

2017 Colorado Rare Plant Symposium

Botanists and members of the Colorado Rare Plant Technical Committee (RPTC) were among the group of nearly 60 people gathered at Colorado College in Colorado Springs, CO, to attend the 14th Annual Colorado Rare Plant Symposium. The symposium is held each fall in conjunction with the Colorado Native Plant Society's (CoNPS) annual meeting and is hosted by the Colorado Natural Heritage Program (CNHP) and Denver Botanic Gardens (DBG).

Attendees included professional and amateur botanists with a common interest in Colorado rare plants and their conservation. This year **Jill Handwerk** (CNHP) presented data and photos of rare plant species known from southeast Colorado, along with the critically imperiled (G1) and federally listed plants species of Colorado. New this year was an afternoon review of the U.S. Forest Service (USFS) and Bureau of Land Management (BLM) sensitive species, led by **Steve Olson** and **Carol Dawson**, respectively. Species discussed are included in the table below. Additionally, **Tim Hogan** (CU Herbarium) provided herbarium specimens of the southeast Colorado rare species. The presenters encouraged participants to share their observations about the highlighted species and learn the latest information on Colorado's rare plant conservation efforts.

2017 - G2 Species Southeastern Colorado				
State Scientific Name	G Rank	S Rank	USES A	USFS/BLM
<i>Asclepias uncialis</i> ssp. <i>uncialis</i>	G3G4T2T3	S2		USFS/BLM
<i>Cleome (Peritoma) multicaulis</i>	G2G3	S2S3		BLM
<i>Delphinium ramosum</i> var. <i>alpestre</i>	G4T2	S2		
<i>Delphinium robustum</i>	G2?	S2?		
<i>Draba exunguiculata</i>	G2	S2		USFS
<i>Draba grayana</i>	G2	S2		USFS
<i>Draba smithii</i>	G2	S2		USFS
<i>Frasera coloradensis</i>	G2G3	S2S3		
<i>Herrickia horrida</i>	G2?	S1		
<i>Nuttallia chrysantha</i>	G2	S2		BLM
<i>Nuttallia densa</i>	G2	S2		BLM
<i>Oenothera harringtonii</i>	G3	S3		
<i>Oonopsis foliosa</i> var. <i>monocephala</i>	G3G4T2	S2		
<i>Oonopsis puebloensis</i>	G2	S2		
<i>Oxybaphus rotundifolius</i>	G2	S2		
<i>Penstemon degeneri</i>	G2	S2		USFS/BLM
<i>Physaria calcicola</i>	G3	S3		
<i>Ptilagrostis porteri</i>	G2	S2		USFS
<i>Telesonix jamesii</i>	G2	S2		
2017 - T&E Species Statewide				
State Scientific Name	G Rank	S Rank	USES A	USFS/BLM
<i>Astragalus humillimus</i>	G1	S1	LE	

<i>Astragalus microcymbus</i>	G1	S1	C	BLM
<i>Astragalus osterhoutii</i>	G1	S1	LE	
<i>Astragalus schmolliae</i>	G1	S1	C	
<i>Astragalus tortipes</i>	G1	S1	C	BLM
<i>Corispermum navicula</i>	G1?	S1		BLM
<i>Draba weberi</i>	G1	S1		USFS
<i>Eriogonum pelinophilum</i>	G2	S2	LE	
<i>Eriofonum brandegeei</i>	G1G2	S1S2		USFS/BLM
<i>Eutrema penlandii (edwardsii)</i>	G1G2	S1S2	LT	
<i>Ipomopsis polyantha</i>	G1	S1	LE	
<i>Mimulus gemmiparus</i>	G1	S1		USFS
<i>Oenothera coloradensis ssp. coloradensis</i>	G3T2	S1	LT	
<i>Pediocactus knowltonii</i>	G1	SNA	LE	
<i>Penstemon debilis</i>	G1	S1	LT	
<i>Penstemon grahamii</i>	G2	S1		BLM
<i>Penstemon penlandii</i>	G1	S1	LE	
<i>Penstemon scariosus var. albifluvis</i>	G4T1	S1		BLM
<i>Phacelia formosula</i>	G1	S1	LE	
<i>Phacelia submutica</i>	G2	S2	LT	
<i>Physaria congesta</i>	G1	S1	LT	
<i>Physaria obcordata</i>	G1G2	S1S2	LT	
<i>Sclerocactus glaucus</i>	G2G3	S2S3	LT	
<i>Sclerocactus mesae-verdae</i>	G2	S2	LT	
<i>Spiranthes diluvialis</i>	G2G3	S2	LT	
2017 - G1 Species Statewide				
State Scientific Name	G Rank	S Rank	USES A	USFS/BLM
<i>Aletes latilobus</i>	G1G2	S1		BLM
<i>Aliciella sedifolia</i>	G1	S1		USFS
<i>Astragalus deterior</i>	G1G2	S1S2		
<i>Boechera glareosa</i>	G1	S1		
<i>Botrychium lineare</i>	G2G3	S2S3		USFS
<i>Botrychium tax. nov. "furcatum"</i>	GNR	SNR		
<i>Oreocarya revealii</i>	G2	S2		BLM
<i>Descurainia kenheilii</i>	G1	S1		
<i>Draba malpighiacea</i>	G1?	S1?		
<i>Erigeron wilkenii</i>	G1	S1		
<i>Gutierrezia elegans</i>	G1	S1		USFS/BLM
<i>Hackelia gracilentia</i>	G1G2	S1S2		
<i>Ipomopsis ramosa</i>	G1	S1		
<i>Lepidium huberi</i>	G1G2	S1S2		
<i>Lygodesmia doloresensis</i>	G1G2	S1S2		BLM
<i>Oreoxis humilis</i>	G1	S1		USFS

<i>Packera mancosana</i>	G1	S1		USFS
<i>Penstemon gibbensii</i>	G1G2	S1		BLM
<i>Phacelia gina-glennae</i>	G1	S1		
<i>Physaria pulvinata</i>	G1	S1		USFS/BLM
<i>Physaria scrotiformis</i>	G1	S1		USFS
USFS Sensitive Species				
State Scientific Name	G Rank	S Rank	USES A	USFS/BLM
<i>Aletes lithophilus</i>	G3	S3		USFS/BLM
<i>Aquilegia chrysantha var. rydbergii</i>	G4T1Q	S1		USFS/BLM
<i>Armeria scabra ssp. sibirica</i>	G5T5	S1		USFS
<i>Astragalus iodopetalus</i>	G2	S1		USFS
<i>Astragalus leptaleus</i>	G3G4	S2		USFS
<i>Astragalus missouriensis var. humistratus</i>	G5T1	S1		USFS
<i>Astragalus proximus</i>	G4	S2		USFS
<i>Astragalus ripleyi</i>	G3	S2		USFS/BLM
<i>Botrychium ascendens</i>	G3	S1		USFS
<i>Botrychium campestre</i>	G3G4	S1		USFS
<i>Botrychium paradoxum</i>	G3G4	S1		USFS
<i>Braya glabella var. glabella</i>	G5T5	S1		USFS
<i>Calochortus flexuosus</i>	G4	S2		USFS
<i>Carex diandra</i>	G5	S1		USFS
<i>Carex livida</i>	G5	S1		USFS
<i>Chenopodium cycloides</i>	G3G4	S1		USFS
<i>Cylactis arctica ssp. acaulis</i>	G5T5	S1		USFS
<i>Cypripedium calceolus ssp. parviflorum</i>	G5	S2		USFS
<i>Drosera anglica</i>	G5	S1		USFS
<i>Drosera rotundifolia</i>	G5	S2		USFS
<i>Epipactis gigantea</i>	G4	S1S2		USFS
<i>Eriogonum exilifolium</i>	G3	S2		USFS
<i>Eriophorum altaicum var. neogaeum</i>	G4?T3T4	S3		USFS
<i>Eriophorum chamissonis</i>	G5	S1		USFS
<i>Eriophorum gracile</i>	G5	S1S2		USFS
<i>Festuca hallii</i>	G4	S1		USFS
<i>Ipomopsis aggregata ssp. weberi</i>	G5T2	S2		USFS
<i>Kobresia simpliciuscula</i>	G5	S2		USFS
<i>Physaria pruinosa</i>	G2	S2		USFS/BLM
<i>Machaeranthera coloradoensis</i>	G3	S3		USFS
<i>Malaxis monophyllos ssp. brachypoda</i>	G4G5Q	S1		USFS
<i>Parnassia kotzebuei</i>	G5	S2		USFS
<i>Penstemon harringtonii</i>	G3	S3		USFS/BLM
<i>Potentilla rupincola</i>	G2	S2		USFS
<i>Primula egaliksensis</i>	G4G5	S2		USFS

<i>Ranunculu grayi</i>	G5	S1S2		USFS
<i>Salix arizonica</i>	G2G3	S1		USFS
<i>Salix candida</i>	G5	S2		USFS
<i>Salix myrtilifolia</i>	G5	S1		USFS
<i>Salix serissima</i>	G5	S1		USFS
<i>Selaginella selaginoides</i>	G5	SNA		USFS
<i>Thalictrum heliophilum</i>	G2	S2		USFS/BLM
<i>Triteleia grandiflora</i>	G4G5	S1		USFS
<i>Utricularia minor</i>	G5	S2		USFS
<i>Viola selkirkii</i>	G5	S1		USFS
BLM Sensitive Species Statewide				
State Scientific Name	G Rank	S Rank	USES A	USFS/BLM
<i>Amsonia jonesii</i>	G4	S2		BLM
<i>Astragalus anisus</i>	G2G3	S2S3		BLM
<i>Astragalus debequaeus</i>	G2G3	S2		BLM
<i>Astragalus detritalis</i>	G3	S2		BLM
<i>Astragalus duchesnensis</i>	G3	S1S2		BLM
<i>Astragalus equisolensis</i>	G5T1	S1		BLM
<i>Astragalus musiniensis</i>	G3	S1		BLM
<i>Astragalus naturitensis</i>	G2G3	S2S3		BLM
<i>Astragalus piscator</i>	G2G3	S1		BLM
<i>Astragalus rafaensis</i>	G2G3	S2S3		BLM
<i>Astragalus sesquiflorus</i>	G3G4	S1		BLM
<i>Boechera crandallii</i>	G2G3	S2		BLM
<i>Bolophyta ligulata</i>	G3	S2		BLM
<i>Camissonia eastwoodiae</i>	G2	S1		BLM
<i>Cryptogramma stelleri</i>	G5	S2		BLM
<i>Cymopterus duchesnensis</i>	G3	S1		BLM
<i>Erigeron kachinensis</i>	G2	S1		BLM
<i>Eriogonum acaule</i>	G3	S1		BLM
<i>Eriogonum clavellatum</i>	G2	S1		BLM
<i>Eriogonum coloradense</i>	G2	S2		BLM
<i>Eriogonum contortum</i>	G3	S1		BLM
<i>Eriogonum ephedroides</i>	G3	S1		BLM
<i>Eriogonum tumulosum</i>	G3Q	S2		BLM
<i>Eriogonum viridulum</i>	G4Q	SH		BLM
<i>Frasera paniculata</i>	G4	S1		BLM
<i>Gentianella tortuosa</i>	G3?	S1		BLM
<i>Gilia stenothyrsa</i>	G3	S1		BLM
<i>Lomatium concinnum</i>	G2G3	S2S3		BLM
<i>Lupinus crassus</i>	G2	S2		BLM
<i>Mimulus eastwoodiae</i>	G3G4	S1S2		BLM

<i>Nuttallia rhizomata</i>	G2	S2		BLM
<i>Oenothera acutissima</i>	G2	S2		BLM
<i>Oreocarya caespitosa</i>	G4	S2		BLM
<i>Oreocarya osterhoutii</i>	G2G3	S2		BLM
<i>Oreocarya rollinsii</i>	G3	S2		BLM
<i>Oxytropis besseyi</i> var. <i>obnapiformis</i>	G5T2	S2		BLM
<i>Packera pauciflora</i>	G4G5	S1		BLM
<i>Pediomelum aromaticum</i>	G3	S2		BLM
<i>Penstemon acaulis</i> var. <i>yampaensis</i>	G2	S2		BLM
<i>Physaria parviflora</i>	G2	S2		BLM
<i>Physaria vicina</i>	G2	S2		BLM
<i>Sisyrinchium pallidum</i>	G3	S2		BLM
<i>Sphaeromeria capitata</i>	G3	S1		BLM
<i>Townsendia strigosa</i>	G4	S1		BLM
<i>Trichophorum pumilum</i>	G5	S2		BLM

Here are some highlights from the 2017 Symposium:

New populations of rare plants reported in 2017 included populations of West Silver bladderpod (*Physaria scrotiformis*) and Gibbens' beardtongue (*Penstemon gibbensii*).

Genetic studies continue to answer taxonomic and management questions for some of our state's rarest species, including: *boatshaped bugseed* (*Corispermum navicula*), Mancos Shale packera (*Packera mancosana*), Kremmling beardtongue (*Penstemon penlandii*), North Park phacelia (*Phacelia formosula*), in addition to *Sclerocactus* species of western Colorado and eastern Utah.

Habitat was protected by the Colorado Natural Areas Program for Pagosa skyrocket (*Ipomopsis polyantha*) with the purchase of 88 acres of occupied habitat. Pagosa skyrocket is endemic to the Pagosa Springs area and is federally listed as threatened.

Steve Olson (USFS) provided an update on upcoming changes in how the USFS regional sensitive species lists are developed. The USFS is moving towards Species of Conservation Concern which must focus on ecological conditions, and will be based on NatureServe G and S ranks. Existing Sensitive Species will remain in effect until new management plans are developed for each forest.

Additional afternoon presentations were as follows: **Raquel Wertsbaugh** with the Colorado Natural Areas Program (CNAP) discussed the recent incorporation of rare plants into the State Wildlife Action Plan and the implications for land management and conservation. **Jessica Smith** (CNAP) discussed the implementation of monitoring for Pagosa Skyrocket at the newly acquired state owned property. **Susan Panjabi** (CNHP) gave a brief presentation regarding recently developed Best Management Practices for Roadside Rare Plants, and an overview of the online

Colorado Rare Plant Guide. Moderator **Jennifer Neale** (DBG) concluded the symposium with a discussion of how we, as a group, can share our conservation successes with a wider audience.

For more information:

All of the information from this meeting as well as previous symposia is available online at the Colorado State University, Colorado Natural Heritage Program (CNHP) website:
www.cnhp.colostate.edu.

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 or Jennifer Neale at nealejr@botanicgardens.org and check the CoNPS website (www.conps.org) for details as they become available about next year's symposium.