

Demystifying kissing bugs identification for a broad audience: Guide to Chagas disease vector species of the United States (Hemiptera: Reduviidae: Triatominae)

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Chagas disease is caused by *Trypanosoma cruzi*, the protozoan parasite vectored by the subfamily Triatomine, which are known as conenose bugs or kissing bugs. Chagas disease is considered a neglected tropical disease, with an estimation of 6 to 7 million people being infected in Latin America. The vectors and parasite are also endemic across the southern United States, where the awareness for Chagas disease is increasing, including the acknowledgement of locally-acquired human and canine cases. This study analyzed public kissing bug submissions, which revealed persistent misidentifications. Individuals with and without entomological expertise have difficulty distinguishing blood-feeding Triatomini from similar looking Hemipterans and other common insects, which can lead to unwarranted public worry when these non-vectors are misidentified as Triatomini species. As part of a public health entomology outreach initiative, this project has developed a guide that does not require entomological expertise and provides the user the necessary descriptions to differentiate Chagas disease vectors from other insects. Additionally, dichotomous keys are included in this study, in which users can navigate from insect order down to the 11-kissing bug species that occur in the U.S. The broad audience of these resources includes medical and veterinary professionals, concerned citizens, local public health workers, and professional pest managers. Ensuring the proper identification of a suspected kissing bug is the first step in an integrative vector management program.