

Youn Henry

French citizenship

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Current position

2019-2021 **Postdoctoral researcher** in Eawag, Zürich
“The role of symbiont-conferred resistance in natural host-parasitoid communities”
Supervision: C. Vorburger

The topic of beneficial host-microbe interactions is a fantastic place to explore complex coevolution stories, physiological adaptations, and broad ecology questions. In this project, I study the aphid x facultative symbiont x parasitoid wasp tripartite interaction, focusing on ecological and evolutionary aspects. Especially, my work aims to unravel the facultative symbiont diversity –whether at the species or haplotype level– in several species of the *Aphis* genus, in order to understand its defensive roles against the parasitism pressure of *Lysiphlebus fabarum*.

Education

Degrees

2015-2018 **PhD** at the Ecobio lab, Rennes.
“Influence of dietary factors and gut microbiota on stress tolerance in *Drosophila melanogaster*”
Supervision: D. Renault & H. Colinet

2014-2015 **MSc** in Evolutive, Behavioral and Functional Ecology
University of Rennes 1 (with honors, rank 3/18)

2012-2013 **BSc** in Organism Biology
University of Rennes 1 (with honors, rank 5/123)

Internships

2015 “Combined effects of temperature and ammonia pollution on molecular responses and survival of *Gammarus pulex*”
6 months at University of Rennes 1, UMR CNRS 6553 ÉCOBIO
Supervision: H. Colinet & C. Piscart

2014 “Exploring cross-tolerance effects of acclimation to hydric stress in the lesser mealworm *Alphitobius diaperinus* (Coleoptera: Tenebrionidae)”
2 months at University of Rennes 1, UMR CNRS 6553 ÉCOBIO
Supervision: D. Renault

2013 “Characterizing dispersal of the land snail *Cornu aspersa*: importance of size and sexual maturity”
1 month at University of Rennes 1, UMR CNRS 6553 ÉCOBIO
Supervision: M. Dahiré

Articles

Published

1. **Henry Y.**, Tarapacki P., Colinet H. (2020) Larval density affects phenotype and surrounding bacterial community without altering gut microbiota in *Drosophila melanogaster*, *FEMS Microbiology Ecology* **96**, 4.
2. **Henry Y.**, Overgaard J., Colinet H. (2020) Dietary nutrient balance shapes phenotypic traits of *Drosophila melanogaster* in interaction with microbiota. *Comparative Biochemistry and Physiology Part A: Molecular & Integrative Physiology* **241**, 110626.
3. **Henry Y.**, Colinet H. (2018) Microbiota disruption leads to reduced cold tolerance in *Drosophila* flies. *The Science of Nature* **150**, 59.

4. **Henry Y.**, Renault D., & Colinet H. (2018). Hormesis-like effect of mild larval crowding on thermotolerance in *Drosophila* flies. *Journal of Experimental Biology* **221**, 3.
5. **Henry Y.**, Piscart C., Charles S., Colinet H. (2017) Combined effect of temperature and ammonia on survival and molecular response of the freshwater crustacean *Gammarus pulex*. *Ecotoxicology and Environmental Safety* **137**, 42-48.
6. Renault D., **Henry Y.**, Colinet H. (2015). Acclimation to desiccation conditions and cross-tolerance with thermal stress in the lesser mealworm *Alphitobius diaperinus* (Coleoptera: Tenebrionidae). *Revue d'Écologie*, **70**.

International conferences

Talks

Henry Y., Brechbühler E., Vorburger C. Gated communities: inter- and intraspecific diversity of endosymbionts across four sympatric aphid species. Biology 20, February 2020, Fribourg, Switzerland.

Henry Y., Overgaard J., Kristensen T., Colinet H. Nutrient balance and gut microbiota: a deciding interaction for thermal stress tolerance in *Drosophila melanogaster*? ISEPEP7, July 2017, Tartu, Estonia

Henry Y., Colinet H., Piscart C. Réponses écophysiologicals de *Gammarus pulex* à l'interaction stress thermique et ammoniac. Colloque d'écophysologie animale CEPA November 2015, La Rochelle, France

Renault D., **Henry Y.**, Colinet H. Tolérance croisée de la résistance aux stress thermiques et à la dessiccation : un atout pour le succès invasif du petit ténébrion ? GDR InvaBio October 2014, Rennes, France

Posters

Henry Y., Piscart C., Colinet H., Charles S. Combined effect of temperature and ammonia on the freshwater crustacean *Gammarus pulex*. SETAC May 2016, Nantes, France

Service

Reviewer

Referee for diverse peer-reviewed journals, including Journal of Experimental Biology, The FEBS journal, Ecology and Evolution, Environment International, BMC Evolutionary Biology etc.

Grants

2018 "Biologie Santé Innovation Technologique" (BIOSIT)
High throughput fly gut microbiota assay project (**4000 €**)

2017 "Mobilité sortante Rennes Métropole"
Mobility grant for collaboration project with zoophysiology lab in Aarhus University, Denmark (**2400 €**)

2016 "Axe fédérateur Biostress"
Funding for experiments. Including DNA extraction, purification and 16S sequencing (**2000 €**)

Teaching

Monitor

2020 Tutor in "**Environmental biology seminar**" course
(ETH Zurich, BSc level, 5h)

2019-2020 Supervisor in writing class "**Ecology and evolution: term paper and seminar**"
(ETH Zurich, MSc level, 6h)

<p>Supervision of trainees</p>	<p>2015-2016 Theoretical and practical courses in animal biology and evolution (University of Rennes 1, BSc level, 64h)</p> <ul style="list-style-type: none"> - Organization of life: phylogeny and characteristics of main metazoans taxa - Nutrition and reproduction: reproduction characteristics and nutrition strategies in metazoans - Diversity of life: in-depth presentation of selected arthropods groups <hr/> <p>2020 Supervision of 3rd year BSc student Esther Brechbühler– “Host-associated bacterial symbiont diversity and strain diversity of <i>Hamiltonella defensa</i> across four common aphid species of the genus <i>Aphis</i>”</p> <p>2018 Supervision of 1st year MSc student Pénélope Tarapaki– “Intra- and inter-generational effects of larval crowding in <i>Drosophila melanogaster</i>”</p>
<p>Skills</p> <p>Languages</p> <p>Techniques</p> <p>Informatics</p>	<p>French – mother tongue English – fluent Spanish & German – basic level</p> <hr/> <p>Phenotyping (life history traits, stress tolerance, behavior), insect rearing, gut microbiota manipulation, basic microbiology, extractions (DNA, RNA, metabolites), PCR and qPCR, 16S sequencing data analysis, RNA seq data analysis, phylogenies based on sequence polymorphism, metabolomic analyses (GC-MS, spectrometry), respirometry</p> <hr/> <p>Data analysis: R, Graphpad Prism, Geneious Image edition: Inkscape, Adobe photoshop suite Office softwares: Microsoft Office suite</p>
<p>References</p>	<p>David Renault - MSc internship and PhD supervisor UMR 6553 ÉCOBIO, CNRS – University of Rennes 1, France david.renault@univ-rennes1.fr, +33 (0)2 23 23 66 27</p> <p>Hervé Colinet - PhD co-supervisor UMR 6553 ÉCOBIO, CNRS - University of Rennes 1, France herve.colinet@univ-rennes1.fr, +33 (0)2 23 23 64 38</p> <p>Johannes Overgaard - Scientific collaborator Department of Bioscience - Aarhus University, Denmark johannes.overgaard@bios.au.dk</p> <p>Christoph Vorburger - Postdoc supervisor EAWAG - Zürich, France christoph.vorburger@eawag.ch</p>