

# Malaria makes relapsing fever more serious

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Malaria and the *Borrelia* infection relapsing fever are diseases with similar symptoms that can occur simultaneously. In such cases, the malaria is moderated while the relapsing fever becomes more serious. This is shown in a new doctoral dissertation by Jenny Lundqvist at Umeå University in Sweden.

Malaria is a common disease in tropical Africa, causing between 1.5 and 2.7 million deaths each year. As a rule, only the clinical symptoms are used for quick diagnosis in order to prescribe the proper treatment. However, this type of presumptive diagnosis is problematic, as there are other diseases that have the same symptoms, such as relapsing fever (an infection caused by bacteria of the *Borrelia* genus).

How the patient is affected by this was previously unknown, and, to study the phenomenon, an animal model was created for this type of double infection. It turned out that when both diseases occur at the same time the [malaria](#) is much milder whereas the *Borrelia* infection in turn is more serious, indeed, fatal.

This is because the immune defense focuses on the malaria infection, which means that the relapsing fever can grow unhampered. Mice with double infection develop severe anemia and serious internal damage, above all in the spleen, which is important for the immune defense. Malaria can also revive a dormant *Borrelia* in the brain and cause the relapsing fever to flare up anew.

This new knowledge about double infection by malaria and relapsing

fever will be important for the diagnosis and treatment of both diseases, especially in Africa.

Provided by Swedish Research Council ([news](#) : [web](#))

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