

The Department of ENTOMOLOGY



Smithsonian Institution



Seminar Series

Featuring: Wendy Moore, Ph.D.
Schlinger Foundation Postdoctoral Fellow in Systematic Entomology
California Academy of Sciences

Wednesday, 24 October, 1:00 p.m.
Rose Seminar Room (NHB 339)



Evolution of adult and larval structure, DNA sequences, chemicals, and behavior of Paussine beetles (Coleoptera: Carabidae: Paussinae)

Paussinae is a monophyletic group containing approximately 750 species. Many paussine species have cracked the chemical code of ants, allowing them to invade their nests. Once inside, the adults eat ants and lay their eggs, and it is here that their young develop.

Adaptations to a life with ants have resulted in the evolution of a host of extremely modified structural features. Using molecular sequence data from

multiple genes to infer the evolutionary relationships within the Paussinae, Dr. Moore creates the foundation for exploring the evolution of myrmecophily and the biogeographic history of this group. Results provide evidence for several changes in the classification within the Paussinae, remarkable convergences of morphological structure and behavior, and ancient geological explanations for some present-day distribution patterns.

Dr. Moore also studies the evolution of explosive defensive chemistry, which is unique to the Paussinae and one other carabid subfamily, the Brachininae. Using molecular and genomic approaches, she examines whether or not this remarkable structural and chemical system has evolved independently in these lineages. This work focuses on a fundamental question in ground beetle (Carabidae) systematics as it addresses the organization of the major lineages of this large family of insects.