

Systematics, Biogeography and evolution of the Palearctic and Oriental lizard tribe Lacertini

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Abstract: In this talk I will present the recent advances in the systematics, biogeography and evolution of the family Lacertidae with especial emphasis on the tribe Lacertini. These hypotheses are based on very complete phylogenetic trees inferred using both mitochondrial and nuclear data. According to the results the Lacertini can be assigned to 19 monophyletic units, all of them diagnosable using morphology (mainly scalation, osteology and cytogenetics) and therefore recognized as independent genera. Both mtDNA and nuclear data indicate that *Teira* and *Scelarcis* are sister taxa and recent results suggest a very close association between *Dinarolacerta* and *Algyroides* but for most of the other genera it is very difficult to infer any robust phylogenetic relationship, despite using a lot of information, suggesting that speciation within the Lacertini was probably very sudden. The Lacertidae probably arose in the European area, with the Gallotiinae later reaching Northwest Africa and the Canary Islands, and the ancestor of the Eremiadini invading Africa in the Miocene. The Lacertini spread through much of their present European range and diversified perhaps largely by repeated vicariance, producing the ancestors of the present mainly small-bodied genera. These genera then underwent often modest speciation, although in most of the cases the molecular phylogenies show that the real diversity of the different genera has been greatly underestimated and needs to be revised. The large-bodied lizards *Timon* and *Lacerta* and the small-bodied *Podarcis* and *Zootoca* spread more widely and *Takydromus* invaded more distant areas like East Asia. Overall, European Lacertidae show a pattern of repeated spread, often accompanied by restriction of previous groups. The molecular data also shows that *Atlantolacerta andreanskyi* belongs in the Eremiadini and may occupy a basal position there. Its phylogenetic position may help to clarify how the Eremiadini colonized Africa.