

Effizienz künstlicher Verstecke bei Reptilienerfassungen: Befunde aus Niedersachsen im Vergleich mit Literaturangaben

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Effectiveness of refuges in assessments of reptile populations: Preliminary results from Lower-Saxony compared with statements in the literature

Artificial refuges are often recommended as a tool in reptile surveys, especially for slow-worms and smooth snakes. In Britain the use of refuges is much more common than on the continent (with its wide spread wild pigs). Since 2004, refuges are used in two Natura 2000 sites with very poor reptile populations in Lower-Saxony (north-west Germany). Here, the refuges are used in addition to direct search in the open and beneath natural hiding places. The aims of these studies are the evaluation of management success and the monitoring of smooth snakes and sand lizards in Natura 2000 sites. In dry heathlands five wooden boards were placed in each of four sites. In each of four wet heathlands five metal sheets ('tins') were placed. In the first year, these 40 refuges led to 32 encounters of reptiles (only lizards) and six species records for the different sites. During the »normal« assessment, 75 encounters and 22 records of species for the eight sites were made. In 2005, the numbers of encounters were similar (110 with refuges, 111 other), but at the different sites the number of species proved beneath refuges was still lower than in the normal search (15 : 20). In the whole period, 142 observations of reptiles were made with the refuges, mainly records of slow-worms (123) and smooth snakes (10). 186 observations were made with the normal search (including 34 under »natural« refuges like tree trunks and litter). 86 observations of sand lizards and 12 of smooth snakes were made in the open. Most of the smooth snake records (26) were made under pre-existing objects (e. g. tree trunks, scrap metal) that provide refuges. The numbers of smooth snake individuals under natural refuges/pre-existing objects, artificial refuges and in the open were similar (7 each). In habitats with good structures the smooth snakes were almost found in the open, whilst they were found mainly under different types of refuges in poorer habitats. In total, 68 % of slow worm, 2 % of sand lizard, 12 % common lizard, 21 % of smooth snake, 25 % of grass snake and 13 % of adder encounters were made under/on refuges. An average of 1.78 reptile and 0.12 smooth snake encounters were made per refuge and year. There were great differences in the effectiveness of refuges in the different areas and for the different species. The literature also shows wide variation in the effectiveness of refuges. In different surveys, they are responsible for 28–99 % of slow-worm, 0–34 % of sand lizard, 0–67 % of common lizard, 0–100 % of smooth snake, 0–88 % of grass snake and 0–74 % of adder encounters.

Key words: Reptilia, *Anguis fragilis*, *Coronella austriaca*, *Natrix natrix*, *Vipera berus*, *Zootoca vivipara*, *Lacerta agilis*, survey methods, artificial refuges, capture effectiveness.