Introductory remarks on the current research fields concerning *Zootoca vivipara*

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The Common or Viviparous lizard, *Zootoca vivipara*, is holding the widest distribution range of any squamate species which makes it the most successful terrestrial reptile in the world. Moreover, it is one of the few squamate species with a bimodal reproductive mode, where both viviparous and oviparous populations or population groups exist.

It was this species in which viviparity in reptiles was first observed, and the early report - written in Latin - about this discovery of a live-bearing lizard (in Latin: "Lacerta vivipara") by J.F. de Jacquin (1787) was regarded by nearly all subsequent authors as the first description and scientific denomination of this lizard. However, it was neither intended as nor was it a valid scientific denomination, and the nomenclatural consequences arising from this unexpected discovery will be subject of the following presentation by J.F. Schmidtler and myself.

It is a short step from nomenclature to taxonomy, because the former has to reflect the results of the latter, and nomenclatural changes are unavoidable when new biological data offer new insights into the evolutionary history of a given taxon. Here, molecular genetics have shown that the Common or Viviparous lizard forms a clade of its own and deserves full generic status. Despite its huge distribution area, Zootoca vivipara was until recently considered as monotypic, the more as existing, nominal subspecific descriptions turned out to be insufficient (*pannonica*, *sachaliensis*).

More recent karyological and molecular genetic studies revealed the existence of well definable chromosomal groups and genetically supported clades which correlate with reproductive modes (viviparous vs. oviparous) and provide evidence for a multiple (at least twofold) origin of viviparity within *Z. vivipara*. Therefore, the species can no longer be regarded as monotypic, and even the existence of two distinct species hidden under the name vivipara cannot be excluded.

Ecology and physiology offer additional research fields. Temperature regulation abilities are unique (supercooling) and allow survival on permafrost soil in the subarctic section of the vast distribution range.The generally conservative and infra(sub)specifically rigid preferred body temperature (Tp) can shift within populations in this species. Correlations with sex, gravidity, oviparity and viviparity have to be studied in much more detail. Also, behavioural aspects await closer investigation and understanding, e.g. the apparently lacking territorial and ritualized mating behaviour in males, the formation of "nurseries" by newborns etc.

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