

Transit towards floristic homogenization on oceanic islands in the south-eastern Pacific: comparing pre-European and current floras

Sergio A. Castro, Mélica Muñoz, Fabian M. Jaksic

Abstract

Aim To quantify the occurrence of processes of homogenization or differentiation in the vascular flora of six oceanic islands.

Location Six islands in the south-eastern Pacific drawn from the Desventuradas Archipelago, Easter Island and the Juan Fernández Archipelago.

Methods Using published floristic studies, we determined the floristic composition of each island at two different stages: (1) pre-European colonization and (2) current flora. We compared changes in the number of shared plants and the floristic similarity among islands for each stage.

Results The number of plant species doubled from 263 in pre-European flora to 531 species currently. Only three native species became extinct, four natives were translocated among the islands and 271 plant species were introduced from outside. The frequency of plant species shared by two or more islands is higher in the post-European floras than prior to European contact, and the level of floristic similarity between islands increased slightly.

Main conclusions Considering the low naturalization rate of alien plants, the small number of extinctions and the meagre increase in floristic similarity, these islands are undergoing a slow process of floristic homogenization.