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Multiple dispersal out of Anatolia: biogeography and evolution of oriental green lizards

Ahmadzadeh, Faraham[1,2]; Flecks, Morris[2]; Rödder, Dennis[2]; Böhme, Wolfgang[2]; Ilgaz, Çetin[3]; Harris, D. James[4]; Engler, Jan O.[2,5]; Üzüm, Nazan[6]; Carretero, Miguel A.[4]

[1]Department of Biodiversity and Ecosystem Management, Environmental Sciences Research Institute, Shahid Beheshti University, G.C., Evin, Tehran, Iran
[2]Zoologisches Forschungsmuseum Alexander Koenig, Bonn, Germany
[3]Dokuz Eylül University, Fauna and Flora Research and Application Center, Buca, İzmir, Turkey
[4]CIBIO, Centro de Investigação em Biodiversidade e Recursos Genéticos, Universidade do Porto, Vairão, Portugal
[5]Biogeography Department, Trier University, Trier, Germany
[6]Adnan Menderes University, Faculty of Science and Arts, Department of Biology, Aydın, Turkey

The oriental green lizards of the *Lacerta trilineata* group are widely distributed in Greece, Anatolia, the eastern Mediterranean, the southern Caucasus and the Zagros mountains in Iran. We studied their phylogeography using three mitochondrial markers with comprehensive sampling from most representatives of the group. Their phylogeny and divergence times (implementing fossil-based molecular clock calibrations) were inferred using Bayesian methods, and haplotype networks were reconstructed to assess how genetic diversity and current distributional patterns were shaped. According to our phylogenetic analyses, the group constitutes a well-supported monophylum containing several distinct evolutionary lineages with high haplotype diversity. Vicariance

might explain the divergences within most lineages that have accumulated by range restriction and expansion of populations due to Quarternary climate oscillations and glacial refugia. However, niche divergence seems to be a major force promoting speciation and large scale distributional patterns between lineages were shaped earlier by multiple, independent dispersals out of Anatolia during the Pliocene and early Pleistocene. Our results also suggest that the group is in need of a taxonomical revision, as identified lineages and genetic diversity are not congruent with the currently recognised subspecies.

mflecks@uni-bonn.de