

## 2017 Funded Section 6 Plant Proposals - AZ

*Note:* Summaries of all section 6 plant proposals funded since 2004 are available on-line at <https://cals.arizona.edu/herbarium/content/previous-awards>

This year we received 10 section 6 grant proposals and were able to fund 6 proposals in full and 2 proposals in part with the \$126,663 we had available to distribute. The Section 6 Committee (Fish and Wildlife Service, University of Arizona, and Arizona Department of Agriculture members) ranked the 10 proposals based on merit (e.g. the priority of the species for FWS work, the track record of the PI, clarity of the proposal, appropriateness of the budget, if the species occurred within the Mogollon Rim Emphasis Area, if the species is a listed entity, etc.) and incorporated feedback from species leads, who were given the opportunity to review all proposals associated with their species. The proposals are listed below in order of ranking:

- 1) **Surveys for *Cirsium wrightii* and other rare plants (*Graptopetalum bartramii*, *Pediomelum pentaphyllum*, *Pectis imberbis*, *Leucosyris blepharophylla*, and *Eryngium sparganophyllum*) in northeastern Sonora and northern Chihuahua, Mexico**  
Principal Investigators: José Jesús Sánchez-Escalante, Universidad de Sonora  
Federal Share: \$20,027  
Project Description: Researchers will conduct field surveys in suitable habitat in search of new populations, as well as, survey historical sites in northern Sonora and Chihuahua, Mexico known to support six rare plant species. Five of the six species are currently under review by the U. S. Fish and Wildlife Service; information on the presence, absence, threats, and habitat conditions determined by this study will inform current and future reviews, listing decisions, and recovery planning for these taxa.
  
- 2) **Assessing genetic diversity in acuña cactus (*Echinomastus erectocentrus* var. *acunensis*) and its close relatives using microsatellites and DNA sequences.**  
Principal Investigator: Shannon Fehlberg, Desert Botanical Garden  
Federal Share: \$22,877  
Project Description: The study will provide information about genetic similarities and differences among the closely related taxa *E. erectocentrus* var. *acunensis*, *E. erectocentrus* var. *erectocentrus*, and *E. johnsonii*, within the context of morphological variation and geographic distribution. This will improve our knowledge of the genetic structure of acuña cactus populations and inform our understanding of genetic distinctiveness and species boundaries within the group.
  
- 3) **Pollination effectiveness and pollinator diversity in fragmented habitats of *Coryphantha scheeri* var. *robustispina*, Pima pineapple cactus**  
Principal Investigator: Clare Aslan, Northern Arizona University  
Federal Share: \$22,059  
Project Description: The primary objective of this project is assist in conservation management of the endangered Pima pineapple cactus (*Coryphantha scheeri* var. *robustispina*) (PPC), by examining how fragmentation of PPC populations impacts their pollination and reproduction. The study will merge field-based pollination visitation observations, pollinator diversity assessments, pollination efficacy experiments, and

pollination distance investigation to evaluate current PPC pollination regimes within existing habitat islands containing the species and surrounded by development.

**4) Status report and monitoring program for Navajo Bladderpod (*Physaria navajoensis* (O’Kane) O’Kane & Al-Shehbaz, Brassicaceae), a candidate species under review.**

Principal Investigators: Andrea **Hazelton, private**

Federal Share: \$11,536

Project Description: The objective of this project is to determine the current status of *Physaria navajoensis*, including the overall geographic range, number of populations, approximate number of individuals, and apparent threats to the species. In addition, a demographic monitoring program will be established so that population trends can be tracked in the future.

**5) Survey and mapping of Kearney blue-star (*Amsonia kearneyana*, Apocynaceae) populations, Pima County, Arizona.**

Principal Investigators: Andrea **Hazelton, private**

Federal Share: \$12,090

Project Description: The objective of this project is to document the current status of known populations of *Amsonia kearneyana* and search previously un-surveyed habitat for additional populations. Most populations were last surveyed in 1998 and have not been revisited. Since that time, two major wildfires have burned through the Baboquivari Mountains. The status of known populations following these fires and nearly twenty years of population changes is of great interest to those who manage this species. In addition, the location of new populations would aid in understanding the species’ range, habitat preferences, and resiliency.

**6) Monitoring and Survey for *Allium gooddingii* (Goodding Onion, Liliaceae) in the White Mountains of Apache County, Arizona, survey in the Pinaleno Mountains, Graham County and the Santa Catalina Mountains, Pima County, Arizona.**

Principal Investigator: Glenn **Rink, Private**

Federal Share: \$22,204 (partially funded)

Project Description: The objective of this project is to survey potential *Allium gooddingii* habitat in the White Mountains, Pinaleno Mountains, and Mt. Lemmon of the Santa Catalina Mountains. Recent measurements of historical plots indicate a reduction in this species following the Wallow Fire. This survey will help identify current status of *A. gooddingii* outside of plot areas and following the Wallow and other fires of these mountain ranges.

**7) Navajo sedge [*Carex specuicola*] population genetics study and entry of new site information into the Navajo Nation database.**

Principal Investigator: Glenn **Rink, Private**

Federal Share: \$3,556

Project Description: The portion of this proposal addressing the need to have approximately 80 new locations of *Carex specuicola* entered into the Navajo Nation database as Source Feature IDs and Element Occurrences is being funded. These new locations have accumulated from survey work in Utah and Arizona in the last few years and the Navajo Nation does not have the resources to have this new data entered and made readily available

for researchers. Having the primary researcher who discovered the sites enter the data will enable a more complete and accurate data entry process.

**8) Survey for *Potentilla sanguinea* in the Flagstaff area and towards the Mogollon Rim**

Principal Investigator: Glenn **Rink, Private**

Federal Share: \$12,314

Project Description: *Potentilla sanguinea* is a rare plant known from four locations near Flagstaff, all of which have been verified in the last ten years, as well as one location twenty miles south of Flagstaff vouchered by a collection made in 1980, but this population has never been relocated. The objective of this survey is to develop a habitat model for the species by relocating the known locations and describing them, then searching appropriate habitats toward the Mogollon Rim with the aim of adding to our knowledge of the range of this narrow endemic. The Heritage Database Management System Species Abstract for *P. sanguinea* will be updated to reflect newly discovered information.