

GOALS SET FOR YEAR 3 AND ACCOMPLISHMENTS TO DATE

COLLECTING

GOAL

My goal was to collect the five species that I had not yet collected or arranged to receive through colleagues. Most of these species occur in China.

ACCOMPLISHMENTS

Colleagues in Kunming, China are scheduled to send *I. speculatrix* this spring and I collected *I. typhifolia* from the Denver Botanic Garden last summer. I am still searching for authenticated sources for *I. minutoaruea* and *I. clarkii*. I was told that the fifth species, *I. phragmitetorum*, may not be extant.

Two species, *I. rossii* and *I. dykesii* that colleagues agreed to send last spring were not sent and I am searching for authenticated sources for these species. Unfortunately, the collecting trip in early summer of 2006 to Pakistan and Yunnan, China has been cancelled due to kidnapping fears in Pakistan. Although I am disappointed that the trip has been cancelled my project is not jeopardized because I have material of the species that are likely to have been seen.

SEQUENCING

GOAL

My goal was to have completed 95% of the extraction and sequencing for the 39 species included in the study.

ACCOMPLISHMENTS

Extraction

DNA has been extracted from all of the species that I have.

ITS sequence data

I have successfully obtained ITS sequence data from 29 of the 39 *Iris* species included in this study. Most of these sequences are complete.

MatK sequence data

I have successfully obtained full *matK* sequence data from 32 of the 39 *Iris* species included in this study.

TrnL-trnF sequence data

I have obtained full sequences of the 450 bp *trnL-trnF* intergenic spacer region for 30 *Iris*.

PsbM-trnD sequence data

I have obtained full sequences of the 700 bp *psbM-trnD* intergenic spacer region for eight *Iris*. Although this region is not as variable (2.5%) as one of the other regions tested, *trnC-rpoB* intergenic spacer region (5.0%), it has more bp changes due to its longer length.

I will concentrate on sequencing the remaining species in May and June. With this effort I should have 95% of the sequence data completed for the species that are available. However, I will probably have about 35 species rather than 39.

DATA ANALYSIS

GOALS

I set no goals for data analysis during year 2.

ACCOMPLISHMENTS

I have begun the analyses of molecular data. To date I have assembled most of the sequence data obtained and have assembled partial data sets. During July 2006 I will focus my efforts on completing and analyzing these data sets.

MORPHOLOGICAL DATA

GOALS

My goal was to obtain a significant amount of morphological data in year 2.

ACCOMPLISHMENTS

I have not made as much progress as planned on this goal. My research was disrupted due to my relocation from Portland State University to the Rancho Santa Ana Botanic Garden. I have begun this portion of my research and have obtained SEM data of pollen for eight *Iris* species several of which are in this study. One of my graduate students, Andrew Wheeler, has been working with me on the pollen SEM portion of my study. I have also studied rhizome morphology of about 15 species and have some preliminary findings from that study.

PUBLICATIONS

GOALS

I set no goals for publications during year 2.

ACCOMPLISHMENTS

The second manuscript that had been accepted by the end of year 1 is still in publication. I returned page proofs in February 2006 and expect the manuscript to be published soon. This manuscript is part of a conference proceedings and has taken longer than expected to come out. Reprints and PDF's (if made available to me) will be furnished for the second manuscript when I receive them.

WEBSITE

GOALS

My goal was to begin website production.

ACCOMPLISHMENTS

I have made considerable progress on my "The Genus *Iris* website". It can be viewed at www.rsabg.org/iris. This site is linked from the Rancho Santa Ana Botanical

Garden homepage and also my page under faculty. Although the website is not complete you can look at the format I am using and the preliminary pages.

I will be traveling in Turkey and Syria from April 4 to May 10 collecting *Iris*. The webmaster set up a blog site where I can report on my fieldwork progress. The link to it is on The Genus *Iris* homepage.

SCIENTIFIC PRESENTATIONS

GOALS

I set no goals for presentations during year 2.

ACCOMPLISHMENTS

I am working on an abstract for the Botanical Society of America meetings in Chico, California August 2006. I will submit the abstract from Gaziantep, Turkey prior to the deadline on April 10. While analyzing the sequence data obtained to date I realized that I have sufficient data to present an informative and interesting talk on the biogeography and systematics of the section *Limniris* species included in this study.

GOALS FOR YEAR 3

I have accomplished most of the goals I set in my Proposal Timeline for year 2 and have exceeded my expectations for website design, data analyses and presentation of results. For year 3 I will continue my search for the remaining *Iris* species. I will also continue the collection and analysis of DNA data. An important part of year 3 will be the collection and analysis of morphological data. During year 3 I will also prepare research manuscripts, one of which I plan to submit for publication during early summer 2007. This manuscript is likely to be the overall molecular phylogeny for the group as this portion of the study provides the context for biogeographical and morphological discussions.