

THE INFLUENCE OF FUNCTIONAL AND PHYLOGENETIC TRAITS ON SNAKES MOVEMENT AND HOME RANGE

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November 19, 2022

Abstract

Combining individual movement and home range data can allow us to better understand how an animal interacts with its surroundings and how this influences ecological dynamics. Previous studies about the movement and home range of snakes have shown several factors influencing them. Usually, these studies were made with different species, using different methods and in different regions, hampering a comparative analysis to identify general patterns. The present study aims to review all available literature about snake movement and home range identifying the influence of phylogenetic, ecological, and morphological factors on these behaviors. We conducted an exhaustive survey of specialized journals and online databases for papers that used radio telemetry to track snakes. We found 448 papers and after applying filter selected 74 of them to determine the influence of the ecological factors and of the phylogeny on snake movement and home range in 1010 snakes. Our results show that movement and home range have no phylogenetic signal, however, functional traits are linked to snake's habits and reflect the particularities of survival strategies and morphologies of each group. Larger and heavier snakes move more and occupy larger areas. Snake movement seems to be more efficient in aquatic environments. Our results provide useful data to understand the dynamics of snake movements and space use and outline strategies for their conservation.

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