

Background: Urbanisation filters species in communities depending on their adaptability to conditions in built-up areas, especially in semi-natural habitats. Roadside vegetation is widespread along urban-rural gradients and is therefore a good place to study landscape-scale factors influencing plant community composition.

Aim: Our study aimed to assess how plant species distributions vary between urban and rural landscape contexts and to identify biological traits favoured in urban areas.

Methods: Presence/absence data for 63 indigenous common species were collected in 296 road verge patches distributed along the urban–rural gradient in three French cities. We investigated the effects of landscape composition on species assemblages and related individual species responses to urbanisation to functional traits associated with dispersal and persistence capacity.

Results: Many grassland species were negatively affected by increasing proportion of built-up areas in the landscape. Insect-pollination and high seed production appeared to be key traits favoured in grassland communities in urban areas, whereas dispersal modes were less related to plant distribution.

Conclusions: This study has demonstrated that urban filters affect common species of widespread, managed road verges. Better knowledge of the flora of these herbaceous roadsides may contribute to the conservation of common biodiversity within other grassland habitats found in urban areas.