11
AVR.
2024

de 13h à 14h
Salle de formation PRABI

SÉMINAIRE

Why should we care about extinct parasites? Constraining the evolution and extinction of parasites with fossil evidence and novel co-phylogenetic methods

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Parasitism is one of the most common modes of life. Despite the large diversity and importance of parasites today, their evolutionary history remains poorly constrained. This has been largely related to their poor fossil record, which hampers our understanding of the impact on extinction and host radiations on their evolution. Recent data underline that the fossil record of parasitism is patchy but more diverse than commonly assumed. Recent analyses of parasites with preservable structures or characteristic pathologies show an amplification of parasitism with biodiversity and dilution with extinction. These analyses also provide evidence for obvious host switches or extinctions, which cautioning against smodels of pure co-divergence. The reliance on host calibrations to constrain divergence time therefore needs to be approached with caution. Novel cophylogenetic approaches can contribute to forecast more accurately the impact of host extinction on diversity particularly when extinct taxa can meaningfully be integrated. Moreover, a comprehensive understanding of historical transitions can serve as a foundation for predicting future shifts in their diversity and distribution.