

Multiple infection helps malaria thrive

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Scientists have discovered why infections with two types of malaria parasite lead to greater health risks.

Their study shows that during [infection](#), one species helps the other to thrive.

They sought to understand what happens when the two most common malaria parasites cause infection at the same time, as they are known to attack the body in different ways.

Researchers found that one type of parasite leads to the second species being provided with more of the resources it needs to prosper.

Double attack

In people, a parasite known as *P. falciparum* infects red blood cells of all ages, while another – *P. vivax* – attacks only young red blood cells.

A new study in mice with equivalent malaria [parasites](#) showed that the body's response to the first infection produces more of the type of [red blood cell](#) that the second parasite needs.

In response to the first infection, millions of red blood cells are destroyed. The body responds by replenishing these cells.

These fresh cells quickly become infected by the second type of parasite, making the infection worse, the team says.

Patient risk

The finding could explain why infections with both *P. falciparum* and *P. vivax* in people often have worse outcomes for patients than single infections, researchers say.

Until recently, it was unclear how two parasite species interacted during co-infections.

Joint study

The study, published in the journal *Ecology Letters*, was carried out in collaboration with the University of Toronto.

It was funded by the Biotechnology and Biological Sciences Research Council, Natural Environment Research Council, the Wellcome Trust, Fundação para a Ciência e a Tecnologia, Natural Sciences and Engineering Research Council of Canada and the Human Frontiers Science Program.

More information: Ricardo S. Ramiro et al. Facilitation through altered resource availability in a mixed-species rodent malaria infection, *Ecology Letters* (2016). [DOI: 10.1111/ele.12639](https://doi.org/10.1111/ele.12639)

Provided by University of Edinburgh

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