

**ABSTRACT:** Trace results of over ten years of research culminating in my book by Tor Hansen and Mark Mello, "Butterflies Across Cape Cod." Talk features highlights of some 80 species known to Cape Cod, Massachusetts, in terms of distribution and frequency, habitat utilization, profiling some nectaring species and meadow oases, pollinium (milkweed) carriers, imbibing nymphalids, such as Red Admirals, Mourning cloaks, Question Marks, and enclaves of Red-spotted Purples. Glimpse inhabitants of glacial sand plain, pine and oak woodland edges, sand dune and dune swales, salt marshes and migrants along the seashore, including "What is the state of the Monarch, both breeding and migratory, and its dependency on Cape Cod habitat and flora."

**Hay-Roe, Mirian Medina**, McGuire Center for Lepidoptera and Biodiversity, Florida Museum of Natural History, University of Florida, PO Box 112710, Gainesville, FL; mmhr@ufl.edu

**"On the Role of Acoustics and Chemical Signals Used by *Heliconius* Pupal Maters"**

**ABSTRACT:** Most butterflies use visual stimuli to find their mates. Patterns of coloration play an important role in intraspecific communication and also predator avoidance. However, butterflies that are part of a Müllerian mimicry ring probably use alternative signals for intraspecific recognition and do not rely on visual stimuli alone.

Various species of *Heliconius* butterflies possess the unusual habit of mating during female eclosion. Males constantly search for pupae, sit on them, usually in groups of 3-4, and compete to mate when eclosion occurs. Currently I am exploring two potential factors that could be involved in mate selection in *Heliconius erato*: the role of acoustics, and the mode of action of chemical signals in female recognition by adult males. Pupae of *Heliconius* butterflies produce audible sounds at different stages of pupal development and these sounds have a tendency to fade away at the late pupal stage and display a gender variation. Conversely, chemical signal becomes differentiated at late stages of pupal development, though they also display a significant variation between genders. These two events might play an important role in the search for pupae by males.

**Hughes, Tia M.**, and Jeffrey M. Marcus, Dept. of Biology, Western Kentucky University, Bowling Green, Kentucky 42101; morrit@wku.edu

**"Molecular Phylogenetics and the Evolution of Mimicry in the Butterfly Genus *Basilarchia*" [Student Paper]**