ARPHA Conference Abstracts 9: e202329
doi: 10.3897/aca.9.e202329

OPEN ACCESS

Conference Abstract

Urban parks as hotspots and urban hedges as highways for woody plant invasions

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Received: 02 Jun 2026 | Published: 05 Jun 2026

Citation: Šajna N, Šipek M, Petković L, Dujmović Purgar D, Vrecl E (2026) Urban parks as hotspots and urban hedges as highways for woody plant invasions. ARPHA Conference Abstracts 9: e202329. https://doi.org/10.3897/aca.9.e202329

Abstract

Urban flora is represented by plants deliberately planted and by plants established by themselves. Opportunities for spontaneous establishment are scarce, especially for trees and other woody species and particularly if their establishment should begin from seeds What is more, urban plants can be of native or alien origin and successful spontaneous alien plants can represent a potentially invasive group of plants. We investigated the spontaneous occurrence of woody plants in urban green infrastructure of parks and urban hedges. We studied 15 urban parks in 3 European cities Ljubljana, Maribor (Slovenia), and Zagreb (Croatia) to detect possible spontaneous establishment. A total of 131 woody plant species were recorded, of which 59% were native. The highest species richness was found in the largest parks, however, park size explained only 18% of the variation in richness, whereas the variety of micro-locations had greater explanatory power. Notably, 14 invasive and 17 potentially invasive species were identified.

We recognized urban hedges as a potential safe site for the establishment of woody plants outside parks. Urban hedges form urban green infrastructure, which can connect urban and peri-urban areas and in some landscapes even natural areas. In 100 urban hedges in Maribor we recorded 70 woody species from 29 families, with 63% being alien and 10% locally invasive, while 95% of the recorded alien species originated from ornamental plantings. Urban hedge characteristics significantly influenced the richness and composition of spontaneous woody plants, which further changed along the urban-

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rural gradient. Our results confirmed that urban parks can act as major sources of potential plant invasions, while the urban hedges can act as pathways for the spread of invasive alien woody species, underscoring the need for regular monitoring and timely management interventions.

Keywords

urban flora, non-native plants, IAS, tree, shrub, Europe

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Presented at

Neobiota 2026, the 14th International Conference on Biological Invasions

Conflicts of interest

The authors have declared that no competing interests exist.