

New research shows malaria threat is as old as humanity

June 17 2010

New research published today by scientists funded by the Biotechnology and Biological Sciences Research Council (BBSRC) shows that malaria is tens of thousands of years older than previously thought. An international team, led by researchers at Imperial College London, have found that the potentially deadly tropical disease evolved alongside anatomically modern humans and moved with our ancestors as they migrated out of Africa around 60-80,000 years ago. The research is published in the journal *Current Biology*.

The findings and the techniques in the study could be important in informing current control strategies aimed at reducing the prevalence of malaria. There are an estimated 230 million cases each year, causing between 1 and 3 million deaths, and around 1.4bn people are considered to be at risk of infection.

Dr Francois Balloux from the Medical Research Council (MRC) Centre for Outbreak Analysis and Modelling at Imperial College London was lead researcher on the project. He said: "Most recent work to understand how malaria has spread across the tropics has worked on the premise that the disease arose alongside the development of agriculture around 10,000 years ago. Our research shows that the malaria parasite has evolved and spread alongside humans and is at least as old as the event of the human expansion out of Africa 60-80,000 years ago."

The international team worked on the largest collection of malaria parasites ever assembled. By characterising them by DNA sequencing

they were able to track the progress of malaria across the tropics and to calculate the age of the parasite. The scientists discovered clear correlation of decreasing genetic diversity with distance from sub-Saharan Africa. This accurately mirrored the same data for humans suggesting strong evidence of co-evolution and migration.

Dr Balloux said: "The genetic sequencing of the [malaria parasite](#) shows a geographic spread pattern with striking similarities to studies on humans. This points to a shared geographic origin, age and route of spread around the world. This understanding is important because despite the prevalence and deadly impact of malaria little research has previously been done to understand the genetic variation of the parasite. The [genetic diversity](#) of [malaria](#) parasites is central to their threat as it helps them to overcome the immune system and to develop drug resistance, making this research vital in informing new and more effective control strategies."

More information: This research is published on 17 June 2010 in the journal Current Biology - Tanabe et al., Plasmodium falciparum Accompanied the Human Expansion out of Africa, Current Biology (2010), [doi:10.1016/j.cub.2010.05.053](https://doi.org/10.1016/j.cub.2010.05.053)

Provided by Biotechnology and Biological Sciences Research Council

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