Suspending a chicken over your bed could protect against Zika virus and malaria

* [Sarah Knapton](http://www.telegraph.co.uk/authors/sarah-knapton/), science editor

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It sounds like a pretty 'fowl' suggestion but the odour of chickens could be the key to preventing malaria or even [Zika](http://www.telegraph.co.uk/travel/news/Zika-virus-medical-advice-for-travellers/), scientists believe.

Experiments by Swedish and Ethiopian scientists found that mosquitoes steer clear of homes which contain a live chicken suspended in a cage.

The researchers believe mosquitoes are wary of chickens because the birds eat the insects, and their blood is not nutritious enough to be worth the taking the risk.

Crucially the mosquitos do not even have to see the chicken to be diverted. The smell alone creates a poultry ‘odour bubble’ which deters even the hungriest mosquito from going anywhere near the pungent source. Most mosquitoes will not even enter a house that contains a chicken, let alone a bedroom.

But is suspending a chicken in your bedroom sounds a little extreme, scientists have isolated the chemical compounds and are now planning to develop a repellent.

Professor Richard Ignell, of the Swedish University of Agricultural Sciences, said: “We were surprised to find that malaria mosquitoes are repelled by the odors emitted by chickens.

“The difference between this repellent and ones on the market is it acts on a very large scale. Most repellents only work after a mosquito lands on you but we know that this can cut populations by up to 95 per cent throughout an entire house, so it’s very efficient.

“It really creates an odour bubble which stops the mosquitos coming near, so it can stop the spread of malaria.”

Asked if it could work to prevent [Zika](http://www.telegraph.co.uk/news/2016/03/22/zika-outbreak-where-is-the-virus-spreading/), Ignell said: “I think it should. We haven’t tested it on other mosquitos but there are lots of varieties which won’t feed on chickens and so would be repelled.

“Chickens actually feed on mosquitoes so the insects keep their distances. Their blood is also not very nutritious so the insects have no need to come near.

“This study shows for the first time that malaria mosquitoes actively avoid feeding on certain animal species, and that this behavior is regulated through odor cues.”

Zika virus was declared a global emergency by the World Health Organisation earlier this year and more than 50 countries have confirmed outbreaks.

To find out which species the mosquitoes avoid, the research team collected data on the population of human and domestic animals in three Ethiopian villages, with the help of Addis Ababa University, in Ethiopia.

People living in the areas in which the research was conducted share their living quarters with their livestock.

The researchers found that *Anopheles arabiensis*, one of the predominant species transmitting malaria in sub-Saharan Africa, avoids chickens both indoors and outside.

They then identified chemical compounds that were only present in chicken feathers and placed them on traps in 11 homes.

The researchers found that significantly fewer mosquitoes were caught in traps baited with chicken compounds than in control traps.

Suspending a living chicken in a cage next to a trap had a similar repellent effect.

The main mosquito species that transmits [Zika](http://www.telegraph.co.uk/news/health/news/12134648/Zika-outbreak-is-now-a-global-emergency-says-World-Health-Organisation.html)is*Aedes aegypti* and laboratory tests have shown that it much prefers feeding on humans and dogs, although will occasionally bite chickens if they are restrained.

Prof Ignell said it should definitely help people avoid malaria.

“People in sub-Saharan Africa have suffered considerably under the burden of malaria over an extended period of time and mosquitoes are becoming increasingly physiologically resistant to pesticides, while also changing their feeding habits for example by moving from indoors to outdoors.

“For this reason there is a need to develop novel control methods. In our study, we have been able to identify a number of natural odour compounds which could repel host-seeking malaria mosquitoes and prevent them from getting in contact with people.”

The research was published in Malaria Journal.