

ALL STAFF AND STUDENTS ARE WELCOME TO ATTEND

A.N.U. Seminar

RESEARCH SCHOOL OF BIOLOGY (BOTANY AND ZOOLOGY)

Thursday 10 September 2009, 1pm

Understanding species limits within *Pauropsalta annulata* cicadas

Evidence from calling songs, plant associations, morphology, biogeography and molecular phylogenetics



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Until recently, the cicada *Pauropsalta annulata* Goding and Froggatt, from eastern Australia, was considered to represent a single species with a variable calling song. Empirical analysis of calling songs, morphology and plant associations across the geographical distributions of a subset of known song types has revealed a group of cryptic species. Here I examine (1) components of their calling songs in the context of male-female mating interactions to determine their specific functions, and (2) the phylogenetic relationships of the whole species complex with molecular dating to explore its origins.

The results show that the most consistent part of the calling song (the “lilting” component) forms the active component in male-female duets. It is also this component of the calling song that differs most consistently between the species. Phylogenetic reconstructions from molecular data generally support the monophyly of species recognised on the basis of differences in their calling songs and morphology, with some exceptions. Evidence suggests that incomplete lineage sorting is largely responsible for this pattern, with only a few instances explainable in terms of contemporary hybridization. Molecular dating reveals a much older origin than expected for this complex of cryptic species. 12 species and four subspecies are now recognised within the *P. annulata* species complex and these are now in the process of being formally described.

For further info about this seminar please contact:
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Seminars are held in the Botany & Zoology Seminar Room, Building 116 Daley Rd, ANU