PhD student in climate driven speciation

Uppsala University is a comprehensive research-intensive university with a strong international standing. Our ultimate goal is to conduct education and research of the highest quality and relevance to make a long-term difference in society. Our most important assets are all the individuals whose curiosity and dedication make Uppsala University one of Sweden’s most exciting workplaces. Uppsala University has over 45,000 students, more than 7,000 employees and a turnover of around SEK 7 billion.

A PhD student position in climate driven speciation is available at the Department of Ecology and Genetics, Animal Ecology. The Department of Ecology and Genetics is an international environment with staff and students from all over the world. Our research spans from evolutionary ecology and genetics to studies of ecosystems. For more information, see www.ieg.uu.se. Within the program of Animal Ecology, we study the ecological causes of and evolutionary consequences of genetic variation within and between animal species.

**Project description:** Our group uses a combination of long-term ecological monitoring and genomic approaches in pied and collared flycatchers from a hybrid zone located on the Swedish island Öland to better understand mechanisms of speciation. Divergent climate adaptation is a likely evolutionary route to postzygotic isolation, but evidence showing that climate-driven genetic divergence may lead to hybrid incompatibilities is lacking. In eukaryotic organisms, climate adaptation largely depends on co-evolving mitochondrial and nuclear (mitonuclear) DNA, which together encode the proteins needed to build the biochemical machinery responsible for energy metabolism. The two exciting main goals of this PhD project are to identify specific allelic changes within the networks of mitonuclear units underlying both (1) divergent climate adaptation, and (2) hybrid dysfunction. To achieve these goals detailed ecological studies and field experiments will be integrated with new
techniques to measure cellular mitochondrial function directly in the field, and with several state-of-the-art genomic approaches.

**Duties:** The successful candidate will conduct field sampling (including both population monitoring and field experiments), measure mitochondrial function in blood samples and perform genomic analysis. The PhD student will work together with a cross-disciplinary supervisor team, have the opportunity to actively shape the detailed development of the project and to drive the writing and publication of the results. Attendance to local seminars series, advanced relevant courses and international conferences is also expected.

**Requirements:** To be eligible for this position the applicant must hold a master degree (or equivalent) in ecology, evolution or in closely related disciplines. Candidates must also be able to express themselves fluently in spoken as well as written English. In ranking eligible candidates, special importance will be given to scientific skills. In the assessment of scientific merits, especially analytic skills and the ability to formulate sharp hypothesis and logic arguments will be highly valued. We attach great importance to personal qualities such as that the candidate is highly motivated and with a strong general interest in ecology and evolution.

**Additional qualifications:** Previous experiences with field ornithology and/or bioinformatics are desired but not required. Previous experiences with practical research projects and statistical/mathematical modelling are highly desired.

**Type of employment:** Temporary position according to the Higher Education Ordinance chapter 5 § 7. The graduate program covers four years of full-time study. The position can be combined with teaching or other duties at the department (maximum 20%), which prolongs the employment with the corresponding time. The salary will be set according to local agreements. Rules governing PhD candidates are set out in the Higher Education Ordinance Chapter 5, §§ 1-7 and in Uppsala university's rules and guidelines [tp://regler.uu.se/?languageId=1](tp://regler.uu.se/?languageId=1). More information about postgraduate studies at Uppsala University is available at [http://www.teknat.uu.se/education/postgraduate/](http://www.teknat.uu.se/education/postgraduate/).

**Salary:** According to local agreement for PhD students.

**Starting date:** 01-04-2021 or as otherwise agreed.
**Type of employment:** Temporary position according to the Higher Education Ordinance chapter 5 § 7.

**Scope of employment:** 100 %

For further information about the position please contact: Professor Anna Qvarnström, email anna.qvarnstrom@ebc.uu.se, phone number +46 18 471 64 06.

Please submit your application by 4 March 2021, UFV-PA 2021/344.

Are you considering moving to Sweden to work at Uppsala University? If so, you will find a lot of information about working and living in Sweden at www.uu.se/joinus. You are also welcome to contact International Faculty and Staff Services at ifss@uadm.uu.se.

Please do not send offers of recruitment or advertising services.

Submit your application through Uppsala University's recruitment system.

Placement: Department of Ecology and Genetics
Type of employment: Full time, Temporary position longer than 6 months
Pay: Fixed salary
Number of positions: 1
Working hours: 100 %
Town: Uppsala
County: Uppsala län
Country: Sweden
Union representative: ST/TCO tco@fackorg.uu.se
Seko Universitetsklubben seko@uadm.uu.se
Saco-rådet saco@uadm.uu.se
Number of reference: UFV-PA 2021/344
Last application date: 2021-03-04

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