

Training plan

1. Training courses

- Workshop: *Introduction to Bayesian inference in practice*, Live Online Course – 8th Edition. Expected in May 2024. Organized by [Transmitting Science](#). Instructors: Daniele Silvestro and Tobias Andermann.
- Support obtained from the free tutorials prepared to explain the use of the software PyRate prepared by Daniele Silvestro from <https://github.com/dsilvestro/PyRate>.

2. Research stays

- University of Gothenburg, Sweden (3 months). Training and familiarization in the use of software and Bayesian modelling applied to evolutionary biology. Responsible: Daniele Silvestro.
- Institut des Sciences de l'Evolution de Montpellier, France (3 months). Formation on integrative approach mixing phylogenetics, paleontology, ecology, species traits, and paleoclimate to understand the onset of deep-time organisms richness patterns. Responsible: Fabien L. Condamine.

3. Conference attendance

- ICE2024 – XXVII International Congress of Entomology, Kyoto, Japan (August 25th–30th 2024).
- Evolution, Athens, Greece (June 20th–24th 2025).
- SEP 2025 – Jornadas de la Sociedad Española de Paleontología, to specify (2025)
- ICE2026 – XXVIII International Congress of Entomology, to specify (2026)

4. Expected results

As the results are analyzed, the student will be encouraged to take the initiative in discussing them and writing scientific papers that we plan to publish in high impact journals.

At least three publications are expected: a main result estimating correlations between beetle diversification dynamics and multiple environmental variables, and two more specific analysis of parameters of paleoecological importance (i) the beetle-plant relationship in the fossil record and (ii) the evolution of pollinator behavior in Coleoptera.

5. Day-to-day supervision

The supervisor/researcher interactions for the day-to-day work will include a weekly meeting to share new information, to help solve difficulties and provide guidance. A monthly progress monitoring meeting will allow a more in-depth discussion of the project development, evaluation of the planned research and the pursuit of the objectives. In addition, a virtual meeting with Dr. Condamine every month will complete the support needed for this project plan.

