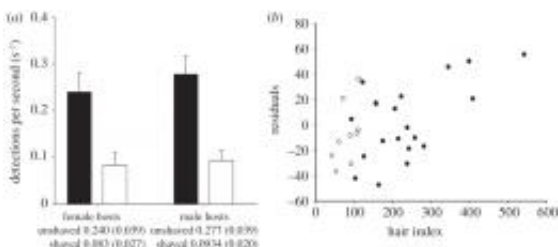


U.K. duo suggest early humans retained fine hair to ward off parasites

December 15 2011, by Bob Yirka



(a) Detection of ectoparasites on unshaved (black bars) and shaved (white bars) arms. (b). Residual detection rate (derived from detection versus search time on unshaved arms) was positively correlated with hair index. Image: © The Royal Society 2011 doi: 10.1098/rsbl.2011.0987

(PhysOrg.com) -- Evolutionary biologists have long been puzzled by the question of why human beings have retained body hair. Most agree that changes to the fur that our ancestors sported came about as a means to keep cool in the hot African climate. So why then, didn't we just lose our body hair completely, instead of having it change from long thick fur, to short and thin hair that makes us look like we're mostly bald all over anyway, when actually, we still have just as many hairs as we ever did? Isabelle Dean and Michael Siva-Jothy think they've figured it out and have published a paper in *Biology Letters* explaining how they believe it's all about warding off skin parasites.

Suspecting that having fine short hair, rather than no hair at all would

help us detect the presence of skin parasites such as [bed bugs](#), the two set up an experiment using volunteers from the University of Sheffield where they both work, to find out. The volunteers were made up of ten women and nineteen men each of whom had one small square on one arm shaved for testing. Hungry bed bugs were then dropped onto the bare skin to see how long it took the volunteer to feel its presence. Also timed was how long it took the bed bug to pick a spot for parking and eating. The bugs were removed just before they bit. The same experiment was performed on each volunteer on the other unshaved arm as well to provide a way to compare results.

After tallying up the results afterwards, the researchers found that more hair causes bed bugs to take a lot longer to find a spot to eat, which makes sense because all those little body hairs make the trip more difficult. Sort of like the difference between us humans walking down the street or wading through a dense thicket. What's perhaps more surprising, but maybe shouldn't be, is that the volunteers all took much longer to feel the bug crawling on their skin on the shaved patch, then on the unshaved arm, indicating that the presence of fine hair helps us to feel such parasites on our skin and to get rid of them before they can begin biting us.

Not surprisingly, men were better at detecting bed bugs on the unshaved arm, due to having thicker and longer hair than women. As to why men are generally hairier looking than women, the researchers suggest it might be due to something as simple as women preferring men with fewer parasites on them, which would imply more [hair](#).

More information: Human fine body hair enhances ectoparasite detection, *Biol. Lett.* Published online before print December 14, 2011, [doi: 10.1098/rsbl.2011.0987](https://doi.org/10.1098/rsbl.2011.0987)

Abstract

Although we are relatively naked in comparison with other primates, the human body is covered in a layer of fine hair (vellus and terminal hair) at a relatively high follicular density. There are relatively few explanations for the evolutionary maintenance of this type of human hair. Here, we experimentally test the hypothesis that human fine body hair plays a defensive function against ectoparasites (bed bugs). Our results show that fine body hair enhances the detection of ectoparasites through the combined effects of (i) increasing the parasite's search time and (ii) enhancing its detection.

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