

# Alien plants and animals drive native species to extinction

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Accidentally or deliberately introduced species are the second most common threat associated with recent global extinctions of animals and plants, a new study from the University of Adelaide and UCL, in the UK, has found.

These 'alien species' have spread beyond their natural distributions by both deliberate and accidental human intervention since transnational shipping started in 1500AD and many have significant negative environmental impacts.

The study published in the journal *Biology Letters* assessed how common alien species were listed as drivers of recent extinctions in plants, amphibians, reptiles, birds, mammals, using data from the IUCN Red List.

"Our results show that alien species are the second most common threat associated with species that have gone completely extinct from these groups since 1500AD," says study leader Professor Tim Blackburn, Professor of Invasion Biology at UCL and Visiting Professorial Fellow at the University of Adelaide.

Alien species are just behind the most common threat averaged over all five groups – the most common being overexploitation of biological resources. They are, however, the most common threat associated with extinctions in each of three

of the five groups analysed (amphibians, reptiles and mammals), and the most common threat when averaged over all the vertebrates (birds, amphibians, reptiles and mammals).

Across the globe, Australia has the highest rate of recent mammalian extinctions in the wild. Co-author Associate Professor Phill Cassey, Head of the University of Adelaide's Invasion Ecology Group in the Environment Institute, says human activities were clearly raising extinction rates and the introduction of [alien species](#) is one of the leading causes.

"This study clearly shows the consequences of human participation in indirect species [extinction](#)," Associate Professor Cassey says.

"Many of these introductions have come through the legacy of European colonisation and the associated acclimatisation of animals and plants, which have become pests and weeds. However, with increased globalisation we now have a new suite of biological invaders: zoonotic diseases which because of airborne travel can arrive in the country in less than a day; and a large illegal biological trade in wildlife. This latter group is probably the least known, and therefore of considerable concern.

"The problem is that once these introduced species become established, eradication can be incredibly difficult. That is why we need such stringent biosecurity and to remain vigilant."

In Australia, the "classic cases" of introduced mammalian [species](#) impacting biodiversity and causing extinctions are the generalist herbivores (rabbits, goats, pigs and camels) and the predators (feral cats and foxes).

"There have been a number of small to medium-sized Australian mammals now extinct because of these predators," he says.

Provided by University of Adelaide

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