

Student-project on divergent evolution in crossbills 2

Crossbills are songbirds that show unusually high levels of specialisation to their food resources (seeds of conifer trees).

Within the project 'Adaptation Unlimited? The struggle between natural selection and genetic constraints in shaping the adaptive radiation of crossbills' there are two new student projects available.

2: Another aspect of speciation in crossbills is diversification in calls. Calls have been shown to be important for female choice and assortative mating. Yet it is believed that the high levels of dispersion (gene flow) should inhibit population differentiation. Recordings from Spain seem to show extraordinary levels of variation between local populations, and this may be due to reduced gene flow among close populations using different resources. You would analyse and compare these recordings using sophisticated software in order to test for signatures of isolation-by distance or resource specialisation as causes for diversification of these social and reproductive signals.

The interpretation of your obtained results will benefit from comparison with ongoing population genetic analyses of the same populations. Both projects are expected to result in peer-reviewed publications. Depending on your personal interests and capabilities, there may be possibilities for some fieldwork in the Mediterranean region in order to collect additional data. Starting date and length of the project can be adjusted to your needs.

For more information, please contact Dr. Pim Edelaar (pim.edelaar@ebc.uu.se) or Prof. Mats Björklund (mats.bjorklund@ebc.uu.se) at the Department of Animal Ecology (see our website on the [Evolutionary Biology Centre homepage](#)).

Företag/institution: Department of Animal Ecology

Plats: Uppsala University

Projektstart: Negotiable