinkeli</i> sp. n.	12
<i>Lepidothyris hinkeli joei</i> ssp. n.	14
<i>Lepidothyris striatus</i> (Hallowell, 1854).....	16
Key to the species and subspecies.....	18
Principal component analysis	19
Acknowledgements	26
References	26
Appendix	29

Abstract

We present an analysis of the morphometric and genetic variability of *Lygosoma fernandi*. Geographical variation and taxonomic consequences are discussed and *Lepidothyris* Cope, 1892 is resurrected as genus for the *L. fernandi* species group. The results show that *Lepidothyris fernandi* sensu lato is a species complex, which comprises an eastern and a western species. Each of them has a further subspecies of its own, and a third distinct species is present in southwestern Central Africa. The morphological and genetic differences between these taxa are analyzed resulting in the description of two new taxa, and the resurrection of two more taxa.

Key words. Squamata: Scincidae: *Tiliqua*, *Lygosoma*, *Riopa*, *Mochlus*, *Lepidothyris fernandi*, *Lepidothyris fernandi harlani*, *Lepidothyris striatus*, *Lepidothyris* sp. n., Africa, taxonomy, zoogeography