Urban canopies. Composition and shaping of a forest continuum

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Résumé

In wooded corridors linking forest areas, ecological continuity is provided by trees outside forest. Although they are declining in Europe, except in Mediterranean areas, their plantation has a lasting effect on landscapes, and allows many forest species, using these discontinuous corridors, to gradually reach all the forests crossing lightly wooded areas (Rossi et al., 2016a). The latter include urban areas, where tree cover is mainly composed of trees planted in domestic gardens. Linked to urban forests (woodlands bordering urbanised areas), this urban canopy provides a connection between forest areas and urbanised areas and forms a landscape continuity on a regional scale. According to statistics on sales of forestry plants and outdoor plants (FranceAgriMer, 2012), in 2010 private individuals planted almost as many trees as forest managers. What is this urban canopy composed of, and how is it shaped?
We will be focusing on conifers, which have been the target of major reforestation programmes over the last two centuries, with both native and exotic species used for ornamental purposes. What's more, several conifer species are host trees for a urticant forest insect, the pine processionary (Thaumetopoea pityocampa), which has been able to cross sparsely wooded areas and spread northwards as a result of climate change, accidental transport and urbanisation. The latter creates heat islands, which are favourable to the development of this insect, and, through ornamental use, increases the presence of host trees, reflecting a rapidly expanding market in recent decades. In numerical terms, these trees represent only a minority of the trees found in cities, but, with a density of more than one and a half trees per hectare, they are in sufficient quantity to generate a functional connectivity of the urban environment for the pine processionary (Rossi et al., 2016b). The presence of this species, with its urticant caterpillars, arise public health concerns that local authorities must address.

Our study focuses on the drivers of the choice of planting tree species, these long-lived organisms that are a fundamental element of urban resilience in the context of global change: individual and local factors (municipal and regional scales). A questionnaire survey was carried out in 2022 among 494 tree planters resident in two French cities (Orléans and Caen), with contrasting landscapes and unevenly affected by the colonisation of the pine processionary. Despite these differences, this study shows the same pattern in the tree species composition in private gardens; we also show the influence of the social background and the main local land cover on the choice of tree species planted, with the local landscape acting as a model for private individuals. Three types of planting behaviour were observed, the main one involving ornamental and aesthetic reasons for tree purchase. This study also shows that

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the planting of conifers, pines firstly and cedars later, has followed a trend that emerged some forty years ago and is now in decline. The growth in the consumption of ornamental plants in private gardens of urban areas has helped to create today's forest landscapes and continuities.

Cited references

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