Abstract

Animal-plant interactions are important for the recovery of diversity and processes in secondary forests, which increasingly dominate the tropical landscape. We used a combination of observational and experimental approaches to study the interactions of ants with diaspores across a successional gradient of forests in Southern Brazil, from August 2007 to April 2008. In addition to diaspore removal rates, we assessed the species richness, diversity and behaviour of ants interacting with diaspores, in three replicated sites of four successional stages of forests. We recorded 22 ant species interacting with diaspores (an estimated 15% of the total species pool in the region). Species richness and diversity did not differ among successional stages but the behaviour of ants towards diaspores changed with the age of secondary forests. In old successional stages the removal of entire diaspores was more common than in young successional stages of forests. Concordantly, diaspore removal rates were lowest in the youngest successional stage of secondary forests and increased with the age of forests. These results indicate that ant-diaspore interactions in secondary forests are disturbed and lower removal rates in secondary forests are likely to constrain the recruitment of plant populations during secondary succession.

Keywords

Ant-plant interactions, forest recovery, seed dispersal, seed predation, succession, tropical secondary forests.