



**2006 Annual Meeting
Memphis, Tennessee**



Icons & Upstarts in Ecology

Wednesday, August 9, 1:30-5:00 pm

[COS 62 - Invasive species IV: trophic interactions and competition](#)

Ballroom A, Ballroom Level, Cook Convention Center

Presiders: J Orrock

Enemy release or invasional meltdown? The role of exotic herbivores in pine invasion on Isla Victoria, Nahuel Huapi National Park, Argentina.

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ABSTRACT- Exotic species that invade native ecosystems are presently a leading cause of global change. How interactions between exotic species affect invasion is a fundamental issue on both theoretical and applied grounds. Exotics can facilitate the establishment and invasion of other exotics (invasional meltdown), or they can restrict their establishment and expansion by re-establishing natural population control (biocontrol and a result expected by the enemy-release hypothesis). We studied invasion on an Argentinean island where 43 species of Pinaceae, including 60% of the world's recorded invasive Pinaceae, were introduced ca. 1920 but few species are colonizing pristine areas. In this area two species of Holarctic deer, natural enemies of most Pinaceae, were introduced 80 years ago. Knowing that ungulate herbivores often affect plant populations, we expected deer to contribute to control of exotics and thereby to halt or slow their invasion. We carried out a cafeteria experiment to assess deer preferences among the two dominant native species (a conifer, *Austrocedrus chilensis*, and a beech, *Nothofagus dombeyi*) and two widely introduced exotic tree species (*Pseudotsuga menziesii* and *Pinus Ponderosa*). Deer browsing was drastically more intense on native species than on exotic conifers, in terms of the number of individuals and intensity of browsing. This deer preference for natives could potentially facilitate invasion by exotic pines. We hypothesize that the low rates of invasion can result from the high densities of exotic deer in the area, which, despite their preference for natives, can prevent establishment of both native and exotic trees. However, other factors that are not mutually exclusive could produce the observed pattern. Our study shows the difficulty of predicting the role of an introduced species in the impact of another exotic species.

Key words: invasional meltdown, invasions biology, Pinus

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