Climbing towards the light:
Liana distribution and diversity in urban ecosystems

Marie-Hélène Brice*, Alexandre Bergeron* and Stéphanie Pellerin
Institut de recherche en biologie végétale, 4101 Sherbrooke Est, Montréal, H1X 2B2

Abstract

This study aimed to evaluate the impact of urbanization on liana distribution in temperate forests and was conducted in 50 forests of the Hochelaga Archipelago (Montréal area, Québec). Potential drivers of liana abundance at the landscape scale (e.g., land use, isolation, urban heat islands), were quantified using satellite images and land use maps. The four most common lianas, *Vitis riparia*, *Parthenocissus quinquefolia*, *Toxicodendron radicans* and *Solanum dulcamara*, were the main focus of this study and their distribution was analysed through multiple linear regression. At the landscape scale, lianas benefited from urbanization, particularly through urban heat islands, which creates a warm and dry microclimate favorable for lianas. At the forest scale, lianas were more abundant in edge habitats due to increased light availability and disturbances. Our results suggest that urbanization will lead to an increase in liana abundance and, thus, increased their role and impact in temperate forests.

Bio

Marie-Hélène Brice

I am currently a Master student in plant ecology (Biological Sciences) at the University of Montreal, studying under the supervision of Dr. Stéphanie Pellerin. My research interests focus on the influence of anthropogenic activities on vegetation patterns. For my Master thesis, I study the impact of urbanization on riparian forests in order to improve the management and conservation strategies of these ecosystems. More specifically, I seek a deeper understanding of the distribution patterns of plant species and functional traits in urban riparian forests.