

Climate-threatened animals unable to relocate

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Many of the European mammals whose habitat is being destroyed by climate change are not able to find new places to live elsewhere.

30 of the 62 [mammal species](#) in the University of Exeter study will have their habitat substantially affected by [climate change](#), but don't have the traits that could allow them to colonise a new [habitat](#) somewhere else in Europe.

These included at-risk species such as the wolverine (classified as "vulnerable" in Europe), and others not classified as under threat, such as the Eurasian elk, the Iberian wild goat and the Pyrenean chamois.

Most current assessments do not take account of climate change and species' ability to react, and the researchers say this means many species may be at greater risk than their official status shows.

"Some species that will need to move long distances due to climate change are simply not going to be able to," said senior author Dr. Regan Early, of the Centre for Ecology and Conservation on Exeter's Penryn Campus in Cornwall.

"Unfortunately, many of the species most at risk from climate change are also will have the most difficulty in colonising new areas."

The researchers studied two sets of characteristics to see how well each species could relocate to the places where climate will be suitable in the

future.

One important characteristic is whether the animals are "generalists" that can live in many kinds of habitats and eat a wide variety of foods.

The other important characteristic was the animal's reproductive strategy—species that breed young and have many offspring have a better chance of establishing themselves in a new area.

However, the complexities of climate change mean that some species—even those that could move relatively long distances—will struggle to move because possible new habitats are just too far from current ones.

One example is the Western Mediterranean mouse, currently found in places including Spain and Portugal.

Under predicted climate change, it may no longer be able to live in its current habitats, and might be better off in eastern Italy.

But Dr. Early points out it is "difficult" to see how the species would make such a move.

"If you look at the challenges of shifting ranges, you find that many species are a lot more threatened by climate change than we previously understood," said lead author Lisbeth Morrison.

"Even under lower estimates of climate change, we found really serious effects for many [species](#)."

The paper, published in the journal *Diversity and Distributions*, is entitled: "Species traits suggest European mammals facing the greatest [climate](#) change are also least able to colonise new locations."

More information: Lisbeth Morrison et al, Species traits suggest European mammals facing the greatest climate change are also least able to colonize new locations, *Diversity and Distributions* (2018). [DOI: 10.1111/ddi.12769](https://doi.org/10.1111/ddi.12769)

Provided by University of Exeter

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