

Habitat selection and distribution of *Zootoca vivipara* in Latvia

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Zootoca vivipara is the most common reptile species in Latvia. Survey conducted in 1999-2003 indicated the presence of the species in 95% of the randomly selected 5x5 km squares. The species was rare only in intensive agriculture areas in southern Latvia. Multiple regression analysis on species density data collected on transects revealed higher abundances for areas with high proportion of various wet coniferous forest habitats, and relatively cool summer temperatures.

Surveys conducted in the forest habitats of two National Parks showed preferences for pine-dominated stands of various age, and young spruce-dominated stands. *Zootoca vivipara* was found in most of the forest types, recognized for forestry purposes. It preferred two groups of forest types, both with extra moisture in soil: I) stunted pine stands on raised bogs to pine, pine-birch forests on wet or drained *Sphagnum* and *Carex* peat; II) types on moderately rich soils with *Vaccinium myrtillus* dominated herb layer, and mixed (pine-spruce-birch) canopy.

More detailed data on microhabitats were described on circular plots (n=136), with the centre in a point, where a *Zootoca vivipara* specimen was observed first time. Coverage of different arbitrary vegetation groups (e.g. xeric, mesic grasses etc.) or easily-determinable and abundant plant species (e.g. *Calluna vulgaris*) was estimated and described using modified Braun-Blanquet method. Data covered all variety of habitats, but might have some bias towards more open sites where specimens are easily detected. In order to classify these plots, cluster analysis was performed, and natural groups of the habitats were separated using the Discriminant Function Analysis. First two functions explained 69% of the variance, habitat clusters were separated along pine forest – open area, and rich – poor soil functions. Most of the habitats could be classified as disturbed (roadsides, clearings etc.) or naturally open sites. 47% of the plots were classified as sites dominated by mesic grasses, with some amount of broadleaved herbs and sparse shrub (mainly *Salix*) cover; 22% of the sites were dominated by *Calamagrostis* grasses with sparse deciduous tree and shrub cover. Less important (13%) were sites with low, sparse pine in wooded vegetation layer (clearings, cuttings), on poor soils with undershrubs (*Calluna vulgaris*, *Vaccinium vitis-idae*) and some grass cover. Proper forest sites also were relatively few (12%), characterized by relatively sparse tall pine stands under various soil moisture conditions, some shrub cover, and herb layer dominated by *Vaccinium myrtillus*, in dryer sites also with mesoxeric grasses, in wetter – *Carex*, *Eriophorum*, *Sphagnum*.

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