

Habitat selection and spatial positioning of ambush predators within clusters: the interaction between experiments and simulation models

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Ambush predators do not chase after their prey but choose a suitable site and hunt prey that enters their attack range. I focus on wormlions, an ambush predator common in urban habitats that dig pit traps in loose soil to hunt small arthropods. I examine the wormlion preference for specific locations in their habitat, such as next to walls and stones or in the cluster periphery. I do so using observations and field experiments. I also examine the mechanisms possibly explaining such preferences. For this purpose, I use a mixture of field and lab experiments and simulation models. The simulation models are especially helpful in three ways: they can offer potential mechanistic explanations for observed patterns, they help to reach more sophisticated predictions, and they assist in analyzing data correctly (e.g., by offering a null model in the absence of any interactions among individuals or between individuals and their environment). In short, I hope to convince the audience that habitat selection in wormlions (and ambush predators in general) is a process involving complex decision-making, which is influenced by multiple considerations and which can be examined using multiple tools.



The Green building (Biotechnology) at Tel Aviv University and wormlion pits, the majority of which are located next to a wall.