Herbivory and seedling performance in a fragmented temperate forest of Chile

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Forest fragmentation alters plant-animal interactions, including herbivory. Relying manipulative experiments, we test if the reduction in insect herbivory associated with forest fragmentation translates into increased seedling growth and survival of three tree common species (Aristotelia chilensis, Cryptocarya alba and Persea lingue) in forest fragments and continuous forests in coastal Maulino forest, central Chile. Furthermore, we test if after protecting seedlings from herbivorous insects, plant performance is increased regardless of forest fragmentation. Nursery grown seedlings were transplanted into four forest fragments and a continuous forest during 2002. Insects, important herbivores in this forest, were excluded from half the seedlings by repeated applications of insecticides. Compared to continuous forests, in forest fragments, herbivory was reduced in all three species, seedling growth was greater in A. chilensis and C. alba but not in P. lingue, and survivorship was unaffec