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## Native plants in experimental urban green roofs sustain more diverse communities of Hemiptera than exotics



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Green roofs could promote insect biodiversity conservation in cities, but the effects of roof vegetation origin on insect communities are still poorly understood. We experimentally evaluated the effect of native and exotic plant species on the species richness, abundance, diversity, and composition of the mega diverse order Hemiptera, along an urbanization gradient. We installed, in each of 30 houses of Córdoba city, Argentina, two blocks of a modular extensive green roof system (3m<sup>2</sup> each), with either native or exotic plant species (6 species each). In March 2019 we used pan yellow traps to sample insects in each block, whereas the level of urbanization of each house was estimated by NDVI in a 400m buffer. We registered a total of 1725 individuals belonging to 68 species from 20 taxonomic families, being Sternorrhyncha the most abundant and diverse suborder. Species richness, abundance and diversity of total insects were significantly higher in native than exotic plants. The community composition of Hemiptera was also affected by plant origin. *Orius insidiosus*, the dominant predator species, had a higher probability of occurrence in native plants. On the other hand, insect abundance decreases with higher NDVI, irrespective of plants' origin. Our results highlight the relevance of using native plant species in green roofs to enhance Hemiptera species diversity, which were mainly herbivores, in order to promote plant diversity and sustain natural enemies. However, further analyses are needed to confirm if these new habitats could generate disservices since several species are potential urban pests.