

## Areal, Höhenverbreitung und Habitatbindung ausgewählter Amphibien- und Reptilienarten in Nordrhein-Westfalen

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### Area, altitudinal distribution and habitat requirements of selected amphibians and reptiles in Northrhine-Westphalia (Germany)

Since 1993 the workinggroup »Amphibians and Reptiles Northrhine-Westphalia« has carried out a field survey and grid mapping for all species of these taxa occurring in Northrhine-Westphalia. In this paper, we show preliminary results concerning the distribution of particular species with remarkable or restricted ranges in Northrhine-Westphalia. Climatic and geological-edaphic factors as well as the landscape structure (land use, occurrence of spawning waters, and terrestrial habitats etc.) seem to be good predictors for the distribution patterns of some species. For example, *Salamandra salamandra* is restricted to forests and, therefore, widely distributed in lower mountain sites. In lowlands, this species only occurs within old forests in the »Münsterland« and in the Ruhr basin. In contrast, *Triturus cristatus* mainly occurs in lowland areas in open agricultural landscapes with adequate spawning waters. The distribution of *Alytes obstetricans* is limited to hills and low mountain ranges. In former times, it was widespread in villages and on farmyards. Nowadays, most populations are found around quarries. The distribution of *Bufo calamita* is focused on lowland areas mainly along the river Rhine. Since natural habitats in floodplains are destroyed, nowadays the species is restricted to gravel exploitations and – in urban areas – on brownfields and mining dumps. The upper limit of its altitudinal distribution is between 300–400 m a.s.l. In contrast, the occurrence of *Bufo viridis* is much more restricted: actually it exclusively occurs in gravel excavations in the southern part of the Rhineland up to 200 m a.s.l. Actual populations of *Hyla arborea* are concentrated on lowland areas in the northern part of the federal state. Only in the »Weserbergland« this species occupies altitudes up to 300 m a.s.l. Historic populations in the other hills got extinct. Characteristic habitats are moist grasslands including many hedges and open, shallow spawning waters – habitats, which nowadays are very rare in the lower mountain ranges. This species reaches its north-western limit of distribution in the adjacent regions of the Netherlands. The distribution of *Lacerta agilis* is focused on the lowland area up to 300 m a.s.l. suggesting that time for egg development may be one key factor limiting spread of these lizards. In limestone mountain areas with warmer local climate, *L. agilis* reaches altitudes of more than 400 m a.s.l. Additionally, soil texture strongly influences regional and local distribution, because sandy soils, e.g. in former floodplains and anthropogenically influenced soils along railways and mines, are important habitats of this species. *Coronella austriaca* shows a widespread but scattered distribution in mountain sites within warm grassland, grassy slopes and fringes along woodland. Records of this snake in lowland areas are