

Never kiss a kissing bug

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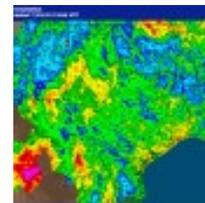
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Common insect may harbor disease-causing parasite

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COLLEGE STATION – One look at the kissing bug and kissing would be the last thought most folks would have, but even touching one can sometimes have dire consequences, said a vector-borne disease expert with Texas A&M University who is leading a study and asking for the public's help to determine the insect pests' current range in the southern U.S.



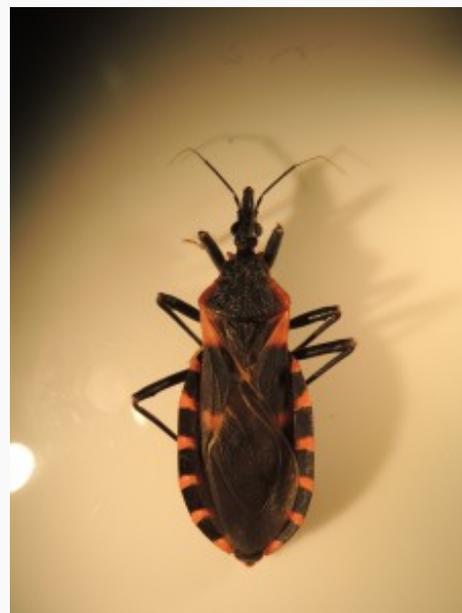
The study team includes Dr. Sarah Hamer, study leader and an assistant professor along with doctoral student Rachel Curtis, both with the department of veterinary integrative biosciences; Dr. Gabriel Hamer, department of entomology faculty member; and Dr. Karen Snowden, department of veterinary pathobiology, all at Texas A&M University.

The team is studying kissing bugs and Chagas disease, which is caused by parasites many of the bugs harbor.

“Kissing bugs are commonly known as cone-nose bugs or Mexican bed bugs,” Hamer said. “The adult bugs feed on blood at night. They are called kissing bugs because they often bite people around the mouth or eyes while they sleep.”

She said kissing bugs are not to be confused with the common bed bug of the cimicid family, or with other bugs that look similar but do not feed on blood, such as leaf-footed bugs.

“Chagas disease is a major public health concern in Central and South America, but new evidence suggests that kissing bugs and the parasite that causes Chagas disease are becoming increasingly recognized in the southern U.S. Our research group is actively sampling the vector and mammals that may be infected to understand



Triatoma sanguisuga adult female, sometimes called the kissing bug, is the vector or “carrier” of the parasite that causes Chagas disease in humans and dogs. (Texas A&M University photo by Rachel Curtis)

the natural cycles of disease transmission. With the public's help, we hope to increase our sample size to understand the ecology of the disease emergence in the U.S.," Hamer said.

Hamer warns never to touch a kissing bug with a bare hand, because the parasite *Trypanosoma cruzi*, which causes Chagas disease in humans and dogs, may be present within the bug and its feces. And she said, even if the bug is not carrying the parasite, a bite can cause an allergic reaction in some individuals similar to bites from other insects.

"If you see a bug that you believe is a kissing bug and you would like confirmation of the species identity and to submit it for testing, our lab will accept carefully-obtained samples for research purposes," she said.

To submit a sample, Hamer advised using a glove or small plastic bag to catch the insect while avoiding direct contact. Store the bug in a sealed plastic bag, in a vial, or other small container. All surfaces the bug touched should then be thoroughly cleaned.

Hamer said there are 11 species of kissing bugs in Texas with *Triatoma sanguisuga*, *Triatoma indictiva* and *Triatoma gerstaeckeri* being the three most common. They all are about an inch long and are found around woodpiles, yard debris and woodrat nests. Like many blood-feeding insects, they are also attracted to the lights and carbon dioxide associated with human houses and dog kennels.

Hamer said the parasite that causes Chagas disease lives in the kissing bugs' digestive system.

"After taking a blood meal from a human or dog, the kissing bug then defecates and the parasites are in the feces. Open wounds on the host animal, even the bite that the bug just made in feeding, and mucous membranes, are all pathways through which the parasite can enter the host's body and cause infection."

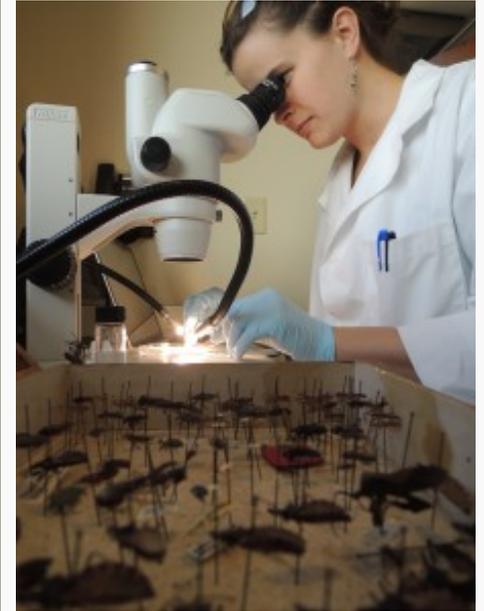
Chagas disease causes a localized reaction at first, but the parasite can later affect the heart and digestive tract, and can ultimately cause death. No vaccines exist and medications are few and not always effective, Hamer said.

Hamer said Curtis is the primary contact at the Texas A&M lab for the public regarding questions about Chagas disease or inquiries about where to direct kissing bug sample submissions. She can be contacted at rcurtis@cvm.tamu.edu or 979-458-4924.

"For our research, it is very important for us to know the time and date the bug was collected and exactly where the bug was found and what it was doing: flying, walking or some other activity," Hamer said.

"Samples from the bugs, wild animals and dogs are being tested for the parasite. One of our research goals is to understand how Chagas disease is being maintained among kissing bugs, wildlife and domestic animals in order to reduce the risk of the disease becoming a major public health concern in the U.S."

Hamer noted that the Texas Department of State Health and Human Services also is a great contact for the public regarding insect identification and information.



Rachel Curtis, doctoral student in the department of veterinary integrative biosciences at Texas A&M University, identifying kissing bugs. (Texas A&M University photo by Dr. Gabriel Hamer)