

# INDEX SEMINUM 2022-2023



DENVER BOTANIC  
**GARDENS**

## ON THE COVER

*Holodiscus discolor* var. *dumosus*, rockspirea, is native to the western United States, including Colorado and the Rocky Mountains from Idaho and Wyoming to Arizona, to northern Mexico.

We are thrilled to announce a new book from two staff members of Denver Botanic Gardens' Horticulture Department. "Shrouded In Light: Naturalistic Planting Inspired by Wild Shrublands" by Kevin Philip Williams and Michael Guidi is an invitation to work, live and play with shrubs by celebrating the shrublands that fill our world.

"Shrouded in Light" takes the reader on a journey through a glorious spectrum of wild shrublands and the philosophies, aesthetics and design strategies that gardening with these awesome creatures unveils. Available at online retailers worldwide.

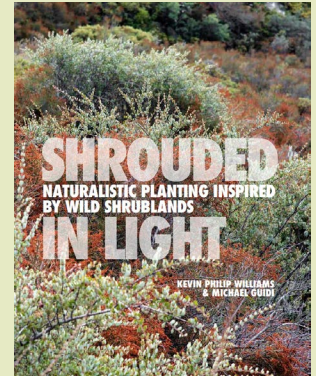


Photo: Kevin Philip Williams

Denver Botanic Gardens  
909 York Street  
Denver, Colorado 80206  
United States

Tel: 720-865-3553

Fax: 720-865-3679

Email: [indexseminum@botanicgardens.org](mailto:indexseminum@botanicgardens.org)

## ABOUT DENVER BOTANIC GARDENS

Denver Botanic Gardens is situated at Latitude 39°43'55.4"N, Longitude 104°57'36.5"W, at an elevation of 5,277 feet (1,609 meters) above sea level. The Gardens includes 24 acres of display and collections including a tropical conservatory, rock alpine garden, Japanese garden, native plant gardens and water gardens.

## INTERNATIONAL PLANT EXCHANGE NETWORK (IPEN)

Denver Botanic Gardens is a member of IPEN with code KHD.

The IPEN number consists of four elements:

1. Country of origin (abbreviation according to [ISO 3166-1alpha-2](#), "XX" for unknown origin)
2. Restrictions of transfer ("1" if there exists a restriction, "0" if no restrictions).
3. Garden codes can be found on [Botanic Gardens Conservation International](#) website.
4. Identification number (accession number from originating IPEN member garden)

For example, **US-0-KHD-060654**

US: Plant material originates from the United States

0: There are no restrictions of transfer

KHD: Denver Botanic Gardens' IPEN code

060654: Our accession number

## GARDENS NAVIGATOR

We invite you to learn more about the selections provided through this year's *Index Seminum* through our Gardens Navigator website. Species names are linked to images, phenology and descriptive data throughout this catalog.

# SEED OF CULTIVATED PLANTS

Seeds were collected from cultivated gardens at Denver Botanic Gardens York Street or from the personal gardens of horticulture staff. All plant names are linked to descriptions and in many cases, to images on Gardens Navigator website at [gardensnavigator.org](http://gardensnavigator.org).

ORDER #	SCIENTIFIC NAME	IPEN #	COLLECTION OR SOURCE DATA
<b>AIZOACEAE</b>			
01	<i>Ruschia pulvinaris</i> L.Bolus	XX-0-KHD-230966	
<b>AMARYLLIDACEAE</b>			
02	<i>Allium cernuum</i> Roth	XX-0-KHD-021491	
03	<i>Allium schubertii</i> Zucc.	XX-0-KHD-022888	
<b>ASPARAGACEAE</b>			
04	<i>Nolina texana</i> S.Watson	XX-0-KHD-163934	Lady Bird Johnson Wildflower Center, Texas
05	<i>Yucca glauca</i> Nutt.	XX-0-KHD-101152	
<b>ASPHODELACEAE</b>			
06	<i>Kniphofia thodei</i> Baker	LS-1-M-2007/0805	Moteng Pass, view point
<b>ASTERACEAE</b>			
07	<i>Erigeron compositus</i> Pursh Lavender Form	US-0-KHD-800491	
08	<i>Inula helenium</i> L.	KG-0-KHD-194667	Kichi-kemin Valley 1: grass and shrub steppe interface
09	<i>Pericome caudata</i> A.Gray	US-0-KHD-202286	Colorado: Jefferson County: Pine
10	<i>Ptilostemon afer</i> (Jacq.) Greuter	XX-0-KHD-042550	
11	<i>Ratibida columnifera</i> (Nutt.) Wooton & Standl.	XX-0-KHD-240271	
<b>BETULACEAE</b>			
12	<i>Betula pendula</i> Roth 'Gracilis'	XX-0-KHD-791813	
<b>BIGNONIACEAE</b>			
13	<i>Incarvillea olgae</i> Regel	XX-0-KHD-091540	
<b>BRASSICACEAE</b>			
14	<i>Aethionema capitatum</i> Boiss. & Balansa	XX-0-KHD-112727	
<b>BRASSICACEAE</b>			
15	<i>Physaria ovalifolia</i> (Rydb.) O'Kane & Al-Shehbaz	XX-0-KHD-230529	
<b>CACTACEAE</b>			
16	<i>Echinocereus fendleri</i> (Engelm.) Sencke ex Haage	XX-0-KHD-012247	New Mexico: La Cieniga
17	<i>Echinocereus reichenbachii</i> (Terscheck) Haage ssp. <i>baileyi</i> (Rose) N.P.Taylor	XX-0-KHD-981280	
18	<i>Echinocereus</i> × <i>roetteri</i> (Engelm.) Engelm. ex Rümpler	XX-0-KHD-182452	
19	<i>Echinocereus triglochidiatus</i> Engelm.	XX-0-KHD-160920	
20	<i>Echinocereus triglochidiatus</i> Engelm. white sands strain	US-0-KHD-040243	New Mexico: Otero County

# SEED OF CULTIVATED PLANTS

ORDER #	SCIENTIFIC NAME	IPEN #	COLLECTION OR SOURCE DATA
21	<i>Opuntia basilaris</i> Engelm. & J.M.Bigelow	XX-0-KHD-193088	
22	<i>Opuntia basilaris</i> Engelm. & J.M.Bigelow var. <i>brachyclada</i> (Griffiths) Munz	XX-0-KHD-152594	
<b>CAPPARACEAE</b>			
23	<i>Cleomella serrulata</i> (Pursh) Roalson & J.C.Hall white form	US-0-KHD-220036	Colorado: San Luis Valley roadside, white flowering form collected and maintained in cultivation
<b>CARYOPHYLLACEAE</b>			
24	<i>Dianthus giganteus</i> d'Urv.	XX-0-KHD-020659	
25	<i>Silene uniflora</i> Roth 'Compacta'	XX-0-KHD-161982	



*Purshia stansburiana* (Kevin Philip Williams)

# SEED OF CULTIVATED PLANTS

ORDER #	SCIENTIFIC NAME	IPEN #	COLLECTION OR SOURCE DATA
<b>CHENOPODIACEAE</b>			
26	<i>Grayia spinosa</i> (Hook.) Moq.	XX-0-KHD-230956	
<b>CUPRESSACEAE</b>			
27	<i>Juniperus chinensis</i> L. 'Keteleeri'	XX-0-KHD-813020	
<b>CYPERACEAE</b>			
28	<i>Eriophorum angustifolium</i> Honckeney	XX-0-KHD-163282	
<b>FABACEAE</b>			
29	<i>Baptisia australis</i> (L.) R.Br. var. <i>minor</i> (Lehm.) Fernald	XX-0-KHD-240263	
30	<i>Caragana pygmaea</i> (L.) DC.	XX-0-KHD-850268	University of Alberta Index Seminum 1985
31	<i>Glycyrrhiza lepidota</i> Pursh	US-0-KHD-941508	Colorado: Uncompahgre Plateau: riparian area
32	<i>Thermopsis montana</i> Nutt.	XX-0-KHD-002538	
<b>LAMIACEAE</b>			
33	<i>Monarda fistulosa</i> L.	US-0-KHD-110176	Colorado: Larimer County: open mountain meadow
<b>LINACEAE</b>			
34	<i>Linum flavum</i> L.	XX-0-KHD-810480	Conservatoire et Jardin Botaniques, Switzerland (1981)
35	<i>Linum lewisii</i> Pursh	XX-0-KHD-002527	
<b>LOASACEAE</b>			
36	<i>Mentzelia rusbyi</i> Wooton	US-0-KHD-210603	Colorado: Jackson County
<b>OLEACEAE</b>			
37	<i>Forestiera pubescens</i> Nutt. var. <i>parvifolia</i> (A.Gray) G.L.Nesom	US-0-KHD-112085	Colorado: Denver County: Denver: Bluff Lake Nature Center
<b>ORCHIDACEAE</b>			
38	<i>Epipactis gigantea</i> Dougl. ex Hook.	XX-0-KHD-230267	
<b>PAPAVERACEAE</b>			
39	<i>Argemone polyanthemus</i> (Fedde) Ownbey	XX-0-KHD-052662	
<b>PLANTAGINACEAE</b>			
40	<i>Penstemon barbatus</i> (Cav.) Roth	XX-0-KHD-220334	
41	<i>Penstemon cobaea</i> Nutt.	XX-0-KHD-220336	
42	<i>Penstemon mensarum</i> Pennell	XX-0-KHD-240269	
43	<i>Penstemon nitidus</i> Douglas ex Benth.	XX-0-KHD-230618	
44	<i>Penstemon strictus</i> Benth. 'Bandera'	XX-0-KHD-220342	
45	<i>Penstemon whippleanus</i> A.Gray	XX-0-KHD-210415	

# SEED OF CULTIVATED PLANTS

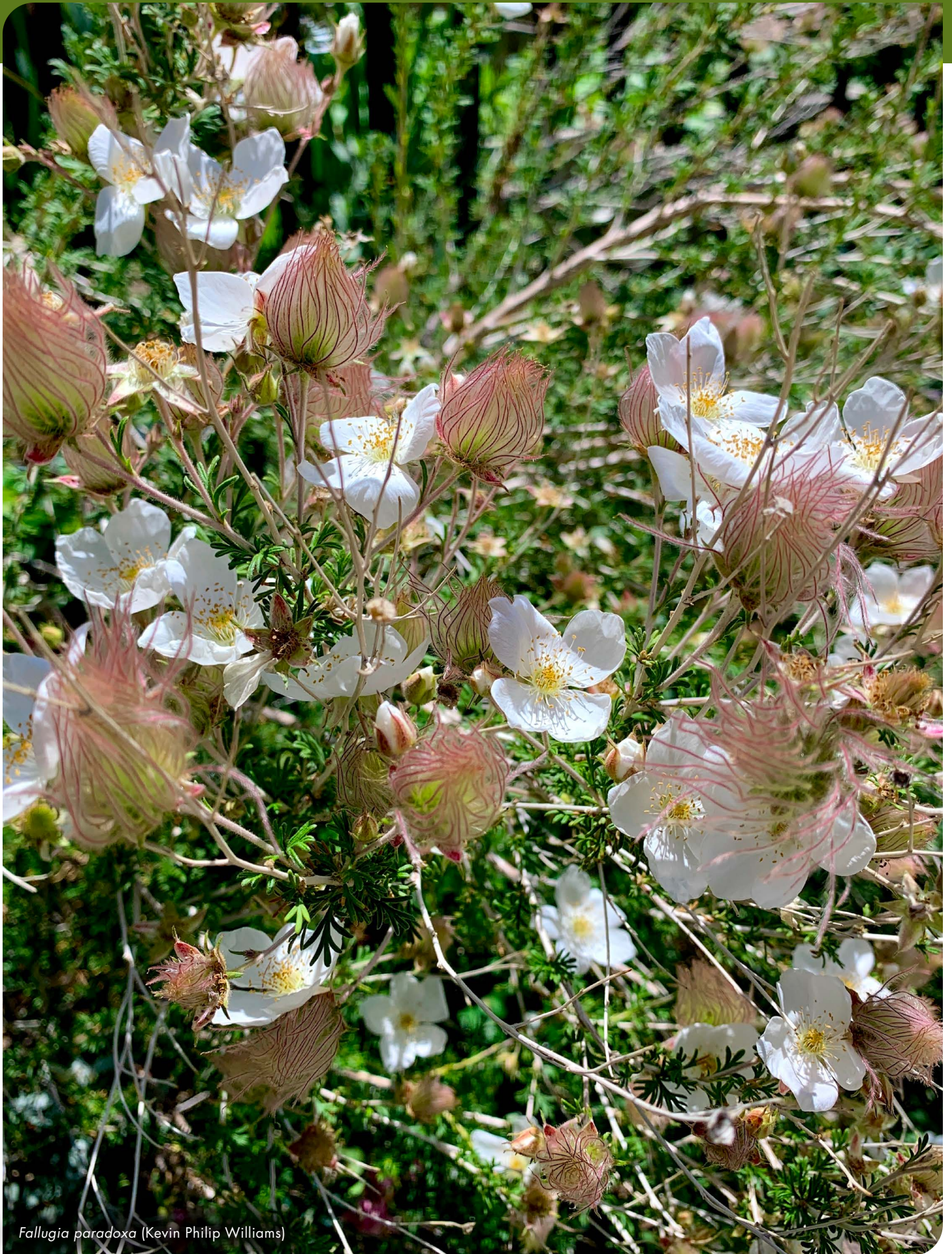
ORDER #	SCIENTIFIC NAME	IPEN #	COLLECTION OR SOURCE DATA
<b>PLUMBAGINACEAE</b>			
46	<i>Acantholimon halophilum</i> Bokhari	XX-0-KHD-191984	
<b>POACEAE</b>			
47	<i>Bothriochloa laguroides</i> (De Candolle) Herter ssp. <i>torreyana</i> (Steudel) Allred & Gould.	XX-0-KHD-980207	
48	<i>Jarava ichu</i> Ruiz & Pav.	XX-0-KHD-052298	University of California Botanical Garden at Berkeley
49	<i>Koeleria macrantha</i> (Ledeb.) Schult.	XX-0-KHD-212012	
<b>POLYGONACEAE</b>			
50	<i>Eriogonum pauciflorum</i> Pursh var. <i>gnaphalodes</i> (Bentham) Reveal	XX-0-KHD-230509	
<b>RANUNCULACEAE</b>			
51	<i>Aquilegia flabellata</i> Siebold & Zucc. 'Nana'	XX-0-KHD-120928	
52	<i>Delphinium geyeri</i> Greene	US-0-KHD-192455	Colorado: Weld County: Keota roadside
53	<i>Pulsatilla patens</i> (L.) Mill.	XX-0-KHD-240136	
54	<i>Thalictrum heliophilum</i> Wilken & DeMott	US-0-KHD-911045	Colorado: Rio Blanco County
<b>ROSACEAE</b>			
55	<i>Cercocarpus ledifolius</i> Nutt. ex Torr. & A. Gray	XX-0-KHD-023179	
56	<i>Cercocarpus montanus</i> Raf.	XX-0-KHD-910191	
57	<i>Dryas octopetala</i> L.	XX-0-KHD-240123	
58	<i>Geum triflorum</i> Pursh	XX-0-KHD-002573	
59	<i>Holodiscus discolor</i> (Pursh) Maxim. var. <i>dumosus</i> (S.Watson) Maxim. ex J.M.Coult	XX-0-KHD-951411	
60	<i>Potentilla hippiana</i> Lehm.	XX-0-KHD-002510	
61	<i>Purshia mexicana</i> (D.Don) S.L.Welsh	XX-0-KHD-030263	
<b>SAPINDACEAE</b>			
62	<i>Sapindus drummondii</i> Hook. & Arn.	US-0-KHD-990454	Colorado: Baca County: Carrizo Creek
<b>SAXIFRAGACEAE</b>			
63	<i>Heuchera hallii</i> A.Gray	US-0-KHD-202428	Colorado
<b>SCROPHULARIACEAE</b>			
64	<i>Verbascum atrovioleaceum</i> (Sommier & Levier) Murb.	XX-0-KHD-183658	
<b>SOLANACEAE</b>			
65	<i>Fabiana australis</i> Alaria	XX-0-KHD-023671	
<b>XANTHORRHOACEAE</b>			
66	<i>Asphodeline lutea</i> (L.) Rchb.	XX-0-KHD-230947	

# WILD COLLECTED SEEDS

ORDER #	SCIENTIFIC NAME	IPEN #	COLLECTION OR SOURCE DATA
<b>AMARYLLIDACEAE</b>			
67	<i>Allium textile</i> A.Nelson & J.F.Macbr.	US-0-KHD-232697	Colorado: Grand County
<b>APIACEAE</b>			
68	<i>Osmorhiza occidentalis</i> (Nutt. ex Torr. & A.Gray) Torr.	US-0-KHD-233950	Colorado: Routt County: Mill Creek Valley
69	<i>Perideridia gairdneri</i> (Hook. & Arn.) Mathias	US-0-KHD-233959	Colorado: Routt County: Mill Creek Valley
70	<i>Vesper montanus</i> (Torr. & A.Gray) R.L.Hartm. & G.L.Nesom	US-0-KHD-232706	Colorado: Grand County
<b>ASPARAGACEAE</b>			
71	<i>Yucca angustissima</i> Engelm. ex Trel.	US-0-KHD-233138	Utah: Grand County: Sand Flats Recreation Area
72	<i>Yucca neomexicana</i> (Woot & Standl.) Reveal	US-0-KHD-233267	Colorado: Las Animas County: Chancellor Ranch State Trust Land; Chacuaco Canyon Western Edge
<b>ASTERACEAE</b>			
73	<i>Chaenactis douglasii</i> (Hook.) Hook. & Arn.	US-0-KHD-232698	Colorado: Grand County
74	<i>Erigeron subtrinervis</i> Rydb. ex Porter & Britton	US-0-KHD-233947	Colorado: Routt County: Mill Creek Valley
75	<i>Heliomeris multiflora</i> Nutt.	US-0-KHD-233960	Colorado: Routt County: Mill Creek Valley
76	<i>Hymenoxys hoopesii</i> (A.Gray) Bierner	US-0-KHD-233954	Colorado: Routt County: Mill Creek Valley
77	<i>Hymenoxys richardsonii</i> (Hook.) Cockerell	US-0-KHD-232699	Colorado: Grand County
78	<i>Senecio bigelovii</i> A.Gray	US-0-KHD-234274	Colorado: Routt County: Mill Creek Valley
<b>BORAGINACEAE</b>			
79	<i>Hydrophyllum capitatum</i> Douglas ex Benth.	US-0-KHD-234277	Colorado: Routt County: Mill Creek Valley
<b>CARYOPHYLLACEAE</b>			
80	<i>Eremogone congesta</i> (Nutt.) Ikonn.	US-0-KHD-233957	Colorado: Routt County: Mill Creek Valley
<b>FABACEAE</b>			
81	<i>Astragalus miser</i> Douglas ex Hook.	US-0-KHD-234275	Colorado: Routt County: Mill Creek Valley
82	<i>Dalea aurea</i> Nutt. ex Pursh	US-0-KHD-233274	Colorado: Baca County: Cottonwood Creek State Trust Land
83	<i>Dalea candida</i> Willd. var. <i>oligophylla</i> (Torr.) Shinnars	US-0-KHD-233270	Colorado: Las Animas County: Toby Creek State Trust Land
84	<i>Thermopsis montana</i> Nutt.	US-0-KHD-232704	Colorado: Grand County
<b>GENTIANACEAE</b>			
85	<i>Frasera paniculata</i> Torr.	US-0-KHD-233142	Utah: Grand County: Mill Canyon
<b>GERANIACEAE</b>			
86	<i>Geranium viscosissimum</i> Fisch. & C.A.Mey.	US-0-KHD-233955	Colorado: Routt County: Mill Creek Valley

ORDER #	SCIENTIFIC NAME	IPEN #	COLLECTION OR SOURCE DATA
<b>LAMIACEAE</b>			
87	<i>Agastache urticifolia</i> (Benth.) Kuntze	US-0-KHD-233952	Colorado: Routt County: Mill Creek Valley
<b>ONAGRACEAE</b>			
88	<i>Oenothera cespitosa</i> Nutt.	US-0-KHD-232702	Colorado: Grand County
<b>OROBANCHACEAE</b>			
89	<i>Castilleja septentrionalis</i> Lindl.	US-0-KHD-233956	Colorado: Routt County: Mill Creek Valley
<b>PLANTAGINACEAE</b>			
90	<i>Penstemon angustifolius</i> Nutt. ex Pursh var. <i>caudatus</i> (A.Heller) Rydb.	US-0-KHD-233295	Colorado: Las Animas County: Chancellor Ranch State Trust Land; Chacuaco Canyon Western Edge
91	<i>Penstemon saxosorum</i> Pennell	US-0-KHD-233949	Colorado: Routt County: Mill Creek Valley
<b>POLEMONIACEAE</b>			
92	<i>Ipomopsis aggregata</i> (Pursh) V.E.Grant	US-0-KHD-233948	Colorado: Routt County: Mill Creek Valley
<b>POLYGONACEAE</b>			
93	<i>Eriogonum umbellatum</i> Torr. var. <i>majus</i> Hook.	US-0-KHD-233951	Colorado: Routt County: Mill Creek Valley
<b>RANUNCULACEAE</b>			
94	<i>Aquilegia coerulea</i> E.James	US-0-KHD-234328	Colorado: Routt County: Mill Creek Valley
95	<i>Clematis hirsutissima</i> Pursh	US-0-KHD-234278	Colorado: Routt County: Mill Creek Valley
96	<i>Delphinium occidentale</i> (S.Watson) S.Watson	US-0-KHD-233953	Colorado: Routt County: Mill Creek Valley
97	<i>Delphinium scaposum</i> Greene	US-0-KHD-233135	Utah: Grand County: Sand Flats Recreation Area
<b>ROSACEAE</b>			
98	<i>Amelanchier utahensis</i> Koehne	US-0-KHD-232701	Colorado: Grand County
99	<i>Fallugia paradoxa</i> (D.Don) Endl. ex Torr.	US-0-KHD-233144	Utah: Kane: Grand Staircase Escalante National Monument, House Rock Valley Junction
100	<i>Geum triflorum</i> Pursh	US-0-KHD-234276	Colorado: Routt County: Mill Creek Valley
101	<i>Potentilla subjuga</i> Rydb.	US-0-KHD-233958	Colorado: Routt County: Mill Creek Valley
102	<i>Purshia stansburiana</i> (Torr.) Henr.	US-0-KHD-233136	Utah: Grand County: Sand Flats Recreation Area
103	<i>Purshia tridentata</i> (Pursh) DC.	US-0-KHD-232700	Colorado: Grand County
<b>RUTACEAE</b>			
104	<i>Ptelea trifoliata</i> L.	US-0-KHD-233279	Colorado: Las Animas County: Chancellor Ranch State Trust Land; Chacuaco Canyon Western Edge
<b>SANTALACEAE</b>			
105	<i>Comandra umbellata</i> (L.) Nutt.	US-0-KHD-232696	Colorado: Grand County





*Fallugia paradoxa* (Kevin Philip Williams)

# GENERAL INFORMATION

## PLEASE NOTE:

- Seeds of some species are in short supply and will be distributed in order of request.
- Seeds are the result of open pollination and may be hybridized.
- We give no warranty as to the quality, productiveness or any other matter for seeds we supply.
- Species are chosen for their performance in Denver, Colorado's climate; we cannot speak to qualities such as invasiveness in other climates, but we request any data pertaining to invasiveness of these species in other regions to be communicated to Denver Botanic Gardens for future reference. We will not knowingly distribute seed to places where a taxon has been identified as invasive.
- Please note if a phytosanitary certificate is required for importing into your country.

Seeds from cultivated plants collected by Mike Bone, Mike Kintgen, Cindy Newlander, Brooke Palmer and Kevin Williams. Seeds from the wild collected by Mike Bone, Mike Kintgen, Cindy Newlander, Brooke Palmer and Laura Swain. Seed requests fulfilled and data tracked by Gardens' volunteers Barry Levene and Gary Waggoner. Catalog coordinated by Cindy Newlander and Brooke Palmer.

## SOURCES FOR NOMENCLATURE

Plant names and family arrangement are based on these references:

- Kew's [Plants of the World Online](#)
- [World Flora Online](#)
- "The Flora of North America"
- "Flora of Colorado, Second Edition" by Jennifer Ackerfield

## CLIMATE DATA FOR DENVER:

Lowest temperature recorded (1921-2024)	-25° F/-3.9° C (Dec. 22, 1990)
Highest temperature recorded (1921-2024)	105° F/40.6° C (June 28, 2018)
Average high temperature June	81° F/27.2° C
Average low temperature June	53° F/11.7° C
Average high temperature December	43° F/6.1° C
Average low temperature December	17° F/-8.3° C
Annual precipitation (2023)	21.25 inches/54 cm
Average precipitation (2008-2023)	17.13 inches/43.5 cm