

Patterns of bioactivity and herbivory on *Nothofagus* species from Chile and New Zealand

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Nothofagus species from Chile and New Zealand were surveyed in the field for invertebrate abundance and leaf feeding damage and in the laboratory for antifeedant activity against leafrollers (*Ctenopsteustis obliquana*, *Epiphyas postvittana*), deterrent activity against pea aphid (*Acyrtosiphon pisum*), insect growth regulatory activity (*Oncopeltus fasciatus*), nematicidal activity (*Caenorhabditis elegans*), antibiotic activity (*Pseudomonas solanaciarium*), and general toxicity. A data matrix indicated that *N. alessandri* and *N. pumilio* most likely have a chemical barrier to insect attack as leaves showed low faunal abundance, low herbivory, and activity in the leafroller antifeedant, aphid deterrent, and nematicidal assays. A chemical examination of *N. alessandri* that used the leafroller antifeedant test to guide the separation yielded an active fraction containing the flavonoid, galangin, and the stilbene, pinosylvin, which appear to act in concert to deter leafroller feeding. The discovery