

## ConGenomics Travel Grant – Scientific report

### 1. Purpose of the visit;

The purpose of the visit was to conduct laboratory work under the supervision of our collaborator Dr. Erica Leder. We were to prepare RAD tag libraries for Illumina sequencing for several bird species using a protocol devised by Dr. Leder and colleagues. The resultant RAD sequences would be the basis for a large scale phylogeny across eight isolated populations of several species of passerine birds.

### 2. Description of the work carried out during the visit;

As the protocol we used is highly sensitive to DNA concentrations I spent the majority of the time perfecting these, i.e. getting them even for all individual birds. These extracts were then used in a protocol where 1) the DNA was digested by a restriction enzyme, 2) adapters/barcodes were ligated to the fragments from the digestion, 3) the samples were multiplexed, 4) the pooled samples were amplified through PCR, 5) the PCR was run on a gel and an appropriate region of the resultant smear was cut (this was reran on a new gel to further remove fragments of undesirable size). The multiplexes were then sent to a sequencing company for Illumina runs.

### 3. Description of the main results obtained;

We have, as of yet, no results as we are still waiting for them from the sequencing company.

4. Future collaboration with host institution (if applicable);

We will continue to collaborate with Dr. Erica Leder with utilization of NGS technology on birds.

There are several species for who we want to obtain these types of data.

5. Projected publications / articles resulting or to result from the grant (ESF must be acknowledged in publications resulting from the grantee's work in relation with the grant);

The data we will obtain from the work performed in Turku will be a part of a large scale phylogeographic study on blue tits on the Macaronesian Islands, which will also include data on sperm morphometrics. With the exception of the RAD tag data, all the data needed for this paper is available, so this paper will hopefully be written in the near future.