



Conference Abstract

# Mediterranean Ant Nest Beetles (Carabidae: *Paussus*): Out of Africa and Asia

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## Abstract

Endemic to the Palaeotropic and southern Palaeartic regions, ant nest beetles (Carabidae: *Paussus*) are specialized predators that depend on ants for their survival. This obligate relationship has driven extreme morphological adaptations that obscured our understanding of *Paussus* species relationships and subgeneric clades for centuries. Molecular phylogenetics has revealed patterns of relationship with high levels of convergence, and as a general rule, areas of endemism are better predictors of monophyly than overall morphology. For example, the species rich fauna of Madagascar is the product of one dispersal event from Africa approximately 2.6 million years ago, after which Malagasy ant nest beetles undertook one of the fastest species radiations ever documented within animals. With their center of diversity in sub-Saharan Africa, the *Paussus* fauna of the Mediterranean is relatively depauperate with only seven species described from north of the Sahara. Pre-molecular subgeneric classifications, which were based on overall morphology, suggest that these seven species represent five species group lineages. Here, we use molecular sequence data from five genes and a taxon-sampling strategy aimed at investigating the biogeographic origins of five Mediterranean species. We find that the present-day Mediterranean fauna, unlike that of Madagascar, is the result of five separate dispersal events, four from the Afrotropical Region and one from the Indomalayan Region. Implications of associated host ant shifts are also explored.

**Keywords**

Ant Nest Beetles, biogeography, Mediterranean, molecular phylogeny

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