

# Exotic invasions can drive native species extinct

June 19 2018

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Research shows native plant species could become extinct within their natural habitats. Credit: University of Southampton

Latest research from the University of Southampton has revealed the impact of exotic species upon native wildlife, which could potentially lead to native plant species extinctions within their natural habitats.

The study, published in *Nature Communications*, underlined that even though competing [species](#) have typically lived together following past migration periods, human introduction and assistance may turn today's invaders into agents of [native species](#) extinction.

Dr. Jane Catford, Principal Investigator of the study, titled 'Introduced species that overcome life history trade-offs can cause native extinctions', said: "It is well established that introduced pests, parasites and predators can result in native species extinctions, but whether the introduction of exotic plants can lead to native plant extinctions has been hotly debated.

"Our research shows that introduced exotic plants that are free from their natural enemies or are widely planted in agriculture and gardens can competitively exclude natives.

"To help avoid this problem, we can increase the diversity of species that we use in our gardens and in agriculture, and vary the species that we plant in different areas and in different years, while a greater use of native species should also help.

In contrast to previous natural invasions where species migrated to new regions themselves, humans principally introduce modern invaders, repeatedly, and in large quantities, and in ways that can help free them from their usual enemies and competitors.

Given that the replacement of native [plants](#) and animals by [exotic species](#) occurs incrementally over many generations, and that the majority of species introductions have taken place in the last 200 years and at rapidly increasing rates, it is plausible that most invasion-induced extinctions are yet to occur.

The research, led by the University of Southampton, has indicated that humans can enhance the performance of some exotic species, giving them an unfair advantage over their competitors.

As such, modern invaders can have more offspring, live longer and become more competitive than their native counterparts, at zero cost to

the exotic invaders themselves.

As a result, exotic species that overcome life history trade-offs can increase in abundance, potentially outcompeting native species, triggering the future [extinction](#) of these species.

**More information:** Jane A. Catford et al. Introduced species that overcome life history tradeoffs can cause native extinctions, *Nature Communications* (2018). [DOI: 10.1038/s41467-018-04491-3](https://doi.org/10.1038/s41467-018-04491-3)

Provided by University of Southampton

Citation: Exotic invasions can drive native species extinct (2018, June 19) retrieved 17 April 2024 from <https://phys.org/news/2018-06-exotic-invasions-native-species-extinct.html>

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