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Tree species effect on recruitment dynamics in Mediterranean forests affected by oak decline.

The seedling stage is probably the most vulnerable in the life cycle of plants. Seedling recruitment dynamics are therefore a main determinant of successional trajectories and community composition. Understanding the connections between the composition and abundance of the canopy and seedling layer can be extremely useful to predict how changes in forest structure due to anthropic or natural disturbances might translate into changes in the forest regeneration potential. I used a neighborhood approach to explore the relationship between the composition and health status of canopy trees and the seedling and sapling layer in mixed Quercus suber forests of southern Spain affected by problems of tree death and decline. The abundance and diversity of woody seedlings and saplings was quantified in six plots, and the position, size, identity and health status of each canopy tree was recorded. The results of the study showed that the identity, abundance, distribution and health of the dominant trees in the neighbourhood have a predictable effect on the abundance of
regeneration in the understorey. The presence of *Q. suber* and *Q. canariensis* trees had a positive effect on the abundance of conspecific seedlings and saplings, but a negative effect on heterospecific regeneration. The opposite patterns was found for *Olea europaea* trees. I did not find any evidence for a negative effect of declining or dead *Q. suber* trees on recruitment. This study constitutes a first step towards the understanding of the implications that cork oak decline might have for the recruitment dynamics of these forest ecosystems.