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**Human hairs help stop the bed bugs biting**

**Hairy humans do not let the bed bugs bite according to research at the University of Sheffield which shows how hair helps us defend against and detect bloodthirsty invaders on our bodies.**

Sensitive, fine hairs which cover our bodies allow us to feel parasitic insects on our skin as well as creating a natural barrier to stop them biting us.  
  
A total of 29 volunteers braved an experiment which saw them have one armed shaved, and the other left naturally, before hungry bed bugs were placed on their skin.  
  
The results, published in the Royal Society journal Biology Letters, showed people with more layers of the longer (terminal) hairs and smaller, almost invisible, hairs (vellus) covering their arms extended the insect's search for an ideal feeding ground which in turn increased its chances of detection.  
  
Experts say because of this, bed bugs and other parasites, including mosquitoes, midges, ticks, and leeches, favour relatively hairless areas like our wrists and ankles.  
  
Professor Michael Siva-Jothy, of the University's Department of Animal and Plant Sciences, carried out the research with Sheffield Zoology graduate Isabelle Dean, who chose the subject for her honour's project.  
  
"Our findings show that more body hairs mean better detection of parasites," said Professor Siva-Jothy.

"The hairs have nerves attached to them and provide us with the ability to detect displacement.

By forming a barrier and providing detection these hairs prolong search time and make detection more likely because the bug has to spend more time clambering over them.

The results have implications for understanding why we look the way we do, what selective forces might have driven us to look the way we do, and may even provide insight for better understanding of how to reduce biting insects' impact on humans.  
  
"For example, if you have a heavy coat of long thick hairs it is easier for parasites to hide, even if you can detect them.

Our proposal is that we retain the fine covering because it aids detection and if we lost all hair, even the relatively invisible fine hair, our detection ability goes right down.  
  
Professor Siva-Jothy runs a research group seeking to understand the biology of blood-sucking insects and their reproduction and immunity.

Their aim is to find ways of controlling the insects effectively and thereby preventing the transmission of insect-vectored disease.  
  
He added: "Men have more body hair than women which is caused by the action of testosterone at puberty.

This does not necessarily mean that women are more likely to be bitten.

Blood-sucking insects are likely to have been selected to prefer to bite hosts in relatively hairless areas."

**Notes for Editors:** For more information on the University of Sheffield's Department of Animal and Plant Science visit: [Department of Animal and Plant Science](http://www.shef.ac.uk/aps)

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