

It's not easy being green in the Mediterranean

Jaime Madrigal-González¹, José Miguel Olano¹, Gabriel Sangüesa-Barreda¹

¹iuFOR, EiFAB, Universidad de Valladolid, Soria, Spain

Corresponding author: Jaime Madrigal-González (jaime.madrigal@uva.es)

The European Union's biodiversity strategy for 2030 aims to bring nature back to cities, supporting and preserving tree ecosystems that promote biodiversity, mitigate pollution and alleviate high temperatures. This is commendable, but urban greening faces huge challenges in Mediterranean Europe.

Management of urban ecosystems in Mediterranean cities must reconcile conflicting demands. Increasing tree canopy cover to better combat heat, for example, strains water resources that are already under pressure from climate change. When drought strikes, the trees are at risk of dangerous loss of sap and insufficient water transport. Species more suited to a warmer future might not offer the same ecosystem services as established species.

The situation is exacerbated by a conspicuous lack of understanding of tree species outside their natural environments. Research aims to fill this gap, focusing on areas such as resilience to increasing temperatures and drought stress, the role of microorganisms and soil-plant feedback in adaptation to water shortages and the complexities of urban microhabitats.

The European greening strategy must be adapted to the reality of water availability, with a specific plan developed for the Mediterranean Basin. Urban design must consider the biological needs of trees, rather than requiring trees to adjust to urban conditions.

Funding

This letter is part of the ongoing project RESISTE (CNS2022-135319) funded by MCIN/AEI/10.13039/501100011033 and by the "European Union NextGenerationEU/PRTR". Project "CLU-

2019-01 - iuFOR Institute Unit of Excellence " of the University of Valladolid, funded by the Junta de Castilla and co-financed by the European Union (ERDF "Europe drives our growth").