



SURE Research Publication Service

1) Reference of your publication:

Fischer, L. K., Eichfeld, J., Kowarik, I., & Buchholz, S. (2016). Disentangling urban habitat and matrix effects on wild bee species. PeerJ, 4, e2729.

2) Hyperlink to the publication:

<https://peerj.com/articles/2729/>

3) Abstract:

In face of a dramatic decline of wild bee species in many rural landscapes, potential conservation functions of urban areas gain importance. Yet effects of urbanization on pollinators, and in particular on wild bees, remain ambiguous and not comprehensively understood. This is especially true for amenity grassland and extensively managed wastelands within large-scale residential housing areas. Using Berlin as a study region, we aimed to investigate (a) if these greenspaces are accepted by wild bee assemblages as foraging habitats; (b) how assemblage structure of bees and individual bee species are affected by different habitat (e.g., management, flower density) and urban matrix variables (e.g., isolation, urbanization); and (c) to what extent grassland restoration can promote bees in urban environments. In summer 2012, we collected 62 bee species belonging to more than 20% of the taxa known for Berlin. Urbanization significantly affected species composition of bees; 18 species were affiliated to different levels of urbanization. Most bee species were not affected by any of the environmental variables tested, and urbanization had a negative effect only for one bee species. Further, we determined that restoration of diverse grasslands positively affected bee species richness in urban environments. We conclude that differently



structured and managed greenspaces in large-scale housing areas can provide additional foraging habitats and refuges for pollinators. This supports approaches towards a biodiversity friendly management within urban regions and may be of particular importance given that anthropogenic pressure is increasing in many rural landscapes.

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