



EvoLunch

Influence of Self-incompatibility locus on gene flow between populations

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To prevent selfing and inbreeding, flowering plants have evolved various mechanisms, one of them being self-incompatibility. In these systems, when a plant has particular alleles at the S-locus it can only be fertilized by a pollen carrying a different S-allele. The S-locus is thus under negative frequency-dependent selection, where rare S-alleles have a mating advantage compared to common S-alleles. In a metapopulation, the rare allele advantage means that the S-locus has a higher effective migration rate, which affects the dynamics at adjacent loci: neutral loci linked to the S-locus may have enhanced gene flow and may spread more rapidly in the recipient population. However, loci under divergent selection can reduce gene flow, which leads to a tension between different parts of the genome. In our deterministic model of one-way migration between two populations, we focus on how the S-locus boosts gene flow of linked neutral alleles and how it interacts with background selection due to a linked negatively selected locus. The model was inspired by a hybrid zone in *Antirrhinum* (snapdragons).

Wednesday, October 16, 2019 12:30pm - 01:30pm

IST Austria Campus I22 Lakeside View (I22.01)



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