

SCIENTIFIC WORK

Endoparasitoid lifestyle promotes domestication of dsDNA viruses

Biorxiv preprint

Guinet.B, Lepetit.D, G.Notton D, Talamas.E , Rasplus.J-Y, Stigenberg.J, Sigsgaard.L,Ris.N, NBuhl.P ,Charlat.S ,de Vienne.D, Bastien.B,Varaldi.J

Study of large-scale viral insertions and domestications within 124 species of Hymenoptera revealing an effect of the endo-parasitoid lifestyle on the ability to endogenise and domesticate viral elements from double-stranded DNA viruses.

Proposal for a new viral *Naldaviricetes* family associated with Hymenoptera parasitoids

In prep

Guinet.B, Leobold.M, Herniou.E, Drezen J-M, Bézier.A, Varaldi.J

Collaboration with the IRBI team from Tours to characterize a new LbFV-like viral family member of the *Lefavirales* order (*Filamentoviridae*).

Cretaceous origin of viral domestication in Eucoilini wasps

In prep

Guinet.B, Boussau.B, Vogel.J, Peters.R, Hrcek.J, Matthew L. Buffington, Varaldi.J

Work dating back to 75mya the domestication of multiple genes from a *Filamentoviridae* ancestral member within the Eucoilini trib. Using also paleovirology to calibrate the age of *Filamentoviridae*.

A behavior-manipulating virus relative as a source of adaptive genes for *Drosophila* parasitoids

2021 (MBE)

Di Giovanni.D, Lepetit.D, Guinet.B , Bennetot.B, Boulesteix.M, Couté.Y, Bouchez.O, Ravallec.M, Varaldi.J

Study characterising the domestication event from a LbFV related virus in three *Leptopilina* species.

TALKS AND SCIENTIFIC POSTERS

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|---|---------------|
| • Congresses of the European Society for Evolutionary Biology (talk) | Prague - 2022 |
| • The congress of the International Society of Symbiosis / Holobiont (talk) | Lyon - 2022 |
| • Environmental and Agronomical Genomics Symposium (talk) | Tours - 2021 |
| • PhD students' day organised by the LBBE animatorium (talk) | Lyon - 2021 |
| • BARCamp online organised by the Lyon1 University (talk) | Lyon - 2020 |
| • Alphy conference (bioinformatic conference) (poster) | Lyon - 2019 |

SKILLS

- Bioinformatics, with an interest in Python programming (pipeline building within snakemake).
- Genomic mining, databasing and automating a range of sequence analyses : (Genome annotation, phylogeny inference, selective pressure analysis, gene ontology, synteny analysis, endogenisation event characterization, sequence homology research, clustering, TEs annotations, gene expression analysis).
- Bio-statistics using frequentist and bayesian frameworks.

FORMATIONS

Ph.D, E2ME school UCBL LYON1	Oct 2019 - today
Master 2 , Ecology, Evolution, Genomics UCBL LYON1 3/19	2018 - 2019
Master 1 , Biodiversity, Ecology, Evolution UCBL LYON1 10/43	2017 - 2018
Erasmus to Tromsø (L3) Norway	2016
Bachelor of Science in Biodiversity UCBL1 LYON1 20/89	2014 - 2017

TEACHING ACTIVITIES

L1 - General genetic	2019 - 2022
L2 - Population genetics	Total = 192 hours
L2 - Statistics	
L2 - Bioinformatic	
L1 - Cross-disciplinary teaching to help students find their way	

FORMATIONS

- Bayesian statistics (20h) | LYON
- Research ethics, reinforced course (online course + case study) (25h) | online
- dN/dS workshop (speaker) | LYON
- Bio-informatic cluster workshop | LYON

OUTREACH

The Pangolin Project Association

The Pangolin Project, initiated in October 2017, is a science outreach programme for children, teenagers and adults. Its aim is to raise awareness, at all ages, of biodiversity conservation issues. This programme also enables these different audiences to take responsibility and gives them the opportunity to become actors in the protection of the environment. Through voluntary interventions in classes ranging from primary to secondary school, we offer students the opportunity to understand how an ecosystem works. We also give them the tools to participate in the protection of our environment at their level. I also participate in the writing of articles of scientific popularization hosted on the website of the association.

Science festival

- Greco-Roman archaeological site of Vienna (Pangolin Projet stand) 2021
- Faculty Lyon1 library (LBBE stand) 2021
- Lyon Natural History Museum (LBBE stand) 2020

Declics

As part of the Declics initiative, I was able to participate in a 3-hour session at the Lycée Albert Camus in Rilleux-la-Pape. The main objective was to answer questions from students about our scientific background and work.