



Daisy Porter

Thesis Defense

College of Science and Engineering Technology

Department of Biological Sciences

M.S. Biology

**Review of *Hypothyce mixta* Howden 1968
(Coleoptera: Scarabaeidae: Melolonthinae)**

Hypothyce mixta is a species of scarab beetle endemic to sandy soils in east Texas. The hypothesis presented in this thesis is that *H. mixta* is a taxonomically unrecognized, cryptic species complex in which highly endemic populations have undergone sufficient genetic divergence over time to justify their recognition as separate species. To test this hypothesis I used mitochondrial and nuclear gene sequences in phylogenetic analysis. A phylogenetic analysis of the nuclear gene 28S showed there is enough gene flow occurring between populations to maintain the singular species representation of *Hypothyce mixta* but a phylogenetic analysis of the CO1 gene could not be replicated. However, there are distinct minor morphological differences between populations suggesting that this gene flow may be limited and that populations are diverging.

Event Information

February 23, 2023

1:00 pm

LSB 405

Committee Members

Dr. Jerry Cook

Dr. Christopher Randle

Dr. Sibyl Bucheli

Dr. William Godwin



Sam Houston State University

PUBLIC DEFENSE ANNOUNCEMENT