

Artenspürhunde als vielversprechende Methode zur Erfassung von Amphibien im Landlebensraum – Untersuchungen am Beispiel der Kreuzkröte (*Epidalea calamita*)

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Wildlife detection dogs as a promising method to detect amphibians in terrestrial habitats – research based on the example of the natterjack toad (*Epidalea calamita*)

The use of wildlife detection dogs to detect amphibians in their terrestrial habitats is a relatively new monitoring method in Germany. In this study, the detection probabilities of transect surveys with wildlife detection dogs and an established detection method, the use of artificial cover boards, were compared using the endangered natterjack toad (*Epidalea calamita*) as an example. First, we investigated which training and environmental parameters influenced the performance of the four detection dogs with different levels of training. Subsequently, the detection success of both methods was compared under real field conditions. The detection dogs showed individual learning curves; their performance was mainly influenced by their willingness to cooperate, wind conditions, test blindness and insect presence, and stabilised at an average detection rate of 87.2% (75.7–94.8%). When comparing the methods, the detection success differed between juvenile and (sub-)adult natterjack toads: for juvenile natterjack toads, the detection method, habitat type and survey year were decisive, while for adult animals, habitat type and cumulative precipitation during the survey period were the main factors. Overall, detection dogs achieved higher success rates than cover boards, especially in densely vegetated and structurally rich habitats. Both methods are well suited for the terrestrial monitoring of *E. calamita*; however, detection dogs prove to be particularly efficient in dense vegetation, in detecting juvenile animals and in covering larger areas.

Key words: Amphibia, artificial cover boards, conservation dogs, detection dog transects, *Epidalea calamita*, method comparison, species conservation, species surveys, wildlife detection dogs.

Zusammenfassung

Der Einsatz von Artenspürhunden zum Nachweis von Amphibien in ihren terrestrischen Habitaten ist eine in Deutschland bislang vergleichsweise neue Erfassungsmethode. In dieser Studie wurden die Nachweiswahrscheinlichkeiten von Transektbegehungen mit Artenspürhunden und einer etablierten Erfassungsmethode, dem Ausbringen künstlicher Verstecke (KV), am Beispiel der gefährdeten Kreuzkröte (*Epidalea calamita*) verglichen. Zunächst wurde untersucht, welche Trainings- und Umweltparameter die Leistungsfähigkeit der vier eingesetzten Spürhunde mit unter-