

Seedling mortality and herbivory damage in subtropical and temperate populations: Testing the hypothesis of higher herbivore pressure toward the tropics

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Herbivory rates are generally thought to be higher in tropical than in temperate forests.

Nevertheless, tests of this biogeographic prediction by comparing a single plant species across a tropical-temperate range are scarce. Here, we compare herbivore damage between subtropical and temperate populations of the evergreen tree *Aextoxicon punctatum* (Olivillo), distributed between 30° and 43° S along the Pacific margin of Chile. To assess the impact of herbivory on Olivillo seedlings, we set up 29 experimental plots, 1.5 × 3 m: 16 in forests of Fray Jorge National Park (subtropical latitude), and 13 in Guabún, Chiloé Island (temperate latitude). Half of each plot was fenced around with chicken wire, to exclude small mammals, and the other half was left unfenced. In each half of the plots we planted 16 seedlings of Olivillo in December 2003, with a total of 928 plants. Seedling survival, leaf production and herbivory by invertebrates were monitored over the next 16 mo. Small mammal herbivor