

Phylogeography of the *Darevskia raddei* species complex based on mtDNA

S. Freitas¹, A. Perera¹, D. J. Harris¹, M. Arakelyan², F. Danielyan², C. Corti³,
M. A. Carretero¹

¹CIBIO-UP, Centro de Investigação em Biodiversidade e Recursos Genéticos, Campus Agrário de

Vairão, 4485-661 Vairão, Portugal

e-mails: freitas.sn@gmail.com; perera@mail.icav.up.pt; james@mail.icav.up.pt; carretero@mail.icav.up.pt

²Yerevan State University, Alek Manukyan, 1, Yerevan 0025, Armenia

e-mail: arakelyanmarine@yahoo.com

³Museo di Storia Naturale dell'Università di Firenze, Sezione di Zoologia "La Specola", Via Romana 17, 50125, Firenze, Italy

e-mail: claudia.corti@unifi.it

Abstract: The genus *Darevskia* is a lacertid group radiating and diversifying in the Caucasus region. The studies on the phylogeny of this group started early, however, the phylogeographic pattern within this genus is far to be complete.

Darevskia raddei has been described for Armenia and adjacent S Georgia, E Turkey and N Iran. *D. nairensis* from Armenia is sometimes considered conspecific although evidences from morphology and proteins are conflicting. Here, we assess the phylogeographic relationships based on the analysis of an extensive sampling of specimens morphologically assigned to both species throughout most of the range using the *Cytochrome b* mitochondrial marker.

Results suggest that *D. raddei* is paraphyletic to *D. nairensis* for mtDNA, confirming previous evidence of proteins. Nevertheless, the group *portschinskii-valentini* is confirmed as the sister clade of the *raddei-nairensis* complex. Within this complex, strong phylogeographic structure is observed. Three main clades are observed: one comprising individuals from Georgia and the most northern and western Armenia, the second comprising individuals from Southern Armenia, and the last with one individual from Iran. The *Darevskia unisexualis* individuals (i.e. *D. raddei* and *D. valentini* parthenogenetic hybrids) analysed in this study fall within the first clade. Because of that we can say that the putative parental *D. raddei* populations may have been individuals present in between Georgia and the most western part of the current range distribution of *D. raddei*.

The overall pattern suggests an expansion of *D. raddei* from SE to the rest of the range which is correlated with the recent paleogeographic history of the region.