

Synopsis of the 20th Annual Colorado Rare Plant Symposium

By Brenda L. Wichmann and the Colorado Natural Heritage Program Botany Team

The 2023 Annual Colorado Rare Plant Symposium was held on Friday, September 22nd in Alamosa, Colorado at Adams State University. The event celebrated the 20th anniversary of the Symposium. Commemorative mugs with an illustration by Leslie Crosby of Rocky Mountain Monkeyflower (*Erythranthe gemmipara*) were gifted to attendees from the [Colorado Natural Heritage Program \(CNHP\)](#).

The symposium began at 9:00 AM with a welcome by Jessica Smith, CNHP Botany/Vegetation Ecology Team Lead. Smith invited CNHP staff in attendance to stand and introduce themselves to meeting attendees. Following staff introductions, CNHP Director Dave Anderson also welcomed the group.

Presentations commenced, beginning with the CNHP review of select rare plants known from South-Central/Southeast Colorado led by Dave Anderson. Summary information was presented on 19 taxa (Table 1), including a distribution map, photos of plant and habitat, last observation data, population size estimates, management concerns, and land ownership. Meeting attendees participated in the discussion of each taxon, adding information on recent observations including population viability. Herbarium specimens from the University of Colorado Herbarium (COLO) were available throughout the meeting for observation by attendees.

Table 1. Plant Species Reviewed at the 20th Rare Plant Symposium, 2023.

Scientific Name	State Common Name	G Rank ¹	S Rank	SWAP ²	USFS/BLM ³
<i>Apios americana</i>	American Groundnut	G5	S1		
<i>Artemisia parryi</i> (<i>Artemisia laciniata</i> ssp. <i>parryi</i>)	Parry's Wormwood	GNRT3	S2		
<i>Astragalus anisus</i>	Gunnison Milkvetch	G3	S3	Tier 2	BLM
<i>Astragalus brandegeei</i>	Brandegee Milkvetch	G3G4	S2		
<i>Astragalus missouriensis</i> var. <i>humistratus</i>	Missouri Milkvetch	G5T2	S2	Tier 2	USFS
<i>Astragalus ripleyi</i>	Ripley Milkvetch	G3	S2		BLM/USFS
<i>Castilleja lineata</i>	Marsh-meadow Indian-paintbrush	G4?	S2		
<i>Cirsium culebraensis</i>	Culebra Thistle	G2	G2		
<i>Cleomella multicaulis</i>	Slender Spiderflower	G2G3	S2S3	Tier 2	BLM
<i>Descurainia kenheilli</i>	Heil's Tansy Mustard	G2	S2	Tier 1	
<i>Draba malpighiacea</i>	Malpighiaceae Draba	G1?	S1?	Tier 1	
<i>Draba smithii</i>	Smith Whitlow-grass	G3	S3	Tier 2	USFS
<i>Hackelia besseyi</i>	Bessey's Stickseed	G2G3	S2		
<i>Neoparrya lithophila</i>	Rock-loving Neoparrya	G3	S3		BLM/USFS
<i>Oreocarya pustulosa</i> (<i>Cryptantha cinerea</i> var. <i>pustulosa</i>)	San Juan Cat's-eye	G5TNR	S1		
<i>Oreocarya weberi</i> (<i>Cryptantha weberi</i>)	Weber's Cat's-eye	G3	S3		
<i>Penstemon bleaklyi</i>	Bleakly Penstemon	G1	S1		
<i>Physaria rollinsii</i>	Rollins' Twinpod	G2	S2	Tier 1	
<i>Salix arizonica</i>	Arizona Willow	G2G3	S1	Tier 2	USFS

1: G rank is the global imperilment rank; S rank is the state imperilment rank; T = infraspecific taxon rank (subspecies or variety); 1 = critically imperiled; 2 = imperiled; 3 = vulnerable; 4 = apparently secure; 5 = secure
2: SWAP = Colorado State Wildlife Action Plan, Plant of Greatest Conservation Need Rank
3: USFS/BLM: USFS = US Forest Service sensitive species; BLM = Bureau of Land Management Special Status Species

Following a break, partner updates from the [Bureau of Land Management \(BLM\)](#), [Colorado Natural Areas Program \(CNAP\)](#), and [Denver Botanic Gardens \(DBG\)](#) were presented. The BLM update was presented by Carol Dawson, BLM Lead for the Threatened and Endangered Species Program and the Plant Conservation and Restoration Program. Dawson discussed the BLM Strategic Plan for the Threatened and Endangered Species Program (2022-2027) and outlined BLM policy changes. Dawson also discussed the 2023 revision of the [Colorado BLM Sensitive Species List](#) and plants on that list with ongoing research and/or inventory efforts.

Raquel Wertsbaugh, Coordinator of the Colorado Natural Areas Program (CNAP) presented next, providing a summary of the Program, the Program's work with rare plants of Colorado and the interactive [Colorado Natural Areas and Significant Features Map](#) that includes the state's designated natural areas. Next Wertsbaugh discussed the upcoming 2025 Revision of the [Colorado State Wildlife Action Plan \(SWAP\)](#) before yielding the floor to Jessica Smith to present updates on CNHP's review of plants associated with the SWAP. The SWAP 2025 revision has begun, and a final draft revision is due for approval by the U.S. Fish and Wildlife Service (USFWS) by September 30th of 2025. The revision will be led by CPW with contracted help from CNHP that includes opportunities for stakeholder input. As part of this revision process, CNHP is reviewing the ranks of the plants listed in the SWAP, those known as Plants of Greatest Conservation Need as listed in [Appendix A](#). Smith outlined the details of CNHP's 2022-2023 review, including rank changes to both Tier 1 and Tier 2 plants and taxonomic updates that may both add and remove taxa from the SWAP Species of Greatest Conservation Need list, depending on criteria chosen in the upcoming revision.

Updates from the Denver Botanic Gardens (DBG) were presented by Jennifer Neale, Director of Research & Conservation, and Jennifer Ackerfield, Head Curator of Natural History Collections and Associate Director of Biodiversity Research. Neale discussed ongoing rare plant conservation efforts at DBG, including demographic monitoring, population genomics, restoration efforts, ex situ seed collections, and alpine climate-related research. Ackerfield, with assistance from Sami Naibauer (Population Genetics Lab Coordinator and Field Botanist at University of Northern Colorado's School of Biological Sciences), updated the group on a collaborative effort to elucidate the taxonomic status of a plant referred to as *Physaria* X 1, a suspected hybrid of Bell's twinpod (*Physaria bellii*) and Fiddleleaf twinpod (*Physaria vitulifera*). The suspected hybrid has now been determined to be within the species concept of *Physaria vitulifera*. Ackerfield also updated the group on field-based floristic research she recently conducted with Alissa Iverson, DBG Floristics Coordinator, and Dina Clark, COLO Herbarium.

Following lunch, updates from the [University of Northern Colorado \(UNC\)](#) were presented by Professor and Chair of the Department of Biological Sciences, Mit McGlaughlin, who discussed the results of genetics-based research and provided conservation recommendations for three rare plants that his Population Genetics Lab have been studying. These included the Rocky Mountain Monkeyflower (*Erythranthe gemmipara*), Stemless Beardtounge (*Penstemon acaulis*) and Yampa Beardtounge

(*Penstemon yampaensis*). Concerns were raised about the lack of genetic diversity within the Rocky Mountain Monkeyflower; the study found 33 total genetic individuals for the entire species. Results from the study of the penstemons indicate that the range of the Yampa beardtounge extends into northeastern Utah and one recent hybrid between the two species was found.

Next Dina Clark, Curator of the [University of Colorado Museum of Natural History, Herbarium \(COLO\)](#) provided information on select Colorado plants occurring in Southeastern Colorado that are considered “peripheral species” because they occur at the edge of the species’ range. Clark highlighted eight taxa including a discussion of biological and ecological factors that may contribute to these species occurring in Colorado. Clark also discussed the value of herbarium specimens in providing guidance as to where to look for occurrences of these and other species in Colorado and need to review type specimens to confirm identification of “peripheral” or otherwise challenging taxa.

Partner updates continued with the [U.S. Fish and Wildlife Service \(USFWS\)](#) presented by Jake Gottschalk, USFWS Biologist with the Colorado Ecological Services Field office in Grand Junction. Gottschalk reviewed the USFWS’s mission and reminded the group that the USFWS administers the Endangered Species Act including species recovery which is accomplished with the help of partners. Colorado harbors 16 USFWS listed plant taxa, most of which exhibit narrow endemism with an affinity for exposed soil types and/or places with arid or semi-arid climates. Gottschalk updated the group on the Service’s current work including evaluation of a proposed delisting, ongoing Species Status Assessments (SSA), a 5-Year Review, and developing a Recovery Plan.

A break followed Gottschalk’s presentation and then the symposium was resumed by Jessica Smith who called for any announcements from the group. No announcements were expressed. Smith then invited author and botanist/vegetation ecologist, Gwen Kittel, to present her new book entitled *Willows (Salix) of Colorado: Their Ecology & Identification*. Kittel explained the motivation for completing the book and detailed the contents of the book.

The final section of the symposium included updates from the Colorado Natural Heritage Program. Jessica Smith reviewed some of the publicly available tools and resources provided on the CNHP website, including the [CO Rare Plant Guide](#), the [CO Conservation Data Explorer \(CODEX\)](#), and the [CO Floristic Quality Assessment Species List \(CO-FQA\)](#). CNHP welcomes feedback and input on these tools, especially the submission of photos that could be added to the Rare Plant Guide. CNHP Botanist, Georgia Doyle, presented an update on the [CNHP Tracking List](#) including taxa added and those removed from the list. Lastly, Doyle made a call for rare plant data submissions and reviewed options for contributing data to CNHP via the [online submission form](#) and/or the [CNHP Project on iNaturalist](#). A wrap-up session, led by Jessica Smith, ensued where the group discussed insights from the meeting before adjourning.