# 2-year Postdoc on Aquatic-Terrestrial Ecology: “Impacts of aquatic stressors on pollinators and pollination in a changing climate”

A 2-year postdoc stipendium is open for applications to work on an interdisciplinary project on aquatic-terrestrial ecology at the Department of Biology, Lund University. The project will be based at the Aquatic Ecology and Biodiversity Units under the supervision of Dr. Pablo Urrutia-Cordero and Dr. Björn Klatt.

**Work environment**

Lund University is consistently ranked among the world's top 100 universities (i.e., among the top 0.4% of the world's universities). The Department of Biology (https://www.biology.lu.se/about-us) represents a vibrant, inspirational, and interdisciplinary environment, with 22 different research groups working on multiple subjects, from molecules and protein production to ecological systems, and from genetic code to behaviour (https://www.biology.lu.se/research/research-groups).

Lund University welcomes researchers with diverse backgrounds and experiences. We regard gender equality and diversity as a strength and an asset.

**Background**

Pollinators are currently showing alarming declines in abundance and diversity over the past decades, especially in Europe and North America. These widespread declines endanger pollination and reproduction of both wild and cultivated plants. The increasing reduction of pollinator abundance and diversity has been attributed to loss of floral resources, spread of diseases, habitat fragmentation and use of pesticides, primarily resulting from intensified agriculture. While the study of these stressors on pollinators, and especially bees (one of the most important pollinator groups), has received considerable attention in recent years, little is known on the importance of reduced water resource quality for pollinator health and efficiency. Mass proliferations (or “blooms”) of toxic cyanobacteria (“blue-green algae” producing potent toxins) are a pervasive ecological phenomenon in most agricultural and urban landscapes due to the intense nutrient enrichment of freshwaters. The exposure of pollinators to toxic cyanobacteria is therefore likely very common since pollinators must collect water from these freshwater bodies. The need for pollinators to collect water will become even more critical as climate warming proceeds, in concert with an increased incidence of toxic blooms. Furthermore, the negative effects of toxic cyanobacterial blooms on pollination are likely to interact with other aquatic stressors, such as pesticides or plastic pollution from agricultural waste.

**Work duties**

The postdoc will investigate specific impacts of toxic cyanobacterial blooms on pollinators and pollination in a changing climate, with a specific focus on bee populations in agricultural areas. The successful candidate is expected to independently conduct laboratory, greenhouse and field experiments that evaluate how exposure to toxic cyanobacteria via water foraging affects bee health and pollination efficiency under different climatic conditions. The postdoc will be actively involved in all steps and decisions regarding (1) design and performance of experiments and field studies, (2) analysis of samples and data collection (cyanobacteria, cyanobacterial toxins, bee health), (3) data analyses, and (4) publications. The postdoc is also expected to collaborate with and to communicate results to stakeholders and advisors (farmers, The Rural Economy, and Agricultural Society).

The research will take place within the two collaborating units at the Department of Biology at Lund university, Aquatic Ecology and Biodiversity.

The postdoc is based on a stipend and hence it is 100% focused on research. However, the supervision of MSc and BSc students can be integrated if aligned with the focus and tasks of the project.

**Candidate qualification requirements**

The candidate should meet the following main qualifications:

- Holds a PhD related to aquatic ecology or pollination ecology.
- Excellent oral and written proficiency in English.
- Demonstrated ability for analytical and independent work.
- Practical experience of and aptitude in experimental ecology.
- Practical experience of and aptitude in field work studies.
- Demonstrated skills in scientific publishing.
- Driving license.

In addition to the main qualifications, documented experience in the following areas will be considered as strong merits (please note that, given the cross-disciplinary nature of the project, not all requirements are expected from the candidate):

- Knowledge on phytoplankton (cyanobacterial) ecology.
- Knowledge on bee ecology.
- Experience of phytoplankton sample analyses with inverted microscopy or FlowCam.
- Experience of biological and chemical field work
- Experience in experiments with different bee species and pollination.
- Strong experience of data management, data analyses and statistics (e.g., in R).
- A particular interest in conservation of nature.

**Terms of stipendium**

This is a full-time postdoc of 2 years. Monthly net salary is 25 000 SEK. Please note that the researcher will be supported with a research stipendium, and that no taxes are to be applied to the salary. Research stipendiums come with basic insurances covered through agreement with the Legal, Financial and Administrative Services Agency (Kammarkollegiet) (https://www.kammarkollegiet.se/engelska/start).

**Application process**

Interested candidates will need:

- Letter of interest summarizing previous experience and interests on the project (1 page).
- Abbreviated CV (maximum of 3 pages).
- Publication list.
- Copy of the doctoral degree certificate.
- Names and contacts of two references.
- Other documents and certificates supporting the skills of the candidate for the position.

All documents should be written in English and combined in single PDF. The application and all documents should be send to **pablo.urrutia_cordero@biol.lu.se** & **bjorn.klatt@biol.lu.se**.
The selection will be based on these documents and shortlisted candidates will be invited for an interview.

The final day for applying is Jan 15 (12.00 pm Stockholm time), 2023.

The candidate is expected to start as soon as possible after the decision, and preferably no later than April 2023.