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Grande salle + visioconférence

REPEATED EVOLUTION DURING HABITAT TRANSITIONS FROM MARINE TO FRESHWATER

par
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- The repeated evolution of similar phenotypes in multiple independent populations (i.e., parallel evolution) is a testimony of evolution by natural selection. Investigating the evolutionary processes underlying repeated evolution is not only of pure academic interest, but can also inform on how natural populations can respond to the ever-increasing selective pressures imposed by global environmental change. Furthermore, a deeper understanding of the parameters influencing the probability of repeated evolution – and therefore its predictability – could inform on the direction of evolutionary responses in the face of climate change. Habitat-shifting species – i.e., species colonizing new habitats, naturally or through human activities – offer an opportune model to study these questions as they often display remarkable adaptations to new environmental conditions, and sometimes at a very short time scale.
- In this talk, I will discuss the results of recent work focusing on two different model species sharing a similar history of transition from marine to freshwater habitats: the nine-spined stickleback (*Pungitius pungitius*) and the calanoid copepod *Eurytemora affinis*.
- First, I will present the results of two studies investigating the repeated evolution of behaviour and body size in multiple freshwater populations of *P. pungitius*, and discuss the role of phenotypic plasticity, and age-dependant genetic architecture in parallel evolution. Finally, I will introduce preliminary results on my ongoing project at the University of Montpellier focusing on rapid adaptation to salinity variation in *E. affinis*.
- Overall, this work opens interesting avenues of research for future studies investigating parallel evolution in the wild, and particularly how experimental quantitative genetics approaches can shed light on the parameters influencing the predictability of evolution.
- L'orateur peut indifféremment s'exprimer en français ou en anglais.

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