

## PhD position in behavioral ecology and thermal biology

# Impact of thermal stress on ant colony foundation

Application deadline: March 24<sup>th</sup> 2024

We offer a **fully-funded 3-year PhD position** supervised by Romain Libbrecht and Marlène Goubault at the Insect Biology Research Institute (UMR7261, CNRS, University of Tours) to study the impact of thermal stress on the process of colony foundation in ants.

Global warming not only leads to an increase in average temperatures but also to episodes of extreme heat that threaten the balance of ecosystems. Ants play crucial roles in this ecological balance due to their significant biomass, interactions with other species, and their influence on soil properties. While studies of the effects of thermal disturbances on ants have primarily focused on mature colonies, the impact on the colony foundation process remains poorly understood.

Preliminary research from our group shows that an acute thermal shock results in a reduced success of colony foundation. This PhD project will **aim to understand the impact of thermal stresses on colony foundation** in the black garden ant (*Lasius niger*). Specifically, the PhD student will investigate the effects of various temperature treatments on the fecundity, behavior and cooperation of founding queens, the survival and development of the brood, and the morphology and behavior of the workers produced.



### WHAT WE OFFER

The research will include ant collection in the field, experimental manipulations (temperature treatments, cross fostering) and monitoring of ant colonies in the lab, behavioral experiments and morphometry. The student will also get hands-on training in experimental design, thermal biology and statistics, and will have the opportunity to communicate their research at national and international scientific conferences. The PhD project will be financially supported by the recently-funded ANR project *ANTOGENY*.

### WHO WE ARE LOOKING FOR

A highly motivated student with a Master degree in biology (at the starting date of the position), good written and oral communication skills, and a keen interest in animal behavior and thermal biology. Previous experience with social insects, behavioral experiments, thermal biology and statistics is advantageous, but not required.

The successful applicant will join an international, interactive and dynamic scientific environment at the Insect Biology Research Institute (UMR7261, CNRS, University of Tours), with access to state-of-the-art, well-equipped laboratories and climate-controlled rooms. Tours is a French historic city located on the Loire river with a large student population and a rich social and cultural life.

Applications should include a 1-page cover letter describing the motivation, previous research activities and current research interests of the applicant, the CV of the applicant, all BSc/MSc university grades, and the names and email addresses of two potential referees. Please send all documents as a single PDF file before March 24<sup>th</sup> 2024 to Romain Libbrecht (romain.libbrecht@univ-tours.fr) and Marlène Goubault (marlene.goubault@univ-tours.fr). The starting date for the position is October 1<sup>st</sup> 2024.