

**Speaker:**

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Date: Monday, Oct. 12, 2020**Time:** 4:00 pm - 4:50 pm**Zoom:** 952-3324-4564**Passcode:** 835322**Title:**

"Evolution of spiderweb association in thread-legged assassin bugs"

Abstract:

Emesinae sensu lato (Hemiptera: Reduviidae: Emesinae, Saicinae, and Visayanocorinae) include species that prey on spiders in their web, many of which use complex predation strategies. Potentially due to this unexplored niche, Emesinae are species rich, with over 950 species in 95 genera. Though many Emesinae are free-living with no apparent association with spider webs, the range of spider-oriented behaviors that evolved within Emesinae include mimicking prey to draw the spider closer, living deep within caves on spider webs and kleptoparasitism of spider prey. In addition, emesine morphology is highly divergent from that in other reduviids, potentially due to a lifestyle closely associated with spider webs. I integrated Sanger sequencing (150+ taxa) and Anchored Hybrid Enrichment data (13 taxa) to build a phylogenetic hypothesis and determine relationships between subfamilies, tribes and genera. Saicinae was recovered as paraphyletic with respect to Emesinae, with Visayanocorinae nested within the Emesinae + Saicinae complex. Using ancestral state reconstructions, I traced potentially web-associated morphological characters onto the tree and conducted correlation analyses. The highest correlation likelihood value was found between web association and foretarsal claw asymmetry. My study provides the framework for future behavioral and morphological work on these incredible insects.