Linnæus University

Doctoral student in ecology with specialization in marine ecology

Kalmar

Diarienummer: HR 2022/811-2.2.1

Welcome to Linnaeus University! We meet the societal challenges of today and tomorrow in a spirit of openness, curiosity and creativity. By creating arenas for exchange of knowledge from different subjects, fields and cultures, we open up for new ideas and create new opportunities for long-term sustainable societal development. Linnaeus University – where people grow.

The Department of Biology and Environmental Science is part of the Faculty of Health and Life Sciences. The research activities within this multidisciplinary department include the areas of aquatic ecology, cell and organism biology, evolutionary biology, microbiology, environmental science and environmental engineering as well as disease ecology.

Field of subject for the appointment: Ecology with specialization in marine ecology

Placement city: Kalmar, Sweden

Job description

Coastal areas are some of the most productive aquatic systems worldwide, but they are under intense exploitation and pressure from human activities. Zooplankton and macroinvertebrates in these systems constitute the main food resource for fish during their spring development. Likewise, several macroinvertebrates are semiaquatic and provide an important food resource for birds, bats etc. during the terrestrial adult phase. However, the factors regulating production, spring phenology, biodiversity and aquatic terrestrial linkages of zooplankton and macroinvertebrates in coastal near-shore areas are not well known. It is also not clear how these processes will be affected by climate change. Many economically and culturally important fish and bird species are declining and we urgently need to understand the ecology of coastal near-shore food webs in order to improve biodiversity ecosystem functioning.

Organisms in seasonal environments in general need to optimize their spring population growth and reproduction in terms of when to initiate growth/reproduction.

Many taxa, for example macroinvertebrates, also change habitats (aquatic/terrestrial). Furthermore, different trophic levels such as primary producers and consumers use different cues to initiate this process. Some organisms use temperature or light whereas other organisms use biotic cues such as food resources or competition to know when to initiate spring development. Climate change makes this optimization of life-time reproductive output challenging since the change can create mismatches leading to inefficient food webs and failing recruitment.

Here we aim to study spring phenology, biodiversity, production and aquatic-terrestrial linkages of key taxa within the coastal near-shore food web including zooplankton and semi-aquatic macroinvertebrates. We will focus on the winter-spring-summer transition and how climate change will affect this food base which is important for higher trophic levels such as fish, birds and bats.

We seek a skilled and motivated PhD student with a passion for food webs, aquatic ecology and invertebrate biology. The research will utilize a combination of methodological approaches including field studies comparing artificially warmed systems (outside nuclear power plants) and control systems, molecular methods and manipulation experiments in both field and laboratory settings. This project is part of a larger multidisciplinary project within the Linnaeus University CentreEEMiS that seeks to understand the consequences of environmental change on phenology and interaction strengths across trophic levels in the coastal food web of the Baltic Sea. Hence, the present project will be highly collaborative and an integrated part of other PhD-student projects.

According to the Higher Education Ordinance a person appointed to a doctoral studentship should primarily devote himself/herself to his/her own studies. An appointee may, however, work to a limited extent with education, research, artistic development, and administration. However, before a doctoral degree has been awarded, duties of this kind may not comprise more than 20% of a full-time post.

Requirements

A person fulfils the general entry requirements if he/she

- has been awarded a degree on second-cycle level
- completed the requirements for courses comprising at least 240 credits, of which 60 credits on second-cycle level, or
- in another way, in Sweden or abroad, has acquired principally equivalent knowledge.

Specific requirements also include

- A high proficiency in written and spoken English.

Assessment grounds

- Documented experience of working within aquatic ecology, zooplankton/macroinvertebrate biology, or food web ecology.
- Experience of:

    - Scientific publishing
    - Mechanistic laboratory experiments
    - Field samplings and experiments
    - Molecular methods
    - Zooplankton or macroinvertebrate sampling
    - R programming
    - Statistical analysis of big data
- Experience of driving and working from boat
- Holding a driver's license (class B)
- Important personal qualities are to be creative, good at problem-solving, a team-worker, independent, resilient, and structured.

Contacts:

For more information, please contact:

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Welcome with your application no later than November 15, 2022.

Linnaeus University has the ambition to utilize the qualities that an even gender distribution and diversity brings to the organization.

Please apply by clicking on the "Apply" button at the bottom of the ad. Applicants are requested to the application resolving CV, cover letter , a copy of a relevant essay , grades and certificates and other relevant documents. The applicant also requested to submit with their application a proposed research plan within the current area of research. All documents must be attached to digital in the application. The application and other documents shall be marked with the reference number. All documents cited must be received by the University no later than 24.00 (Local time in Sweden) on the closing day.

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