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March 14, 2008 at 10:46 AM EDT

Deciphering DEET

More than 50 years ago, the U.S. Army developed DEET to help protects soldiers fighting in bug-infested jungles. DEET quickly became popular at family picnics and summer campgrounds, too. And it remains the unrivalled king of bug repellents. But scientists were never quite sure how the stuff actually drove away the pesky critters.

Now, a team of researchers says they have solved the mystery. "The common wisdom is that it smells bad to mosquitoes, but our work definitively shows that it acts by blocking the insects' sense of smell," said lead researcher Leslie Vosshall of the Rockefeller University in New York.

Mosquitoes and other blood-sucking insects use smell to find food, she noted. They can zero in on chemicals produced in human sweat. DEET (chemically known as N,N-diethyl-m-toluamide) essentially clogs the odour receptors of insects so they can't clue in to the fact that people have the aroma of a tasty meal.

The findings, published in today's issue of the journal Science, could lead to new and improved bug repellants, which may help prevent mosquito-borne diseases such as malaria and West Nile virus.

"Not everyone likes DEET on their skin. It feels greasy to some people ... It also melts plastics and is not recommended for infants," Dr. Vosshall said.

"Perhaps we can develop new compounds that act on the same molecular targets but don't have the unpleasant qualities of DEET."