

Encadrement :

Nom Prenom : Dr JACQUIN Lisa, Pr READER Simon– McGill University, Montréal

Courriel : jacquin.lisa@gmail.com **Nature du financement de la gratification :** possibilité de candidature du stagiaire à des bourses internationales France-Canada (Tomlinson, FQRNT ou autre) si éligible

acquis prévu

Titre du stage :

Behavioral types and melanin-based coloration in the Trinidadian guppy

Mots clés :

Evolutionary ecology, personality, social interactions, colored signals, host-parasite interactions, aquatic ecosystems

Résumé :

Individuals in wild populations often show consistent behaviors across time or contexts but the ecological conditions promoting the apparition and maintenance of such behavioral types (also called personalities) remain elusive. Predators and parasites are thought to be powerful evolutionary forces promoting the apparition and maintenance of personality traits because they strongly influence the costs and benefits of social and risk-taking behaviors. Moreover, recent studies suggest that melanin-based coloration could be a signal of such behavioral types for conspecifics and play an important role in sexual selection (Ducrest et al. 2008). However, the role of parasitism in the evolution of melanin-based coloration and personality remains poorly known (Kortet et al. 2010). During this project, the student will compare the shoaling tendency, boldness and melanin-based coloration of offspring (F2) guppies *Poecilia reticulata* having evolved under different predation and parasitism conditions in Trinidadian rivers. He or she will characterize their coloration and behavioral types and compare the direct effects of experimental infection with ectoparasites (*Gyrodactylus sp*) on behavior and immune response between those populations, in order to test to what extent they are locally adapted to their environment. The proposed internship will take place at McGill University in the city of Montréal in Québec, under the supervision of Lisa Jacquin (ATER Univ de Pau, <https://sites.google.com/site/jacquinlisa/>) and Dr Simon Reader (Associate Pr Univ McGill, <http://biology.mcgill.ca/faculty/reader/>), with the collaboration Dr Andrew Hendry (Associate Pr Univ McGill, <http://redpath-staff.mcgill.ca/hendry/>)

Deux références bibliographiques:

Kortet R, Hedrick AV, Vainikka A 2010. Parasitism, predation, and the evolution of animal personalities. Ecology Letters 13:1449-1458

Ducrest, A.-L., Keller, L. and Roulin, A. 2008. Pleiotropy in the melanocortin system, coloration and behavioural syndromes. Trends in Ecology and Evolution 23: 502

Techniques mises en œuvre:

Experimental infections, immune test (PHA), personality tests, behavioral monitoring (JWatcher), picture analysis (ImageJ), fish rearing, statistical analyses (R)

Compétences particulières exigées:

Indépendance, autonomie, rigueur et patience, sociabilité, enthousiasme, connaissance de l'anglais (équipe d'accueil anglophone), connaissance de R souhaitée

A retourner à Loic Bollache (bollache@u-bourgogne.fr)