Oils ain’t oils to mosquitoes

By CAITLIN CHANG

Are mosquitoes attracted to certain people?

SUMMER is here, and so are the mosquitoes. But why is it that some people are forced to spend a summer’s evening swatting and scratching, while others can last the night unscathed?

Among the more common beliefs about mosquitoes is that they are attracted to dark clothing and certain skin and blood types. There have been studies into which factors influence mosquitoes, but Dr Nigel Beebe, a senior lecturer at the University of Queensland’s school of biological sciences, says it comes down to odour.

“Normally, a mosquito will cue upon a carbon dioxide plume that’s come from a vertebrate host [for example, a person] and as it gets closer, it picks up on smells from that host,” he says.

“The [smells] coming off the human are often oils we have on our skin. They are long-chain fatty acids and when the micro-organisms on our bodies break down these chains, they become more volatile.”

In other words, says Beebe, “the oils secreted by the skin glands give each person a distinct odour ‘fingerprint’ that can make them more or less attractive to mosquitoes”.

One study published in medical journal The Lancet in 2000 looked at the attraction of mosquitoes to pregnant women. They found that pregnant women drew twice as many mosquitoes as other women. The study noted that their higher body temperatures and the expulsion of a larger amount of carbon dioxide during pregnancy made them more susceptible to mosquito bites.

And what about people with different blood types?

“I can’t understand why proteins on a blood cell would have any influence on the smell of a human being,” Beebe says. “I think it’s the old wives’ tale rearing its head.”

There is evidence, however, that when people exercise, and therefore sweat, they are more enticing to mozzies. “If you sweat, you secrete more oil, your body becomes warmer and you become a bit smelly,” Beebe says.

He adds that substances such as DEET and picaridin, found in most commercial repellents, are most effective when it comes to fighting mosquitoes. Natural remedies, such as citronella and garlic are limited in their effectiveness, says Beebe. “Studies show that a lot of natural repellents work for only a short time.”

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