

## **On distribution and genetic diversity of the common lizard (*Zootoca vivipara*) in Central East Germany.**

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*Zootoca vivipara* is one of the most common reptiles in our region, and distributed nearly all over Germany. But in the regions with intensive agricultural activities as well as in industrial regions in Central Sachsen Anhalt and Western Sachsen the lizards distribution is only scattered, presumably caused by loss and fragmentation of habitats.

The preparation of an actual distribution map of the species in central "Sachsen Anhalt" and Western "Sachsen", which compared the actual (1990 – 2000) and the older records (1964-1989) based on MTBQ square grids revealed a decrease of 60 % in western "Sachsen" to 76% in central "Sachsen Anhalt", when square with records are counted.

The reasons are not clear. A control visit in 40 squares with old records showed, that the habitats still existed in 80% of the cases but no lizards were present.

Fragmentation of habitats can result in reduced gene flow between populations and reduced genetic variability in small populations due to genetic drift. Therefore in 5 populations from the highly fragmented regions and in two populations from the eastern Harz Mountains and Mecklenburg the genetic variability was measured based on 7 microsatellite loci.

The degree of heterozygosity was similar in all populations but the allele diversity within the populations from the continuously inhabited regions was significantly larger than within those from the fragmented regions. The genetic distance between the populations showed no clear results but we presume that there is no actual gene flow across the Elster Luppe valley, due to the agroindustrial land use. Further studies must show, if this example is typical for the whole region. Also the genetic relatedness of animals in small habitats is studied to get some insight in the dispersal activities.

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