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Parasites' struggle for survival 'makes malaria deadly'

Edinburgh University scientists have claimed malaria is particularly deadly because the parasites which carry it battle other infections for survival.

They found, when malaria parasites enter the bloodstream, they alter their plan of attack if they face competition from other strains of the infection.

However, it means they have less resources left to spread the disease.

Malaria, which is spread by mosquitoes, kills about one million people every year.

The scientists found the malaria parasites focus on producing cells that replicate quickly to cause infection, rather than cells capable of being taken up by a feeding mosquito and spreading the disease.

Since malaria infections usually consist of multiple, competing strains of the parasite, this attack strategy is the best way to beat the competition, the scientists said.

However, it means the parasites pay a high price, as they therefore have fewer resources left to spread the disease.

'Fight it out'

Laura Pollitt of Edinburgh University's school of biological sciences said: "Our results explain a long-standing puzzle of parasite behaviour.

"We found that when parasites compete with each other, they respond with a sophisticated strategy to safeguard their long-term survival.

"They opt to fight it out in the bloodstream rather than risk everything on the chance of infecting mosquitoes in the short term."

The research, published in the American Naturalist, was funded by the Wellcome Trust, the Biotechnology and Biological Sciences Research Council and the Natural Environment Research Council.



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