The role of islands and fenced areas for mammal conservation in Australia

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Islands have been critical for conserving Australian mammal species, which have proven highly susceptible to impacts from pest species (cats, foxes, rabbits, other herbivores) introduced after European settlement. More than on other continents, these pests have subverted native mammal populations, causing multiple species extinctions. At least 8 mammal species survived this invasion shock only because of naturally-occurring populations on islands that remained pest-free. Other species survived on the mainland only precariously, and populations on pest-free islands provide some insurance against extinction. The value of islands for avoiding mammal extinctions was recognised as early as the late 1800s, with rates of island translocations accelerating during the past 40 years. The construction of barrier fences on the mainland to exclude cats/foxes, and protect native species ('mainland islands') began from the 1990s. Both approaches have been critical to the conservation of Australia's mammals (and other species), although each has constraints that limit implementation and/or require specific management focus. To describe the past, and potential future, contributions of 'island-arks' to Australian mammal conservation, we compiled information (from multiple sources) on the presence/absence of cats, foxes and threatened mammals across all Australian islands and fenced areas. We examine the value of island-arks for the persistence of species with varying susceptibility to cat/fox predation; we compare the contributions of islands and fenced areas to species' persistence; and compare the contributions of n aturally-occurring and translocated populations to species' persistence. Finally, we identify 'gaps' in representation of threatened species across island-arks.

12th International Mammalogical Congress Perth, Western Australia 9th -14th July 2017

ABSTRACT BOOK