William J. Lechel, II
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Name: **Ryan K. Kimbiruaskas – Michigan State University**

Presentation Title: **Gut Content Analysis of Aquatic Hemiptera Using Molecular Techniques**

Abstract:

Buruli ulcer (BU) is an emerging tropical disease caused by infection with Mycobacterium ulcerans (MU). The environmental reservoirs of MU and disease vectors have not yet been clearly identified; however, aquatic insects have been implicated as playing a role in both the movement of the pathogen and transmission of the disease to humans. In West Africa, naucorid water bugs are being investigated as possible vectors of BU, and trophic models have been developed to show how MU could potentially move through aquatic food webs to naucorids and other biting Hemiptera. One of our research objectives is to expand on these models by identifying the natural prey of naucorids in waterbodies of Ghana, West Africa. To do this, we developed specific prey primers for the ten most abundant invertebrate prey encountered during the study, and we will be using PCR to test those primers against the dissected guts from 100 field caught naucorids (Naucoris sp.). We are still in the process of running these tests and look forward to sharing the results during our presentation at this meeting. It is expected that Naucoris sp. of Ghana is a generalist predator, and we anticipate detecting prey DNA of multiple species and trophic levels from their guts. Results from this study will help to more confidently construct aquatic macroinvertebrate food webs in West Africa, and help to better understand the potential role of aquatic insects in the movement and transmission of BU in West Africa.