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Unveiling the FSC forest certification potential in safeguarding mammal populations [Student talk]

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Forestry is responsible for 26% of global forest loss. In response to increasing global deforestation, the Forest Stewardship Council (FSC) was established in 1993 to promote responsible management of forest systems. In Portugal, half of the FSC-certified area is homogeneous eucalyptus plantations (EPs; approximately 308,000 ha). These plantations limit the diversity and abundance of vertebrates in general, mainly due to limited food resources and shelter.

Remarkably, no study has investigated how mammal communities inhabiting EPs respond to sustainable forest management under the FSC scheme. Therefore, to investigate the effect of the FSC management scheme on mammals in EPs, we used a multi-regional, multi-species occupancy model to document mammal response to three types of forest management — FSC (n=3), non-FSC (n=2) and protected area (PA; n=2). We deployed 20 camera traps at each study site for 60 consecutive days during the wet and dry seasons.

Mean occupancy was highest in PA (0.50, 0.37-0.63), lower in FSC (0.40, 0.30-0.52), and lowest in nonFSC (0.37, 0.25-0.53). Four out of 10 species-area pairs had occupancy rates that were higher in the PA, mainly forest species such as the stone marten. Species-specific mean occupancy was similar between FSC and non-FSC, although the European badger, roe deer, common genet and Iberian rabbit were more common in non-FSC.

Our results showed that species with forest habits (eg, stone marten and European badger) were more abundant in PAs and nonFSC, highlighting that FSC management criteria may be inappropriate for these species. The non-FSC areas are managed by multiple owners and show heterogeneity between patches in terms of understory vegetation (with dense shrub patches), providing shelter and refuge for these species. We show that more research is needed to improve forestry practices in certified EPs to ensure that they meet sustainable production criteria and biodiversity conservation.