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# Influence of habitat edges on spatial and spatio-temporal occurrence patterns of mesocarnivores in a Eucalyptus plantation dominated landscape

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Human population growth leads to drastic changes in landscape structure that often result in fragmentation. Fragmentation modifies the landscape and divides it into smaller habitat patches, creating habitat edges. These can affect the distribution and abundance of species and influence interspecific interactions. By comparing edges with habitat interiors, we intend to study how or if habitat edges influence mesocarnivores': i) activity patterns, ii) co-occurrence in time, and iii) occupancy.

We used a camera-trapping approach to monitor the mesocarnivore community in two Eucalyptus plantations interspersed with patches of natural habitats, producing a landscape rich in habitat edges. A total of 18 camera traps were placed in each study site, half on habitat edges and half in the interior habitat. We found a higher overlap of the mesocarnivores activity patterns in interior habitat than in habitat edges and a consistent positive effect for edge density on occupancy at both species and community-level.

This study helped to demonstrate that habitat edges contribute to shape mesocarnivores' spatial and temporal behaviour. While spatially all species are positively affected by edges, as they may provide alternative or increase availability of resources, or act as travel corridors, to minimise interspecific interactions in edges, species activity overlap is greater within interior habitats than in edge habitats.

Our findings support the design of better management measures in human-altered ecosystems, such as agricultural areas and forestry plantations, to ensure biodiversity conservation while maintaining economic profitability.