



SURE Research Publication Service

1) Reference of your publication:

Fischer, L. K., Rodorff, V., von der Lippe, M., & Kowarik, I. (2016). Drivers of biodiversity patterns in parks of a growing South American megacity. *Urban Ecosystems* 19: 1231-1249.

2) Hyperlink to the publication:

<https://link.springer.com/article/10.1007/s11252-016-0537-1>

3) Abstract:

How urban habitats contribute to biodiversity conservation is a key challenge in a rapidly urbanising world. Urban parks can provide important habitats for native species, but previous studies are geographically biased; fast growing megacities, in particular in South America, are clearly understudied. To assess habitat functions and underlying drivers in parks of Santiago de Chile, we analysed the assemblages of wild growing plant species in two ubiquitous park habitat types (grasslands, wooded areas) in 15 parks (150 plots) along an urban-rural gradient. We first used linear contrasts to compare species richness, beta diversity and the proportion of introduced species. We then tested for the explanatory value of environmental variables operating at different spatial scales (plot, park, urban matrix). Unlike in most previous studies, biodiversity patterns were not related to the position of the parks on the urban-rural gradient. Introduced species, mostly from Europe, generally dominated both habitat types (>90 %). Socio-economic (population growth or density), but not spatial, variables were retained in most models. Maintenance intensity was most influential in predicting species assemblages, complemented by park age in wooded areas. A high proportion of European grassland species indicates a trend of



homogenisation in park grassland at a cross-continental scale. We conclude that habitat functions of urban parks for native species that have been mainly demonstrated for Europe cannot be generalised to South American megacities. This highlights the need for innovative and locally appropriate conservation approaches (e.g., re-introduction of native species) to foster biodiversity functions in urban parks of South American megacities.

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