

Study: Mosquitoes carried across the Sahel by wind, possibly spreading malaria

October 3 2019, by Bob Yirka



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An international team of researchers has found evidence showing that

the type of mosquito that carries malaria parasites can be carried hundreds of kilometers by the wind. In their paper published in the journal *Nature*, the group describes their study of windborne mosquitoes in the Sahel and what they found. Nora Besansky with the University of Notre Dame has published a News & Views [piece](#) in the same journal article outlining the work by the team—she also gives a brief overview of other known insect flight migrations.

Mosquitoes have been very intensely studied by scientists as they are vectors for the transmission of diseases. Over the course such study, researchers have learned much, including the types of [mosquitoes](#) that carry malaria parasites, for example. But it appears that there is more to be learned, as the researchers with this new effort have discovered something about the movement of mosquitoes that until recently was thought impossible.

In recent years, scientists have sought to unravel the mystery of how mosquito populations rise so quickly in the Sahel (dry areas south of the Sahara Desert) after the onset of the rainy season. The population rises faster than reproduction rates suggest. In this new effort, the researchers believe they have solved the mystery—new mosquitoes are carried by the wind from other places to the Sahel.

The researchers came to this conclusion after setting up [helium balloons](#) in several villages in Mali—each had sticky nets affixed to them to capture mosquitoes in the air above the villages. Over the course of two years, the team managed to capture a host of bugs, which included 235 mosquitoes of the type that carry the malaria parasite. They report that they found there were more mosquitoes at higher altitudes (up to 290 meters from the ground) than at lower altitudes. They also found that 80 percent of those captured were female—the gender that spreads malaria. Ninety percent of those had human blood in their bellies.

The researchers acknowledge that it was impossible to figure out where the mosquitoes came from, but by studying weather and wind charts, they were able to calculate that some of the mosquitoes had come from as far away as 300 kilometers—in just one night's travel. One sticking point in the research was that none of the mosquitoes captured were infected with [malaria parasites](#). The researchers suggest this is not surprising, considering the small sample. They plan to continue the research to determine if such mosquitoes really are moving huge distances.

More information: Diana L. Huestis et al. Windborne long-distance migration of malaria mosquitoes in the Sahel, *Nature* (2019). [DOI: 10.1038/s41586-019-1622-4](https://doi.org/10.1038/s41586-019-1622-4)

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