

Trouble with parasites? Just migrate!

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Why do animals migrate? Explanations behind the evolution of such a costly, yet common behavior are varied. However, rarely do parasites and pathogens figure into the story. Researchers from the University of Minnesota and the University of Neuchâtel think this is an important oversight, and have worked out the math to prove it.

Animal [migration](#) typically takes place over a huge range of different environments. For example, animals may move from fresh to salt water, cool to hot temperatures or humid to dry climates. The researchers wondered whether these changes in the hosts' internal and external environment might actually help them get rid of their parasites.

This idea isn't as unlikely as it sounds: In the pet and aquaculture industry, fish and crustaceans are commonly dipped in water of different salinities to remove ectoparasites and reduce [skin infections](#). Birds, fish and insects are also known to seek out warmer or cooler habitats to help combat infection. Building on this concept, the team developed a model to explore whether so-called "migratory recovery" could, in theory, be a potential benefit of migration. They found that there are biologically realistic conditions under which recovery from pathogens can lead to the evolution of both migration and partial migration. Although parasite loss via changes in the host's internal or external environment have not been explicitly studied in the context of migration, the researchers highlight a number of empirical systems where there is potential for migrants to benefit from losing their parasites. The researchers encourage others to build on their model and not overlook the role that these often inconspicuous creatures have in affecting animal movement!

More information: Allison K. Shaw et al, Migratory Recovery from Infection as a Selective Pressure for the Evolution of Migration, *The American Naturalist* (2016). [DOI: 10.1086/685386](https://doi.org/10.1086/685386)

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