

# 2019 Colorado Rare Plant Symposium

## Botanists Share Tales of Summer Field Work

By Lisa Tasker

What's new in regard to southwest Colorado's globally imperiled plants? If you were one of sixty plus attendees of the Colorado Natural Heritage Program's Annual Rare Plant Symposium in Grand Junction, you know! Professionals to amateur botanists and ardent native plant enthusiasts have coveted this gathering the Friday before the CoNPS annual meeting.

CNHP, under the guidance of botany team leader Jill Handwerk, has always intended for this meeting to allow for data sharing. Botanists look forward to the event as they are usually dispersed across the state. But fresh off a field season in late September, they remarkably assemble in one room for a day with their latest findings fresh on their minds.

Besides providing the opportunity for participants to learn more about Colorado's rare plants, their distribution, levels of protection, and conservation concerns, CNHP puts the information to work. Pertinent information gathered at this meeting goes into maintaining Colorado's most comprehensive dataset of our rare flora. Shared camaraderie and the public education have been the other valuable outcomes.

Reviewed this year at the symposium were 14 G1 species, 23 G2 species, and 25 Threatened and Endangered or Candidate rare plants from southwest Colorado. G1 and G2 species are those considered to be globally at risk throughout their range and vulnerable to extinction.

Based on NatureServe methodology, G1 and G2 ranked species are the starting point for a plant's

potential inclusion in the newer United States Forest Service Species of Conservation Concern (SCC) lists. These lists are quickly replacing the older USFS Sensitive Species lists. Of the approximately 520 rare plant species tracked by CNHP, 23% fit this category of imperiled on a global level in Colorado and are eligible for USFS consideration as a species of "substantial concern." This relatively newer approach to rare species by the USFS makes CNHP's communication with them even more essential in recent years.

Often announced at the annual meeting are the newest strategies to improve our understanding of our rarest plants. This year, Dr. Jennifer Neale with the Denver Botanic Gardens shared the results of an upcoming publication addressing the genetic distinctions between the two populations of North Park phacelia (*Phacelia formosula*) (G1/S1), concluding that both the North Park and Laramie River populations are the same species. Dr. Mit McGlaughlin, with the University of Northern Colorado, reported he is beginning genetic sampling in 2020 to determine the genetic fitness of Rocky Mountain monkeyflower (*Mimulus gemmiparus*) (G1/S1), a factor critical in the species' response to climate change. Dr. McGlaughlin and others voiced concerns that *M. gemmiparus* may not reproduce sexually in the wild, an obvious disadvantage for a rare plant.

Dr. McGlaughlin has also done extensive genetic work on fishhook cactus (*Sclerocactus glaucus*) (G2G3/S2S3) and *S. parviflorus* (G4/S3), revealing information critical to understanding the geographic range of populations and essential to conservation strategies. The important, but frustrating, take-away for both *Sclerocactus* is that neither the curve of the spines nor their absence is a good morphological feature for field identification.

Jill Handwerk announced the start of a pilot study using a drone for parachute penstemon (*Penstemon debilis*) (G1/S1), a plant colonizing steep shale talus-covered slopes. This is a first for Colorado, thanks to the efforts of Raquel Wertsbaugh of the Colorado Natural Areas Program. Researchers who have literally risked life and limb to track plants are undoubtedly thrilled. A drone can obviously cover steep sites that have historically been inaccessible. The potential for new findings and fun photography seems considerable.

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North Park phacelia, *Phacelia formosula*.  
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◀ “Rare plants ...” *continued from page 4*

Pam Smith, a botanist with CNHP, orchestrated the afternoon session. Everyone gained insights into the importance of the Floristic Quality Assessment project. Through CNHP, Pam is leading the charge to cover the remaining 800 or so plants that were not given what is called a coefficient of conservatism, or C-value, during the first efforts in the 2000s to complete an FQA database for Colorado.

The FQA index reflects a plant’s fidelity to a natural area or how obligated it is to a high-quality habitat versus its tolerance to landscapes with anthropogenic disturbances. On a scale of one to ten, a plant with a value of one resides almost exclusively in highly disturbed sites, such as annual sunflower (*Helianthus annuus*). A value of ten would reflect a plant wholly found in undisturbed, intact habitats, such as Kachina daisy (*Erigeron kachinensis*).

CNHP is now planning the next Rare Plant Symposium to ensure it stays lively and well attended as it has for sixteen years. So look for an even more alluring gathering for 2020.

For more information

- All of the information from this meeting, as well as previous symposia (2004-2019), is available online at the Colorado State University, CNHP website:  
<https://cnhp.colostate.edu/projects/colorado-rare-plant-symposia/>.
- For more information on the FQA efforts, contact [pamela.smith@colostate.edu](mailto:pamela.smith@colostate.edu).
- View the Colorado Rare Plant Guide here:  
<https://cnhp.colostate.edu/library/field-guides/>.
- The Rare Plant Symposium is open to anyone with an interest in the rare plants of Colorado. For more information contact Jill Handwerk at [jill.handwerk@colostate.edu](mailto:jill.handwerk@colostate.edu) and check the CoNPS website ([www.conps.org](http://www.conps.org)) for details as they become available for the 2020 symposium.

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