

Body lice originate from head lice

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Body lice, which cause highly lethal epidemics (trench fever, typhus and relapsing fever *Borrelia*), originate from head lice. This has recently been shown by a team from the Emerging Infectious and Tropical Diseases Research Unit (CNRS/IRD/Université de la Méditerranée, France), in collaboration with researchers from the Universities of Florida and Illinois. This work is published in the journal *PloS Neglected Tropical Diseases* dated 24 march 2010.

Until now, [head lice](#), which feed on the scalp and lay their eggs on hair, and body lice, which feed on the rest of the body and live in the creases of dirty clothes, were thought to be different species. However, researchers from the Emerging Infectious and [Tropical Diseases](#) Research Unit (CNRS/IRD/Université de la Méditerranée) and two US teams have shown that these lice have the same origin. Through genetic analysis of highly variable sequences of the louse genome, the researchers observed that it was impossible to distinguish the head louse from the body louse at the genetic level.

In addition, fieldwork has shown that, in populations living in extreme poverty, the proliferation of head lice led to the emergence of lice able to adapt to clothes and turn into body lice. These body lice were then able to cause epidemics of body lice and bacterial epidemics.

This discovery shows that it is not possible to eradicate body lice without first eradicating head lice, which until now has proved impossible. In addition, this explains the regular appearance of body lice in areas where they were previously unknown, when sanitary conditions rapidly

deteriorate. Head lice are therefore permanently in an endemic state. In highly unfavorable sanitary conditions, head lice proliferate, and some of them migrate into clothes, triggering a new epidemic of body lice.

More information: Genotyping of human lice suggests multiple emergences of body lice from local head louse populations, W. Li, G. Ortiz, P-E. Fournier, G. Gimenez, D. L Reed, B. Pittendrigh, D. Raoult, PloS neglected Tropical Diseases, March 2010.

Provided by CNRS

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