

Doctoral student Izabela Ragan co-authors paper exploring potential role of North American animals as Zika virus hosts

By Sarah Hancock

Researchers know that Zika is spread by mosquitos, but questions about whether domesticated or wild animals serve as reservoirs for the virus have loomed. If animals living in proximity to humans carry the virus, controlling Zika in urban environments would be vastly more difficult because mosquitos could bite the animals then transmit the virus to humans. A paper published in the [Journal of Vector-Borne & Zoonotic Diseases](#) has helped allay those fears.

K-State doctoral student Izabela Ragan collaborated with Colorado State University scientists to co-author "[Investigating the Potential Role of North American Animals as Hosts for Zika Virus](#)," which was published online on Feb. 1. The research found that many different animals — including cattle, chickens, frogs, pigs, rabbits, raccoons, sparrows and goats — are not hosts for Zika.

"We know that nonhuman primates are important in the sylvatic cycle of Zika virus, but little is known about whether animals common to North America have a role as hosts for the virus," said Ragan, who is completing her doctorate in pathobiology in the College of Veterinary Medicine at K-State.

"Not only has this study been a great learning experience for me as a graduate student, but it comes at a critical time where the knowledge we gain from this work can help us in understanding Zika. It is important for me as a veterinarian to research these emerging viruses, such as Zika virus, where there are possible impacts in both public and animal health. Understanding the potential role of animals in the transmission of the virus will help guide the development of countermeasure against Zika," Ragan said.

Stephen Higgs, director of the Kansas State University Biosecurity Research Institute and editor-in-chief of the [Journal of Vector-Borne & Zoonotic Diseases](#), said the paper addressed an important question.

"Given the recent emergence and rapid spread of Zika virus, with establishment in many countries, it is vitally important to understand the potential for the virus to be transmitted outside of a human-mosquito cycle. The results of this collaborative project between veterinarians at Colorado State and Kansas State are reassuring, with none of the 16 species tested likely to make a significant contribution to the zoonotic transmission cycle of Zika virus," Higgs said.

Ragan hopes to complete her doctoral work this year on the development of novel diagnostic tests to detect Rift Valley Fever virus. From there, she plans to pursue her interests in agro-biodefense and focus her research on emerging and zoonotic diseases. Her training is preparing her to work in facilities such as the National Bio and Agro-defense Facility.

Ragan's work was supported by the Department of Homeland Security and the [Center of Excellence for Emerging and Zoonotic Animal Diseases](#).