Wild bee diversity and temporal dynamics in Cuban urban areas: Importance for biodiversity conservation

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Résumé

While bees play a vital role in maintaining biodiversity, they are facing multiple factors causing their decline. In tropical islands, exhaustive sampling was lacking especially in urban areas, which are less explored than natural areas. Cuba, a biodiversity hotspot in the Caribbean, hosts the highest bee biodiversity in the Antilles. Historical collections and online databases provide information on the temporal dynamics of pollinators as well as ecological information. This study investigates the diversity and ecological characteristics of the wild bee community and its temporal dynamics in Cuba, analyzing 996 records (of which 901 new) from various sources (online databases, literature, and historical natural collections during the XIX Century). Our data attest the presence in Cuba of 51 species (22 genera, 4 families), of which 47 are native (13 endemics) and four are introduced species Three species categorized as "critically endangered" for the country were found. The species have different feeding characteristic, 41 being polylectic (80.4 %) and 10 kleptoparasitic (19.6 %). Most species were found during two seasons, with a predominance in the rainy season (36 species compared to 32 species recorded in dry season). Cuba shares bee species with other islands, mainly with Hispaniola (15) and The Bahamas (13). Concerning the variation of the wild bee community over the years, we found some species recorded exclusively during specific 25-year intervals. Analysis of a century's data underscores the importance of conserving the wild bee community in these provinces.

Mots-Clés: Urban biodiversity, Ecology, Pollinator, Lecti, Phenology, Conservation, Species richness, museal collections

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