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What makes a zombie ant tick? An integrative approach towards understanding the molecular basis of parasitic behavioral manipulation

LE JEUDI 4 JUILLET 2019 À 12 H 30

Pavillon Charles-Eugène-Marchand, salle Hydro-Québec (1210)

Parasites can evolve complex strategies to increase transmission. Adaptively manipulating host behavior is one of them. Ants are incredibly abundant across ecosystems where they encounter such “zombie-making” parasites from various taxa. These parasites commonly induce summitting and biting behavior in their ant hosts suggesting that the underlying mechanisms have convergently evolved. The so-called “zombie ants”, ants of the tribe Camponotini infected by fungi of the genus *Ophiocordyceps*, are a striking example of this phenomenon. My lab uses an integrative approach to unravel how *Ophiocordyceps* fungi are able to establish the altered ant behaviors we observe. A combination of various “-omics” techniques, behavioral analyses, forward genetics and longitudinal field surveys are moving us closer to unraveling the fungal neuromodulators, ant behavioral pathways, and abiotic factors in play. In this presentation I will provide a synthesis of some of our recently conducted studies. We have unveiled the gene expression patterns in both fungus and ant that underlie the manipulated biting phenotype across species interactions. Field studies showed that light might be an important abiotic driver to facilitate precise summitting behavior. And, being able to hijack behavioral outputs of the host’s daily clock might be part of the mechanisms that drive precise timing of manipulation.

Lunch et breuvages seront offerts.

SVP confirmer votre présence sur : <https://doodle.com/poll/6xyrdg7svc4gm8af>

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