
Mitigated predation impact of cats on continental biodiversity

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Abstract

Domestic cat (*Felis catus*) predation has been a major driver of island species extinctions, and is still suspected to threaten mainland species today. However, its continental impact remains unclear as only predation rates are usually estimated, with no quantification of actual impacts on biodiversity. In this study, we assessed the role of cat predation on prey species dynamics and biodiversity loss on continents. We built the largest cat predation database ever constructed. We focused our analysis on Australia, Europe and the United States (USA). We show that most prey species are not considered threatened by the IUCN (> 94.5% of Least Concern species), have high population sizes and are currently not declining. These major results have nonetheless to be moderated for Australia. This country has a high proportion of threatened mammals compared to the two other continents (22% and 86% of the preys listed as threatened are Australian. This difference between continents may be explained either by : (1) the relative time of coexistence between cats and their preys between the three continents and the absence of native felids prior to cat establishment in

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Australia, leading to less effective anti-predator behaviours for Australian species ; (2) an actual elimination of all cat predation sensitive preys already completed in Europe and the USA, but still occurring in Australia. Demographic modelling is currently being carried out to study the quantitative effects of cat predation on preys' future population trends and assess the extinction risks for the most endangered species of our database.

Keywords: domestic cat, *Felis catus*, predation, continents, species dynamics, threat, co, evolution