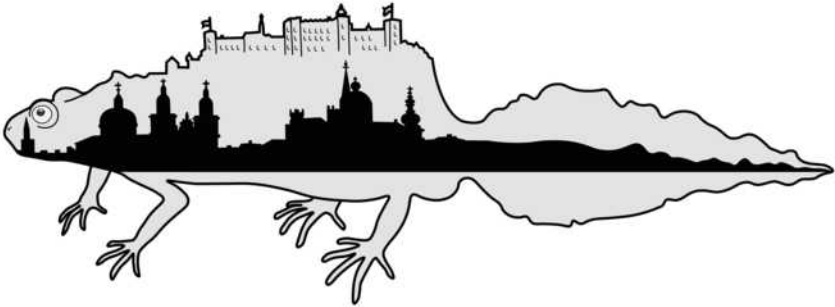


# SEH 2017

19<sup>th</sup> European Congress of Herpetology



## PROGRAMME & ABSTRACTS



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University of Salzburg  
18<sup>th</sup> - 23<sup>rd</sup> September 2017

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# Genetic diversity and Quaternary range dynamics in Iranian and Transcaucasian tortoises *Testudo graeca*

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Range dynamics of species distributed in temperate zones was significantly influenced by climatic fluctuations during the Pleistocene. While these processes and patterns are relatively well-studied in taxa living in mid and high latitudes of Eurasia, little is known on how glacial and interglacial cycles influenced the distribution of species occupying lower latitudes. The aim of this study was to assess Quaternary range dynamics of the tortoise *Testudo graeca* in Iran and Transcaucasia and to infer how these changes influenced the species genetic diversity. Therefore, we analysed the genetic variability of the cytochrome *b* gene (993 bp) and reconstructed the species' paleogeographic by projecting species distribution models (SDMs) onto paleoclimatic conditions of the Mid-Holocene (6,000 BP) and the Last Glacial Maximum (21,000 BP). We found three mitochondrial lineages in Iran, corresponding to the subspecies *T. graeca armeniaca*, *T. graeca buxtoni* and *T. graeca zarudnyi*, whose current distribution is limited predominately by precipitation. A combination of SDMs and demographic analyses revealed that the ranges of these subspecies experienced only a slight shift during the Quaternary and did not reveal significant contraction since the LGM. Long-term survival of *T. graeca* in Iran and Transcaucasia led to high genetic diversity, especially in the vastly distributed *T. graeca buxtoni*. These results indicate that range dynamics of ectothermic taxa occupying lower latitudes in the western Palaearctic might be more complex and may not follow a simplistic scenario of glacial retraction and postglacial expansion.

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# Kaffee-Alchemie

Edition Chimaira 

