

Malaria study suggests drugs should target female parasites

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Fresh insight into the parasite that causes malaria suggests a new way to develop drugs and vaccines to tackle the disease.

Research into malaria parasites – which exist in male and female forms, and mate to spread the disease – suggests that treatments would be more likely to succeed if designed to target female forms of the parasite.

Scientists found that male parasites can adapt to new surroundings faster than the females. When malaria infects the [bloodstream](#) after a [mosquito bite](#), the male parasites are better able to react quickly to repeated attacks by the immune system and so are likely to be harder to treat with drugs and vaccines.

Researchers at the University of Edinburgh, who took part in the study, examined the [genetic fingerprint](#) of various species of malaria parasites at different stages in their [life cycles](#). They found that genes associated with male parasites tended to evolve faster over time than those of females.

Targeting the females would be more likely to succeed in killing the infection in the long term and would prevent the [parasites](#) from breeding and spreading.

The research, carried out in collaboration with the University of Glasgow, Leiden University Medical Centre, Netherlands, and the Institute of Biochemistry and Biophysics in Warsaw of the Polish

Academy of Sciences, was published in the journal *Evolution, Medicine and Public Health*. It was supported by the Wellcome Trust, the European Union, the Polish Ministry of Science and the Foundation for Polish Science.

Dr Sarah Reece of the University of Edinburgh's School of Biological Sciences, who co-led the study, said: "Malaria is notorious for evolving to evade treatment – it is crucial that drugs and vaccines are designed to target the slower, female, form of the parasite."

Provided by University of Glasgow

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