

SEE 2013



Seminars in Ecology and Evolution

September 30 . Ophelie Ronce

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EFFECT OF POLLEN DISPERSAL ON PLANT RANGE SHIFT AND ADAPTATION UNDER WARMING CLIMATE

The large bioclimatic envelope of many plant species hides a collection of highly differentiated populations and genotypes with contrasting adaptation to local climate. Shifts in bioclimatic envelopes due to climate warming are likely to generate not only potential extinction and recolonization, but also large reorganization of genetic diversity within the species range. I will show how different modelling approaches can be used to better understand the interactions between range shifts and adaptation for plant species confronted to the double challenge of adapting to climate, which is variable both in space and in time. In particular, I will illustrate how species distribution models based on phenological responses can inform us on how selection varies among localities and with climate warming. Quantitative genetics models coupled with demographic models were used to predict the specific effects of pollen and seed dispersal on plant adaptation and range shift. Interestingly, we find that, as pollen dispersal distance increases, the species niche evolves to adapt to warmer climates but it tracks the shift in its former bioclimatic envelope with increasing delays.

at Edifício C6 - Faculdade de Ciências da Universidade
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