

Morphological and genetic evidence of the full species status of *Iberolacerta cyreni martinezricai* (Arribas, 1996)

OSCAR ARRIBAS¹ & SALVADOR CARRANZA²

¹ Avda. Francisco Cambó 23, E-08003 Barcelona, Spain (oarribas@pie.xtec.es).

² Departament de Biologia Animal, Universitat de Barcelona, Av. Diagonal 645, E-08028 Barcelona, Spain (scarranza@ub.edu).

Abstract

Iberolacerta cyreni martinezricai is elevated to the species level (*I. martinezricai*) based on both morphological and molecular data. The phylogenetic analysis using two mitochondrial and one nuclear gene shows *I. martinezricai* is more closely related to *I. monticola* than to *I. cyreni*. A multivariate analysis of the morphological data also supports the affinities between *I. martinezricai* and *I. monticola* but, at the same time, clearly indicates that *I. martinezricai* is morphologically distinct from both *I. monticola* and *I. cyreni*. The molecular data suggests *I. cyreni* and the clade formed by *I. monticola* + *I. martinezricai* split approximately 6.1 Mya, during the Mesinian Salinity Crisis, when climatic conditions around the Mediterranean area changed dramatically as a result of the desiccation of the Mediterranean Sea. Separation between *I. martinezricai* and *I. monticola* occurred approximately 2 Mya but, with at least two equally plausible alternative hypotheses, their biogeography is still unclear. New data on the habitat and distribution of *I. martinezricai* indicates its distribution area is very small (12–15 km²), and that it lives in a climatically extreme habitat for this kind of mountain species. As a result of that and the low numbers of individuals, *I. martinezricai* is considered here as Critically Endangered.

Key words: *Iberolacerta*, *Lacerta*, taxonomy, phylogeny, evolution, biogeography, conservation, morphology, mountain restriction, cytochrome *b*, 12S rRNA, *c-mos*, mitochondrial DNA, nuclear DNA

Introduction

Klemmer (1957) was the first herpetologist to report the presence of Rock lizards on the Peña de Francia. He based his study on a single male specimen, captured by A. Epple in September 1954, which he classified as *Lacerta monticola cantabrica* Mertens, 1929. Later on, Martínez-Rica (1979) reclassified Peña de Francia's Rock lizards as *L. monticola*