

The effects of scale-dependent factors on bat communities in
pine plantations and the surrounding matrix habitat

Claudia Allegrini

MDDE, Ben-Gurion University of the Negev

02/03/2021, 12:00, at your nearest available Zoom machine

Studies on forest-dwelling bats have shown that their preferred foraging areas are planted pine forests with developed understories. In my study, I aimed to understand, at different spatial scales, how forest features, environmental factors, and adjacent forest habitats favor highly diverse communities of forest-dwelling bats. I assessed the effects of a human-modified landscape on bat communities in the Britannia Park pine forest, located in the Judean lowlands, Israel. I focused on the influence of a matrix of habitats on bat community composition, diversity, activity, and behavior. The results show that for the forest bat species' overall activity and social interactions were more common in pine plantations, while foraging and feeding were more frequent in the adjacent farmlands. These results indicate that these farmlands are important insect-rich habitats for forest species and should be taken into account in possible future forest management plans in Israel. At the regional scale, I identified the mechanism of bat species community assembly in 35 pine plantations along a temperature gradient (north to south) in Israel. I developed a model that allows predicting the variation in the species composition based on changes in environmental conditions and human disturbance, as well as traits and lineages of the bats. I showed that environmental filters act on these communities and that bat species show patterns in their geographical distribution according to their traits and phylogenetic relatedness.



This is Claudia's final PhD seminar!

