1. Description of grant-supported activity.

The grant funded research into two projects. First, I studied the population genetics of invasive honeylocust trees (Gleditsia triacanthos) in eastern Australia. Second, I studied the taxonomic diversity of Gleditsia species from Southeast Asia. The majority of the funding was used for travel to make the plant collections necessary for this work. As a result, I made one collecting trip within Australia in late 2009 and an extended trip to Southeast Asia in March 2010 (Indonesia, Hong Kong, Taiwan, and Vietnam). After returning to the U.S., I worked in my IU South Bend lab to extract DNA from the Southeast Asian samples and begin DNA sequencing.

2. Were you able to complete the project? Describe any difficulty you had.

There were no difficulties in working towards completion of this project. Data for the work on honeylocust was collected in Australia in the lab of Dr. Joe Miller (Centre for Plant Biodiversity Research, Commonwealth Scientific and Industrial Research Organization (CSIRO), Canberra). We worked with Mr. Steven Chivers (undergraduate student from University of Adelaide) to complete collection of the genetic data. Dr. Miller and I will be reviewing and analyzing those data in Summer 2010. I began collecting DNA sequence data for the taxonomic work in summer 2009 and expect to work with an IUSB student to complete that data collection and begin data analysis in summer 2010.

3. Did, or will, the project result in a specific product -- a manuscript, composition, syllabus, etc? If so, please describe and indicate state of development.

The initial results from the honeylocust project were presented by Mr. Chivers as part of an undergraduate research symposium at CSIRO in early 2010. A more complete review and analysis of those data is expected to lead to one publishable manuscript. The DNA sequencing of Southeast Asian Gleditsia will potentially lead to two publishable manuscripts, one on the taxonomy of Gleditsia in that region and one that will be a larger analysis of the genus Gleditsia on a world-wide basis. All of these manuscripts are still currently in the early planning stages, since, as mentioned above, the data are either not yet analyzed or not yet completely collected. I also plan to present a compilation of the results from the taxonomic work at the International Botanical Congress in Melbourne, Australia, in July 2011. Smaller conference presentations might also be possible, depending on level of student participation in summer 2010.