

Living in the road vicinity – unique habitat of *Zamenis longissimus* in the Ohře River Valley, the Czech Republic

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The isolated population of *Zamenis longissimus* in the Ohře River Valley is restricted to only 8 km². The whole population is divided into 25 more or less isolated subpopulations. One of them is situated in a deep river valley in the road vicinity. Dry stone walls along both sides of the road serve as shelter for snakes. During three seasons 36 specimens were captured, individually marked, and released back at the locality. We uncover regular seasonal movements typical for the snake's life cycle between posthibernation, spring (mating), summer (egg – laying) and prehibernation sites that require to cross the road. Using mark-recapture method 24 adults were recaptured and in 13 cases we detected road crossing. Concerning road mortality we found 18 road-kills during the three-year study. However, 16 of the snakes (89 %) were juveniles or sub-adults. Repeated road crossings and relatively low road mortality of adult animals indicated their safe passing through tunnels. This was later confirmed by a special study. These tunnels with stone walls are remnants of a historical path. They were built to overbridge small periodical streams at a distance of 200m.

The obvious difference between juvenile and adult road mortality might be caused by experience acquired throughout the life. Adult snakes in contrast to juveniles know the tunnels and can use them. High juvenile mortality has led us to construction of a special barrier at the most risky transect of the road. The barrier directs juveniles and sub-adults into the same tunnels that are used by adults. Since the barrier started working in 2007 the juvenile loss has been significantly reduced. These underpasses are of a high importance for snakes because of their location and stone structure. It is necessary to protect the underpasses from improper reparations or other activities which could negatively influence their function.