



# ARQUIVOS DO MUSEU BOCAGE

---

Nova Série, Vol. III, n.º 16, pp. 413-420      23 de Outubro de 2001

---

## ON THE OCCURRENCE OF *LACERTA MONTICOLA* BOULENGER, 1905 IN MONTESINHO NATURAL PARK (NORTH OF PORTUGAL)

ANTUNES, P. (1) E. G. CRESPO (1) AND L. VICENTE (1)\*

The rock-lizard populations, endemic to the Iberian Peninsula, occur mainly in the mountain areas of its Northern half, forming several widely isolated populations (PÉREZ-MELLADO *et al.* 1993). According to PÉREZ-MELLADO (1997), the fragmentation of the distribution area of this species is interpreted as a consequence of a postglacial contraction of a previous wider distribution range caused by a progressive heating and increased aridness of the environment, and possibly also due to the competition by small lizards of the genus *Podarcis*.

Those populations were considered until a few years ago to belong to only one species - *Lacerta monticola* Boulenger, 1905 (BARBADILLO 1987). In conformity with this view, four subspecies were recognised. *L. m. monticola* Boulenger, 1905 would inhabit Serra da Estrela (restricted to altitudes over 1500 m); *L. m. cantabrica* Mertens, 1929 would occur in Cantabrian Mountains and Galicia where it ranges from sea level on the Northwest Galicia to 1700 meters in the mountains; *L. m. cyreni* Müller & Hellmich, 1937 would live in the Spanish Central System Mountains; and finally, *L. m. bonnali* Lantz, 1927 would be found in the Pyrenees (see PÉREZ-MELLADO *et al.* 1993; FERNÁNDEZ *et al.* 1995).

---

(1) Centro de Biologia Ambiental da Faculdade de Ciências de Lisboa, C2-P3, Campo Grande, 1749-016 Lisboa, Portugal.

\* Author for correspondence, e-mail: lvicente@fc.ul.pt

A specific status was later given to the Pyrenean populations - *L. bonnali* (ARRIBAS 1993; PÉREZ-MELLADO *et al.* 1993). Therefore, the actual populations of *L. monticola* would be restricted to Cantabrian Mountains and Galicia (ssp. *cantabrica*), Serra da Estrela (ssp. *monticola*) and Spanish Central System (ssp. *cyreni*). However, it was pointed out that the members of this last subspecies possessed some morphological and karyological features that seemed to differentiate them from individuals of the other conspecific populations and ARIBAS (1996) considered that those differences were enough to assign them to a distinct specific status - *L. cyreni*.

Until now, the population of Serra da Estrela - *L. m. monticola* - was the only known rock-lizard occurring in Portugal (BOULENGER 1920; ARNOLD *et al.* 1978; BARBADILLO 1987; PÉREZ-MELLADO *et al.* 1993; ARIBAS 1996, 1999; PÉREZ-MELLADO 1997; SALVADOR 1998; ALMEIDA *et al.* 2001). CRESPO & CEI (1975) suggested as very probable the presence of this species in the North of Portugal (Trás-os-Montes Province) considering its distribution in Spain as well as the ecological features of this area. More recently, in the *Atlas of Amphibians and Reptiles of Europe* (GASC 1997) a reference to *L. monticola* is reported in that Portuguese province, although the origin of such record is not provided.

During a revision of Museu Bocage's reptile collection, two adult specimens (preserved in 70° alcohol), erroneously labelled as *Podarcis bocagei* (Museum reference MB 837), were found and reassigned to *L. monticola*. They were collected on the 26<sup>th</sup> June, 1992, in North of Portugal: Barracão, Lagarelhos - Trás-os-Montes by Antonio Barros (see table 1 below and Figure 1). The possibility of the presence of mismatched labels or specimens is highly improbable due to the exhaustive analysis we carried out on the files of all the preserved specimens concerning their proveniences and collectors.

Table 1 - Some biometric and meristic characters of the two specimens assigned to *Lacerta monticola* from the North of Portugal found in the Museu Bocage's collection (measures in mm) (see text for more details).

Relevant characters	MB 837-1 female	MB 837-2 male
Snout-Vent length (SVL)	70,0	66,5
Head length	17,25	16,88
Head height	8,62	8,10
Nº gular scales in an longitudinal line	19	25
Length left forelimb	19,5	18,7
Length left hindlimb	28,6	27,8

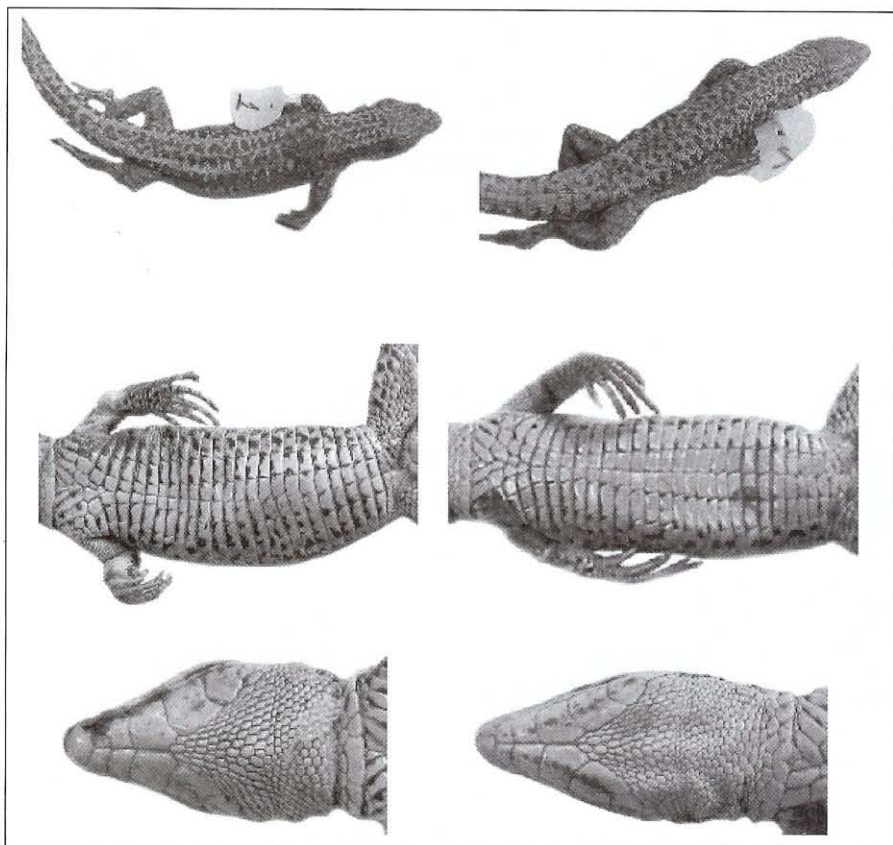


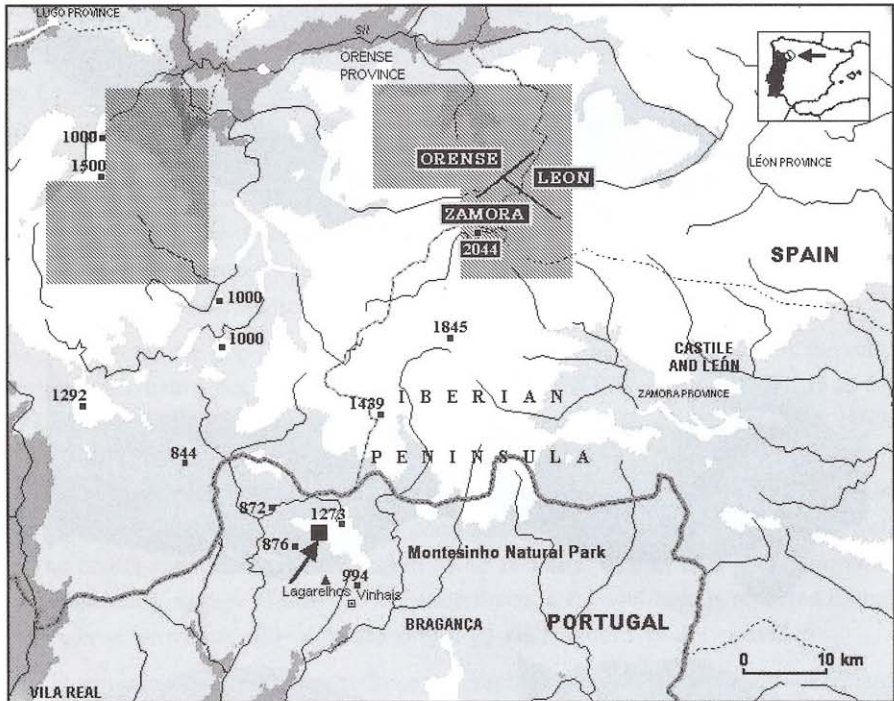
Fig. 1 - *Lacerta monticola* - MB 837. Left: MB 837-1 (female); Right: MB 837-2 (male).

Barracão within Montesinho Natural Park is located in the southern side of Serra da Coroa (1273 m) at an altitude between 900 and 1000 meters. In this region, isohypses of 900 and 1000 m penetrate the Portuguese territory from the north (Galicia) (see Map 1). This region is characterised by supra-mediterranean humid climate with an annual mean value of 70-75% humidity at 9 G. M. T., more than 80 days/year frost (mean value) and 10 - 12,5 °C as daily mean air temperature (PENA & CABRAL 1996).

The existence of *L. monticola* in the North of Portugal raises the question whether the collected individuals are from ssp. *cantabrica* or *monticola*, also having some conservation implications.

The diagnosis of *L. monticola* subspecies is, however, not conclusive. It is mainly based on external morphological characters studied in a relatively small





Map 1 - Position of the new record of *Lacerta monticola* in the North of Portugal (arrow) and localization of the near most populations of the species (*L. m. cantabrica*) in Spain (shadow) (according to FERNÁNDEZ *et al.* 1995). In the region, isohypses of 900 and 1000 m penetrate Portuguese territory. Traced line - frontier.

number of specimens (PERÉZ-MELLADO *et al.* 1993; ARRIBAS 1996; SALVADOR 1998).

The ssp. *cantabrica* enclose almost all the morphological variation of the species (ARRIBAS 1996). It is referred for these moderate sized lizards that the rostral is frequently in contact with the internasal; the gular region almost lacks pigmentation in all individuals (more variable in the Cantabrian Mountains populations, but generally confined to outer edges); the adult females and subadult specimens show a sharp contrast between back and flanks; the back pattern is highly variable in Galicia populations whilst the majority of the specimens of Cantabrian Mountains are reticulated; the background colour varies from green-bluish to brown (for Galicia populations); the green/yellowish-green belly is variably spotted - from a complete lack to full-spotted ventral scales (but always less marked than in ssp. *monticola*) (PÉREZ-MELLADO *et al.* 1993; FERNÁNDEZ *et al.* 1995; ARRIBAS 1996).

On the other hand, the individuals of the ssp. *monticola* are bigger and more robust than the previously mentioned ones (up to 84 mm SVL). The adult specimens (clear greenish-bluish males and brownish females) show a striking contrast between the heavily spotted and reticulated dorsum and the flanks; the venter is usually heavily spotted in adults (commonly in all ventral scales); the rostral usually is not in contact with the internasal and there are blackish spots on submaxillary scales but never arranged in lines in all individuals (PÉREZ-MELLADO *et al.* 1993; ARRIBAS 1996).

The two specimens found in the Museu Bocage's collection are adults (female and male) (see Figure 1). Although the background colour cannot be conveniently evaluated (the preservation technique used caused subdued colours), we can still rely on the colouration pattern. They have a reticulated dorsum and both lack gular pigmentation. The rostral is in contact with the internasal in one specimen (MB 837-1) but not in the other (MB 837-2). Both exhibit spotted venter not confined to outer scales (but not so profuse as described for ssp. *monticola*).

Considering the previous statements, it is difficult to assign with some certainty the specimens here discussed to one or other *L. monticola* subspecies, even if in global terms, their morphological characters seem to "fit" better in ssp. *cantabrica* than in *monticola* (namely, gular and belly pattern). The more solid arguments that stand for the *cantabrica* ssp. hypothesis rely on one hand, on the geographic localization of the record-site for the two specimens - practically forming a continuum with the South-western limit of the known distribution of Galicia/Cantabrian Mountains populations of *L. monticola cantabrica* (see Map 1), and on the other, on the ecological resemblances of their habitats. We must bear in mind that the present taxonomic status of the populations of the Iberian rock-lizards is still under debate and that we only had access to two preserved specimens, thus making any definitive conclusions at this point very premature.

Recently, we tried to confirm in the field this new reference for *L. monticola* without success. However, the prospecting was very limited (one day in March 2001 and another in April 2001 and circumscribed to a small area). The exact reference on the collecting-site is not that precise, leaving a 20 km<sup>2</sup> area (at least) to survey. This makes imperative to design a more systematic and extensive survey of the area in question so that this reference is definitively confirmed.

If such record turn out to be confirmed, as we expect, the herpetofaunistic richness for Portugal plate will be increased by this new *monticola*'s population (probably of a subspecific level - *L. m. cantabrica*). In addition, it opens an opportunity to improve our knowledge of this group systematics and, eventually,

bring some new light, to its poorly known paleobiogeographic evolution processes in the Iberian Peninsula (ALMEIDA *et al.* 2001). The rare fossil records for the lacertid lizards (totally missing in *L. monticola* SALVADOR 1998) make the study of living populations even more important to understand these processes.

As far as conservation is concerned, this discovery may also cause changes in conservation status of this species since it makes Serra da Estrela population not unique for the distribution of rock-lizards in Portugal.

#### ABSTRACT

Previously known in Portugal only in Serra da Estrela (Centre of Portugal), the Iberian rock-lizard, *Lacerta monticola*, is now reported inside the Montesinho Natural Park (North of Portugal). The specimens found in Museu Bocage's collection could be tentatively assigned to subspecies *cantabrica*.

**Key-Words:** *Lacerta monticola*. Distribution. Portugal. Trás-os-Montes.

#### RESUMO

Apenas conhecida em Portugal na Serra da Estrela (Centro de Portugal), a lagartixa-da-montanha, *Lacerta monticola*, é agora assinalada para a região do Parque Natural de Montesinho (Norte de Portugal). Os exemplares encontrados na coleção do Museu Bocage parecem poder ser atribuídos à subespécie *cantabrica*.

**Palavras-chave:** *Lacerta monticola*. Distribuição. Portugal. Trás-os-Montes.



## REFERENCES

- ALMEIDA, A. P.; H. D. ROSA; O. S. PAULO & E. G. CRESPO (2001) – Genetic differentiation of the Iberian rock-lizards group *Iberolacerta* (*Iberolacerta*) sensu Arribas 1999. *Zool. Syst. Evol. Research*, **39**, 1-8.
- ARNOLD, E. N.; J. A. BURTON & D. W. OVENDEN (1978) – *Reptiles & Amphibians of Britain & Europe*. Harper Collins, London.
- ARRIBAS, O. J. (1993) – Estatus específico para *Lacerta* (*Archaeolacerta*) *monticola bonnali* Lantz, 1927 (Reptilia, Lacertidae). *Bul. R. Soc. Esp. Hist. Nat. (Sec. Biol.)*, **90**, 101-112.
- ARRIBAS, O. J. (1996) – Taxonomic revision of the Iberian “Archaeolacerta” I.: A new interpretation of the geographical variation of “*Lacerta*” *monticola* Boulenger, 1905 and “*Lacerta*” *cyreni* Müller & Hellmich, 1937. *Herpetozoa*, **9** (1/2), 31-56.
- ARRIBAS, O. J. (1999) – Phylogeny and Relationships of the Mountain Lizards of Europe and Near East (*Archaeolacerta* Mertens, 1921, sensu lato) and their relationships among the Eurasian Lacertid Radiation. *Russian Journal Herpetology*, **6** (1), 1-22.
- BARBADILLO, L. J. (1987) – *La guía de Incafo de los anfibios y reptiles de la Península Ibérica, Islas Baleares y Canarias*. Incafo, Madrid.
- BOULENGER, G. A. (1920) – *Monograph of the Lacertidae, vol. I*. Brit. Mus. Nat. Hist., London.
- CRESPO, E. G. & J. M. CEI (1975) – Acerca de *Lacerta monticola* Boul. da Serra da Estrela (Portugal). *Arq. Mus. Boc.*, **5** (23), 1-7.
- FERNÁNDEZ, R. B.; S. B. LÓPEZ & P. G. REGALADO (1995) – Anfíbios e Réptiles in SOCIEDADE GALEGA DE HISTORIA NATURAL. *Atlas de Vertebrados de Galicia. Tomo I: Peixes, Réptiles e Mamíferos*, 65-170.
- GASC, J. P. (ed.) (1997) – *Atlas of Amphibians and Reptiles in Europe*. Museum National d’Histoire Naturelle / Museum National d’Histoire Naturelle / Societas Europea Herpetologica, Paris.
- PENA, A. & J. CABRAL (1996) – *Roteiros da Natureza: Região Norte*. Temas e Debates.
- PÉREZ-MELLADO, V. (1997) – *Lacerta monticola* Boulenger, 1905 in PLEGUEZUELOS, J. M. (ed.) *Distribución y Biogeografía de los Anfíbios y Reptiles en España y Portugal*. Monografías de Herpetología, vol. 3, Universidad de Granada, Granada, 225-226.
- PÉREZ-MELLADO, V.; L. J. BARBADILLO; F. BARAHONA; R. P. BROWN; C. CORTI; F. GUERRERO & B. LANZA (1993) – A systematic survey of the Iberian rocklizard *Lacerta monticola* Boulenger, 1905 in VALAKOS, BOHME, PÉREZ-MELLADO, MARAGOU (eds.) *Lacertids of the Mediterranean region*. Hellenic Zoological Society, 85-105.
- SALVADOR, A. (coord.) (1998) – *Lacerta monticola* in *Fauna Iberica – vol. 10: Reptiles*. Museu Nacional de Ciencias Naturales, Madrid, 207-215.