

**Description of a new endemic species of mountain lizard from
Northwestern Spain: *Iberolacerta galani* sp. nov.
(Squamata : Lacertidae)**

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Abstract

A new species of *Iberolacerta* is described from the Montes de León (northwest Iberia). This new species, *Iberolacerta galani* **sp. nov.**, is characterized by its relatively large size, high number of blue ocelli on the shoulders and the relatively frequent contact or near-contact between the supranasal and the first loreal scale, the fairly straight squamosal bone (only curved on its posterior part), a unique karyotype in *Iberolacerta* combining $2n=36$ chromosomes, an L-type NOR and differentiated W and Z sex chromosomes, and unique mitochondrial DNA sequences for the cytochrome *b* and 12S rRNA genes.

The correlation analyses show that morphology in general, but especially scalation, is strongly correlated with the amount of precipitation during the months of lizard activity, which suggests that these are not good taxonomic characters, and that other characters apparently independent of the climate like for instance osteological, karyological and DNA features are much more reliable in delimiting species boundaries in *Iberolacerta*.

According to our phylogenetic analyses, *I. galani* nov. is part of a very well supported clade that originated around 2.5 mya and also includes *I. monticola* and *I. martinezricai*. Phylogeny suggests *I. martinezricai* might be the sister taxon to *I. galani* nov. from which it split approximately 2 mya, at the beginning of the Pleistocene. The clade containing *I. galani* nov., *I. martinezricai* and *I. monticola* was probably widely distributed across western Iberia during moderately cool and moist phases of the Pleistocene, but it was probably restricted to its present range as a result of the general temperature increase during the Holocene and competition with other lacertid lizards. *Iberolacerta galani* nov. is endemic to the Montes de León, where it is isolated from the other species of the “monticola-group” by the Duero and Miño-Sil Rivers, but particularly by the Bibei river valley.

Key words: Mountain lizards, speciation, evolution, biogeography, taxonomy, phylogeny, cytochrome b, 12S rRNA

Introduction

The Lacertid lizard genus *Iberolacerta* is among the most widely studied lizard groups in Europe. Following several recent taxonomic revisions using morphological (scalation, morphometry and osteology), karyological and genetic data (allozymes, nuclear DNA and mitochondrial DNA), it is largely accepted that the genus *Iberolacerta* comprises 7 species (Arribas 1993a, b, 1994a, b, 1996, 1997, 1998, 1999; Pérez-Mellado *et al.* 1993; Mayer & Arribas 1996, 2003; Odierna *et al.* 1996; Arribas & Carranza 2004; Carranza *et al.* 2004; Crochet *et al.* 2004; Arribas & Odierna 2005). As a result of their phylogenetic affinities and geographical distribution (see Fig. 1), these can be subdivided in three main groups: 1) Iberian Rock lizards, also known as the “Iberian group” or “monticola-group”, which includes *I. cyreni*, *I. martinezricai* and *I. monticola*. The first taxon comprises *I. cyreni cyreni* (Müller & Hellmich, 1937) from the Sierra de Guadarrama, and *I. c. castiliana* (Arribas, 1996) from the Sierra de Gredos, whilst the populations from the Sierra de Bejar and from the Sierras de Avila are of uncertain assignation. *Iberolacerta martinezricai*