



Seminar/Talk

A molecular evolutionary investigation of an arms-race associated with male-sterility in a plant

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Host: Nick Barton

Biological situations involving conflict can produce arms race situations with repeated fixations of different functional variants, producing selective sweeps and lower neutral diversity around the functional locus. Alternatively, they can lead to balancing selection, potentially creating long coalescent times for sites with functionally different variants, and for haplotypes carrying such variants if they are located in non-recombining genome regions. We tested between these possibilities in a gynodioecious plant, *Plantago lanceolata*, in which cytoplasmic male-sterility factors conflict with nuclear restorers of male fertility. We find low mitochondrial diversity. However, we found a derived haplotype that has a restricted geographic distribution, and is associated with male fertility, and has fixed differences from the ancestral sequence in several genes, suggesting that it did not arise very recently. The results suggest soft" selective sweeps involving a moderately old-established haplotype, consistent with the frequency fluctuations predicted by theoretical models of gynodioecy.

Tuesday, November 28, 2017 12:00pm - 01:30pm

I22 Lakeside View (I22.01)



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