ALL STAFF AND STUDENTS ARE WELCOME TO ATTEND

A.N.U. Seminar

RESEARCH SCHOOL OF BIOLOGY (BOTANY AND ZOOLOGY)

Thursday 17 September 2009, 1pm

The evolution and divergence of mating signals and preferences

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Botany and Zoology
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Processes that affect the evolution of female preferences or male display traits involved in mating decisions in different geographic areas have the potential to result in within-species divergence. This could occur via reinforcement of mate recognition in species using the same traits for species recognition and sexual selection. Sympatric individuals experience reinforcement of female preferences and male display traits, whereas allopatric individuals do not, creating the potential for divergent sexual selection in sympatric and allopatric populations.

Sexual selection operates on the cuticular hydrocarbons (CHCs) of *Drosophila serrata*, and reinforcement on the CHCs of populations sympatric with *D. birchii*. Under the influence of sexual selection, male CHCs evolved from an intermediate phenotype to resemble an allopatric phenotype, which was driven by female choice. Additionally, female choice resulted in evolution of an allopatric female preference, so that allopatric males were preferred to sympatric males. Allopatric CHCs and preferences represent a sexual selection optimum via female choice. Sympatric populations display suboptimal phenotypes relative to their allopatric conspecifics. The combination of reinforcement and sexual selection can therefore generate divergence in female preferences and male display traits. These results have implications for the effect that other types of species interactions may have on sexual selection and speciation.

For further info about this seminar please contact:
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