The biogeography of insular size evolution: the effects of isolation, island area and age on size changes in island plants

Matt Biddick*[1]

[1]Victoria University of Wellington – PO Box 600 Wellington 6140 NEW ZEALAND, New Zealand

Abstract

Recent evidence suggests that, like island animals, island plants evolve in repeated and predictable ways on isolated islands. Of these changes, the most frequently is the evolution of island dwarves and giants (i.e. size changes). However, to date, no study has demonstrated how size changes in islands plants vary with geography. I documented size changes in plant species widespread across ten islands off of the east coast of New Zealand. I then asked how the strength of these changes varied as a function of isolation, island area, and island age. Overall results were consistent with the island rule in animals, that is, large plant dwarfism and small plant gigantism. However, the magnitude of size changes was not consistent among islands; suggesting that geography plays an important role in the evolutionary trajectory of island plants.

Keywords: loss of size diversity, insular evolution, size changes, gigantism, dwarfism

*Speaker