

Project Summary

Overview testing

Intellectual Merit

Broader Impacts

Project Description

Introduction

nicely written intro goes here

Objectives

Objective I: do this cool thing

talk about the objectives here, then list them specifically:

1. *Do ...?*
2. *Do ...?*
3. *Is there evidence of ...?*

Objective II: Determine the extent to which ...

Maize was domesticated in...

Rationale and Significance

rationale and significance

Research Plan

Assess the evolutionary role of ...

first subsection stuff

Does the potential for ...?

lots of subsection stuff

Is i...?

subsection stuff

Can a widespread species serve as ...?

subsection stuff

Potential Challenges potential challenges

Broader Impacts

stuff here

subsection

stuff

subsection

stuff

Results From Prior NSF Support

don't think I need this section

Biographical Sketch: Kimberly J. Gilbert

Biographical Sketch

Professional Preparation

University of Virginia, USA	Biology	B.Sc.	2010
University of British Columbia, Canada	Zoology	Ph.D.	2016 (expected)
<i>Advisor:</i> Michael C. Whitlock			

Publications

Five Publications Most Closely Related to the Proposed Project

1. **Gilbert KJ**, MC Whitlock (2015) Evaluating methods for estimating local effective population size with and without migration. *Evolution*, 68(8), 2154-2166.
2. Santiso X, L Lopez, **KJ Gilbert**, R Barreiro, MC Whitlock, R Retuerto (2015) Patterns of genetic variation within and among populations in *Arbutus unedo* and its relation with selection and evolvability. *Perspectives in Plant Ecology, Evolution and Systematics*, 17(3), 185-192.
3. **Gilbert KJ**, MC Whitlock (2015) Q_{ST} - F_{ST} comparisons with unbalanced half-sib designs. *Molecular Ecology Resources*, 15(2), 262-267.
4. Caplins SA, **KJ Gilbert**, C Ciotir, J Roland, SF Matter, N Keyghobadi (2014) Landscape structure and the genetic effects of a population collapse. *Proceedings of the Royal Society B*. 281: 20141798; doi: 10.1098/rspb.2014.1798
5. Keller SR, **KJ Gilbert**, PD Fields, DR Taylor (2012) Bayesian inference of a complex invasion history revealed by nuclear and chloroplast genetic diversity in the colonizing plant, *Silene latifolia*. *Molecular Ecology*, 21(19), 4721-4734.

Four Other Significant Publications

1. Vines TH, RL Andrew, DG Bock, MT Franklin, **KJ Gilbert**, NC Kane, EJ Kleynhans, J-S Moore, BT Moyers, S Renault, DJ Rennison, T Veen, S Yeaman (2013) Mandated archiving greatly improves access to research data. *FASEB Journal*, 27(4), 1304-1308.
2. **Gilbert KJ**, RL Andrew, DG Bock, MT Franklin, NC Kane, J-S Moore, BT Moyers, S Renault, DJ Rennison, T Veen, TH Vines (2012) Recommendations for utilizing and reporting population genetic analyses: The reproducibility of genetic clustering using the program STRUCTURE. *Molecular Ecology*, 21(20), 4925-4930.
3. Vines TH, AYK Albert, RL Andrew, F Débarre, DG Bock, MT Franklin, **KJ Gilbert**, J-S Moore, S Renault, DJ Rennison (2014) The availability of research data declines rapidly with age. *Current Biology*, 24, 94-97.

4. Whitlock MC, **KJ Gilbert** (2012) Q_{ST} in a hierarchically structured population. *Molecular Ecology Resources*, 12(3), 481–483.
1. **Working Groups:** Participated in the Reproducible Science Hackathon at NESCent in December 2014 which was a 21-member working group aimed at developing a curriculum and workflow for teaching reproducible science to researchers of any background. Participated in the SimBank NESCent Catalysis Meeting in November 2014 which was a 25-member working group aiming to create a collection of openly available simulation results to facilitate testing of statistical population genetic and phylogeographic methods.
2. **Teaching:** Teaching assistant for Fundamentals of Evolutionary Biology (BIOL 336) in the fall of 2012 and spring of 2013 where I taught three sections of 45 students each per term and lead discussion-based tutorials covering topics of natural selection, population genetics, quantitative genetics, systematics, and classical and molecular approaches to the study of evolution. Teaching assistant for Fundamentals of Biostatistics (BIOL 300) in the fall of 2013, 2014, and 2015. Taught two sections of 70 students total in 2013, and in 2014 and 2015 served as the lab coordinator for 254 and 276 students enrolled in the course, respectively, while teaching one section of 36 and 35 students respectively on topics of statistical procedures for biological research, estimation, hypothesis testing, goodness of fit, analysis of variance and regression, and use of computers for statistical analysis.
3. **Service:** Served as a Graduate Student Council Member for the American Society of Naturalists from 2013 to 2016 and was chair of the committee from 2015-2016. Served as the graduate student representative on the 2014 evolutionary biology CRC2 job search for the Department of Zoology, University of British Columbia. From 2014-2016, organized the Biodiversity Research Centre's weekly evolution discussion group, bringing students, post-docs, and faculty together from the departments of Zoology, Botany, Forestry, and Fisheries to discuss current papers in evolutionary biology.
4. **Outreach:** Volunteer mist-netting and bird banding with local Vancouver non-profit organization Wild Research from 2013 to 2015 where I participated in winter, spring migration, and fall migration bird monitoring at Iona Island Bird Observatory, taught proper bird handling, aging, data collection, and mist net extraction techniques to new volunteers, and assisted in teaching other volunteers and public visitors to the station about the species conservation and monitoring, and the general tasks of running a banding station.

Collaborators & Other Affiliations

Collaborators:

Graduate and Postdoctoral Advisors:

Thesis Advisor and Postgraduate-Scholar Sponsor:

Data Management Plan

Data Types

This proposal will generate genotype and full-genome sequence data, phenotype data, analytical code, germplasm, and publications.

Data Archiving, Plan for Sharing, Public Access Policy

Genotype and Sequence Data EDIT THIS WHOLE DOCUMENT

Dissertation Summary

summary of cool dissertation stuff