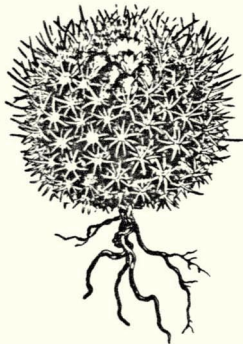


# Utah Native Plant Society

JANUARY 1980 NEWSLETTER

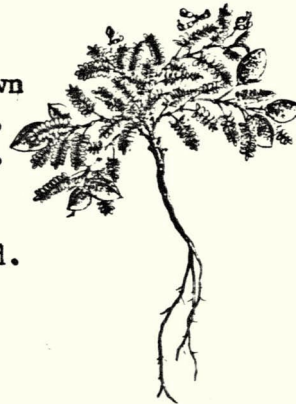
## UTAH THREATENED AND ENDANGERED PLANTS

Utah, along with all other states, had its proposed threatened and endangered plants list cancelled as of November 1979 except those placed on the official U.S. Government Federal Register. On that list are the following plants:



### Pediocactus sileri

Siler cactus is known from Washington Co., Utah and Mohave Co., Arizona. Listed in Federal Register (1979) as endangered.



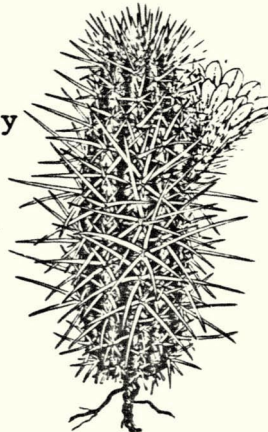
### Astragalus perianus

Rydberg milkvetch is known from two disjunct populations in Piute and Garfield cos. Listed in the Federal Register (1978) as threatened.



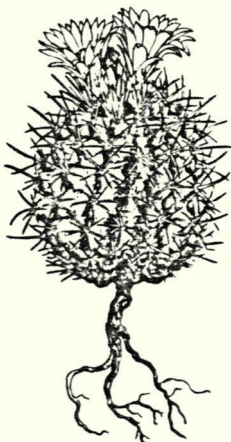
### Arctomecon humilis

Coville bearclaw poppy is known from a few populations in Washington Co. Listed in the Federal Register (1979) as endangered.



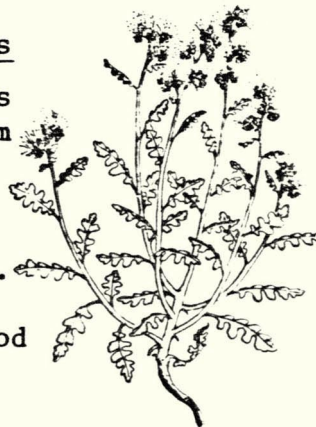
### Echinocereus engelmannii var. purpureus

Purple hedgehog cactus is known only from a single population in Washington Co. Listed as endangered in the Federal Register (1979).



### Sclerocactus glaucus

Uinta Basin hookless cactus is known from Duchesne and Uintah cos. Listed in the Federal Register (1979) as endangered. Taxonomy is complex and poorly understood on this species.



### Phacelia argillacea

Clay phacelia is known from a single population in Utah Co. It is listed in the Federal Register (1978) as endangered. The low number of individuals make this plant close to extirpation.



Echinocereus triglochidiatus  
var inermis

Spineless hedgehog cactus is known from four populations in San Juan Co., Utah and western Colorado. It is listed in the Federal Register (1979) as endangered.



Sclerocactus wrightii

Wright fishhook cactus is known from a few scattered populations in Emery and Wayne cos. It is listed in the Federal Register (1979) as endangered.

These plants can be guaranteed the full protection of the law as stated in the Endangered Species Act of 1973 if they grow on federal land. Section 9(a) of the Act makes it illegal for any person to import, export, or to deliver, receive, carry, transport, or ship interstate or foreign commerce in the course of a commercial activity, or to sell or offer for sale in interstate or foreign commerce, these plants. Section 10 provides for the issuance of permits under certain circumstances to carry out otherwise prohibited activity involving endangered plants, such as trade in specimens of cultivated origin.

Utah state has no laws to protect endangered or threatened species which occur on state or private lands. The Convention on International Trade in Endangered Species prohibits exporting cacti, but doesn't prevent interstate trade or habitat destruction. Privately owned land is not included in any of the laws and this leaves any endangered or threatened plant to the ministrations of the owner. Unfortunately, Utah has only one law enforcement officer for the protection of endangered species and this makes it difficult to enforce the laws even on federally controlled land.

Below is the new list, divided into four categories, which was compiled by selected members of UNPS and will be submitted to the appropriate federal agency as a proposed list of Utah threatened and endangered plants for official consideration as threatened or endangered plants:

(A) CRITICALLY ENDANGERED. These plants will be submitted without critical habitat designated in the status reports because that may be a factor in their protection.

Asclepias welshii  
Gilia caespitosa  
Cycladenia humilis var. jonesii  
Townsendia aprica  
Primula maguirei  
Castilleja aquariensis  
Lesquerella tumulosa

Pediocactus despainii  
Pediocactus winkleri  
Coryphantha missouriensis var. marstonii  
Astragalus montii  
Erigeron sionis  
Eriogonum loganum  
Castilleja revealii

(B) ENDANGERED. This includes plants which will be submitted with a critical habitat defined in the status report.

Penstemon grahamii	Erigeron religiosus
Heterotheca jonesii	Eriogonum ammophilum
Lepidium barnebyanum	Eriogonum aretioides
Astragalus cronquistii	Eriogonum corymbosum var. matthewsae
Astragalus isleyi	Eriogonum cronquistii
Erigeron kachinensis	Eriogonum humivagans
Erigeron maguirei	Glaucocarpum suffrutescens
Erigeron proselyticus	Hymenoxys helenioides
Allium passyi	Lepidium montanum var. neeseae
Astragalus limnocharis	Lepidium montanum var. stellae
Astragalus lutosus	Lepidium ostleri
Astragalus sp. nov.	Penstemon bracteatus
Astragalus sp. nov.	Phacelia indecora
Cryptantha barnebyi	Psoralea epipsila
Cryptantha johnstonii	Thelypodopsis argillacea
Cryptantha ochroleuca	

(C) THREATENED. These plants will be proposed as threatened, and will be submitted with their critical habitat defined in the status report.

Asclepias cutleri	Gaillardia flava
Asclepias ruthiae	Hedysarum boreale var. gremiale
Astragalus barnebyi	Hedysarum occidentale var. canone
Astragalus callithrix	Heliomeris soliceps
Astragalus chloodes	Hymenoxys depressa
Astragalus cottamii	Lesquerella garrettii
Astragalus rafaensis	Lesquerella rubicundula
Astragalus sabulosus	Lomatium latilobum
Astragalus saurinus	Lomatium minimum
Astragalus striatiflorus	Machaeranthera kingii
Aquilegia barnebyi	Mentzelia argillosa
Castilleja parvula	Musineon lineare
Cryptantha compacta	Najas caespitosa
Cryptantha elata	Parrya rydbergii
Cryptantha jonesiana	Penstemon acaulis
Cymopterus coulteri	Penstemon atwoodii
Cymopterus higginsii	Penstemon bracteatus
Cymopterus minimus	Penstemon compactus
Draba sobolifera	Penstemon concinnus
Epilobium nevadense	Penstemon goodrichii
Erigeron cronquistii	Penstemon humilis var. obtusifolius
Erigeron mancus	Penstemon nanus
Eriogonum eremicum	Penstemon parvus
Eriogonum grayi	Penstemon tidestromii
Eriogonum jamesii var. rupicola	Penstemon anelsonii
Eriogonum nanum	Phacelia howelliana
Eriogonum natum	Phacelia mammilariensis
Eriogonum panguicense var. alpestre	

(C) THREATENED (continued)

Phacelia utahensis  
Psoralea pariensis  
Psorothamnus polyadenius var. jonesii  
Senecio dimorphophyllus var. intermedius  
Sclerocactus pubispinus  
Silene petersonii var. minor  
Silene petersonii var. petersonii  
Spaeromeria ruthiae  
Talinum validulum  
Trifolium andersonii var. friscanum  
Viola purpurea var. charlestonensis  
Xylorhiza confertifolia  
Zigadenus vaginatus

(D) SENSITIVE PLANTS. These plants will not be submitted for consideration as threatened or endangered, but the list includes plants which may be extinct or have not been collected for the past 25 years or those which may become threatened or endangered if habitat destruction is begun or continued.

Astragalus ampullarius	Eriogonum lancifolium
Astragalus desereticus*	Eriogonum ostlundii
Astragalus harrisonii*	Eriogonum saurinum
Astragalus henrimontanensis	Eriogonum thompsonae var. thompsonae
Astragalus lentiginosus var. ursinus*	Eriogonum tumulosum
Astragalus malacoides	Festuca dasyclada*
Atriplex welshii	Lupinus jonesii*
Camissonia megalantha	Penstemon angustifolius
Cryptantha grahamii	var. vernalensis
Cymopterus basalticus	Penstemon garrettii*
Cuscuta warneri*	Phacelia cephalotes
Eriogonum corymbosum var. davidsei	Phlox cluteana
Eriogonum ephedroides	Polygonum utahense
Eriogonum hylophilum	Ranunculus acrifolius var. aestivalis*
	Selaginella utahensis
	Townsendia mensana

\*Additional research and collections needed. Townsendia minima

This is by no means the "final" list of Utah endangered or threatened plants. The status of any plant can change as new information is acquired, or situations concerning habitat are altered. For instance, plants once considered rare have been dropped from the proposed list because of recent information concerning new populations or range extensions or they may simply be more abundant during wet years. What is most needed is knowledge about the plants themselves so that the decisions can be as rational as possible.

NOTE: Dr. Stanley L. Welsh of Brigham Young University has been chosen as the chairman of UNPS Endangered Plants Committee.



## ANNOUNCEMENTS

There will be the following public meetings concerning the U.S. Government's MX-missile program:

January 11 - Salt Lake City  
" 15 - Delta  
" 16 - Nephi  
" 21 - Milford  
" 22 - Beaver  
" 23 - Alamo  
" 24 - Cedar City  
" 31 - Salt Lake City

Because this program will affect so much of our area here and is likely to change some of the life-styles, it would be well for us to understand as much about the future plans for this missile program as possible.



## CALENDAR

Garden Lecture Series--January 22, 7:30, 102 Chemistry Building, U of U.  
"Test Tube Plants for Energy" by Zachary Wochok.

Native Plant Society S.L. Chapter Meeting--January 24, 7:30, 119 South Biology Building, U of U. "Beginning Plant Identification" by Elizabeth Neese.

Garden Lecture Series--February 19, 7:30, 102 Chemistry Building, U of U.  
"Cactus Selection Propagation and Culture" by  
Lorraine Miller, President of Cactus Growers Assoc.

Garden Lecture Series--March 18, 7:30, 102 Chemistry Building, U of U.  
"Garden Fertilizer Iron Deficiency" by

Garden Lecture Series--April 22, 7:30, 102 Chemistry Building, U of U.  
"Shade Tree Insects and Their Control" by Reed  
Roberts, USU Cooperative Study.

16th Annual Arboretum Day on May 2 at the U of U new Alumni Association Building. For more information contact Dick Hildrith at the Arboretum, 581-5322.

Please send any announcements or information which may be of interest to the UTAH NATIVE PLANT SOCIETY to: UNPS; Kaye Thorne, editor; MLBM #388 Brigham Young University; Provo, UT 84602



# UTAH NATIVE PLANT SOCIETY

NEWSLETTER  
MARCH 1980

## President's Message

The Utah Native Plant Society (UNPS) was formed because of a growing concern for the large scale alteration and destruction of our native flora. Some of these impacts are necessary to meet the needs of our growing society. However, a large portion of projects involving vegetation manipulation or outright destruction of the native flora is poorly planned, unsuccessful or unnecessary.

The State Planning Office estimates Utah's population, based on current trends, will hit 2.2 million by the year 2000. This projection does not include population booms that could result from the MX missile deployment system and other major development projects such as oil shale and tar sands, the Intermountain, Moon Lake and Allen-Warner Valley power projects, the White River and Red Fleet Dams, geo-thermal activities, the Central Utah project and others. The combined impact of these projects could exceed the impact on our flora during the first 80 years of this century. As members of the UNPS we can help minimize these impacts by becoming actively involved in the society by participating on one or more of the following committees: endangered plants, conservation, education, publication, fund raising, newsletter, membership, horticulture, chapter organization, or field trips, or in other areas of specific interest. Only through your help and public awareness can the impacts to our flora be arrested.

Public image of endangered species is symbolized by glamorous species of birds and mammals. It is misleading to focus the majority of our attention on these species alone. The extinction of a single plant or lower form of animal life could upset the ecological balance of a complex system as much or even more than a more visible species.

The Smithsonian Institution estimates that 50,000 alkaloids remain to be discovered in plants, including possible cures for cancer. Many plants are already valuable sources of medicines, chemicals, food crops, and horticultural uses. Plants not only produce natural biologically active chemicals such as insecticides, but also provide us with chemical structures to synthesize even more effective chemicals and pesticides. Many of our species grow in unusual habitats and provide stability to poor soils on which most plants are unable to grow.

There are many aspects of the flora we do not understand; components of the flora are not ours to dispose of. We do have the custodial responsibilities to protect it for the best use of man in the generations to come. The purpose of the UNPS is to protect and conserve the native flora; let us unite in this effort through active participation. Don't wait for an invitation to participate - let us know what you can and are willing to do.

N. Duane Atwood  
President, UNPS

U. S. FOREST SERVICE

RESEARCH NATURAL AREA PROGRAM

The U.S. Forest Service is in the process of identifying and establishing Research Natural Areas (RNA's) on lands administered within the National Forest System. These RNA's, when officially designated, will be part of a national network of botanical, aquatic, and geological types. This network will consist of forest cover types based on the Society of American Foresters' types (SAF, Table 1); potential natural vegetation or Kuchler habitat types (PNV, Table 2) and aquatic types (Table 3). Geological types will be used to help define abiotic variation in each type identified for the United States. These areas will be for nonmanipulative research, monitoring, educational activities that are non-destructive, for protection of natural diversity, and to provide reference areas for ecological baseline data and general research purposes.

To qualify, potential areas (1) should show little evidence of major disturbance by man or domestic animals, (2) should be 300 acres in size or if smaller be high quality areas, (3) should be entire drainage basins, and (4) should consider the maintenance of suitable habitat or endangered and threatened species. Only five RNA's have been designated in Utah and these are outlined in Table 4. The Forest Service will cooperate with other public agencies, universities or individuals to establish and maintain an adequate number and variety of RNA's. Use of designated areas by scientists and for specific educational purposes is encouraged.

If you know of an area that may qualify or would like additional information on this program please contact Duane Atwood, Uinta National Forest, P.O. Box 1428, Provo, Utah 84601 (801-377-5780).

TABLE 1.

SAF TYPES ON R-4 FORESTS

(Circles represent types already in RNA's)

Types	Ashley	Dixie	Fishlake	Manti-La Sal	Uinta	Wasatch
Mountain Hemlock - Subalpine Fir		(X)	X	X	X	(X)
Engelmann Spruce - Subalpine Fir	X	(X)	X	X	X	(X)
Red Fir						
Whitebark Pine						
Bristlecone Pine	X	(X)	X	X	X	X
Interior Douglas Fir	X	(X)	(X)	X	X	(X)
White Fir		X	X	X	X	(X)
Grand Fir - Larch - Douglas Fir						
Western White Pine						
Blue Spruce	X	X	X	X	X	X
Aspen	X	X	X	X	X	(X)
Lodgepole Pine	X				X	X
Limber Pine	X	X	X	X	X	X
Rocky Mountain Juniper	X	(X)	X	X	X	X

Table 1. cont.

	Ashley	Dixie	Fishlake	Manti-La Sal	Uinta	Wasatch
<b>TYPES</b>						
Western Red Cedar						
Cottonwood Willow	X	X	X	X	X	(X)
Interior Ponderosa Pine	X	(X)	X	X	X	X
Western Juniper						
Pinyon Juniper	X	X	(X)	X	X	X
Ponderosa Pine - Sugar Pine - Fir						
Jeffery Pine						

TABLE 2.

KUCHLER TYPES ON R-4 FORESTS  
(Circles represent types already in RNA's)

	Ashley	Dixie	Fishlake	Manti-La Sal	Uinta	Wasatch
<b>TYPES</b>						
Mixed Conifer Forest						
Red Fir Forest						
Lodgepole Pine - Subalpine Forest						
Western Ponderosa Forest						
Great Basin Pine Forest		(X)				
Douglas Fir Forest	X			X	X	(X)
Grand Fir - Douglas Fir Forest						
Western Spruce - Fir Forest	X	(X)		X	X	(X)
Pine - Douglas Fir Forest		X		X		
Arizona Pine Forest		(X)				
Spruce Fir - Douglas Fir Forest	X	(X)	(X)	X	X	X
Southwestern Spruce Fir Forest			X	X		
Juniper - Pinyon Woodland	X	X	(X)	X	X	X
Juniper Steppe Woodland						
Mountain Mahogany Oak Scrub	X	(X)	(X)	X	X	(X)
Great Basin Sagebrush	X	X	(X)	X	X	X
Blackbrush		X				
Saltbush - Greasewood	X	X		X	X	
Creosote Bush						
Wheatgrass						
Alpine Meadows and Barren	X	X	X	X	X	X
Sagebrush Steppe	X			X	X	(X)
Galleta - Three Awn Shrub Steppe						
Foothills Prairie	X					



TABLE 3

## Aquatic Ecosystem Classification for Research Natural Areas

Aquatic Class	Aquatic Type and Subtype	Characteristics	Special Features or Modifiers
Lotic	Small streams Ephemeral stream Type 1 stream Type 2 stream Type 3 stream Spring stream	First to fourth order Contains water only during brief periods of high flow Meandering flow, 1% gradient, soft substrate Riffle-pool, 1-9% gradient, gravel substrate Cascade-pool or torrential, >9% gradient, boulders Springs are the primary or only water source	a. waterfall b. beaver pond c. cold spring
	Rivers	Fifth order and higher	d. delta
Lentic	Lakes Nonvegetated	Open, standing water Many subtype descriptors may apply to any one lake such as: fish or fishless, drainage or seepage, temporary or permanent, warm or cold, oligotrophic or eutrophic, alpine or lowland, cirque or lava sink (or other origin), dimictic (or other category of thermal stratification), etc.	a. special faunal population
	Vegetated Ponds and potholes	Shallow $\leq$ 6 feet (2 m); open water but with submergent or floating-leaved vegetation throughout.	
Wetland	Marsh Fresh Circumneutral Alkaline Brackish	Shallow water at least part of year; emergent vegetation Specific conductivity <800 $\mu$ hos pH = 6.0-8.4 pH >8.4 Specific conductivity > 800 $\mu$ hos	a. riverine b. lacustrine c. palustrine
	Bog	Sphagnum peat accumulation	
	Pond	Open water, peripheral or floating sphagnum mat	
	Meadow	No open water, wet meadow with sphagnum and associated plants	
	Wet meadow	Not truly aquatic; hydric soils	
Thermal	Hot springs and streams in: Granitic intrusives Volcanic rocks Sedimentary rocks	Specific conductivity moderate $\approx$ 400 $\mu$ hos Specific conductivity moderate $\approx$ 500 $\mu$ hos Specific conductivity high $\approx$ 1500 $\mu$ hos	

TABLE 4

## Research Natural Areas Established on Forest Service Administered Lands in Utah

Area	Location	SAF Type	Kuchler Type
Desert Range	Desert Range Exp. Station	---	Saltbrush, Greasewood
Elk Knoll	Manti-LaSal N. F.	---	Great Basin Sagebrush
Morris Creek	Wasatch N. F.	White Fir, Aspen, Engelmann Spruce, Subalpine Fir	Mt. Mahogany, Scrub Oak, Sagebrush steppe, Douglas Fir forest, White Spruce Fir forest
Partridge Mtn.	Fish Lake N. F.	Interior Douglas Fir, pinyon, juniper	Spruce fir-Douglas fir, juniper-pinyon woodland, Oak scrub, Mt. Mahogany, Great Basin Sagebrush
Red Butte Canyon	Wasatch N. F.	Interior Douglas Fir, White Fir, Aspen, Cottonwood	Douglas Fir, Mt. Mahogany-Oak scrub, Sagebrush steppe

Announcements: • ❁ •

Tuesday, March 27, 1980, the Northern Utah Chapter of UNPS will hold its first meeting in the auditorium room #215, Business Building, USU Campus, Logan, at 7:30 p.m. Slides of some common and uncommon Utah plants will be shown. Contact Leila Schulz at the Intermountain Herbarium, USU, if you have questions concerning this meeting.

Friday, March 14, UNPS will hold its first Annual Field Trip. Interested people should contact Duane Atwood, 4054 W. Juniper Dr., Cedar Hills, Utah, 84062, and let him know if you plan to come. We will be going south to the Coral Pink Sand Dunes in Kane County. (See map)

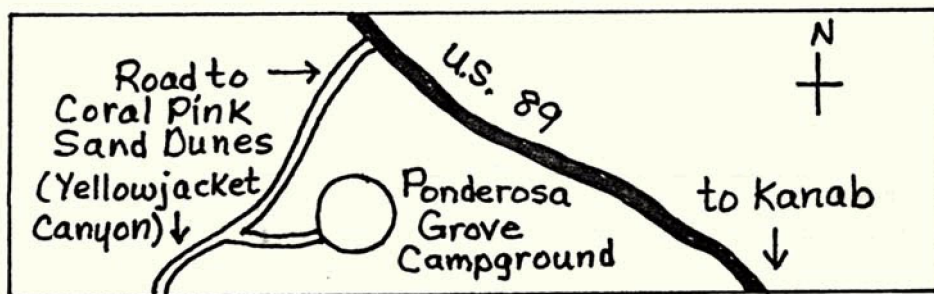
For people in the northern part of the state, meet at the Bean Museum on the BYU campus at 12:00 noon on Friday, March 14. If you cannot make it at this time, leave at your own convenience.

We will camp at the Ponderosa Camp Ground just north of the Coral Pink Sand Dunes on Friday night.

Saturday will be spent at the Sand Dunes.

Return home on Saturday or at your own desired time.

Bring own food, camping gear, warm coat, etc.



Plants to be added to UNPS threatened and endangered list published in the January 1980 Newsletter.

- |                 |  |                               |
|-----------------|--|-------------------------------|
| (B) ENDANGERED: | <i>Eriogonum smithii</i>                 |                               |
| (C) THREATENED: | <i>Astragalus hamiltonii</i>             | <i>Eriogonum nummulare</i>    |
|                 | <i>Astragalus monumentalis</i>           | <i>Eriogonum zionis</i>       |
|                 | <i>Cymopterus basalticus</i>             | <i>Penstemon wardii</i>       |
|                 | <i>Dalea epica</i>                       | <i>Phacelia anelsonii</i>     |
|                 | <i>Draba asprella</i> var. <i>zionis</i> | (not <i>Penstemon</i> )       |
|                 | <i>Eriogonum clavellatum</i>             | <i>Sphaeralcea caespitosa</i> |
| (D) SENSITIVE:  | <i>Astragalus consobrinus</i>            |                               |

NOTE: Already on the Federal Register as endangered, *Echinocereus triglochidiatus* var. *inermis* should be changed to *Echinocereus triglochidiatus* var. *melanacanthus* (var. *inermis* is a synonym).

Please send any announcements or information which may be of interest to the UTAH NATIVE PLANT SOCIETY to: UNPS; Kaye Thorne, Editor; MLBM #388, Brigham Young University; Provo, Utah, 84602.

UTAH NATIVE PLANT SOCIETY MEMBERSHIP

<u>Name</u>	<u>Expiration Date</u>
Albee, Beverly J.	12/79
Allred, Daniel M.	6/80
Arnow, Lois	4/80
Atwood, Duane	12/80
Bagley, Stuart L.	11/79
Barnett, Peggy	12/79
Beauchamp, R. Mitchell	12/79
Boberg, Lowell	11/79
Bottum, C. Edward	4/80
Chidester, Kathryn B.	7/80
Chindgren, Helen S.	4/80
Davidson, Diane W.	8/80
DeTar, Carleton	4/80
Ehleringer, James	--
Endler, Dr. John A.	8/80
Everitt, Benjamin L.	--
Gabriel, Claire	1/80
Goodrich, Sherel	1/80
Greenwood, Larry and Melinda	12/79
Grubaugh, Pamela	9/80
Hafen, Jill R.	6/80
Hall, Brett	2/80
Halliday, Glen and Barbara	12/79
Harper, Kimball	12/79
Hildreth, W. Richard	11/79
Holmgren, Patricia K.	1/80
Horner, Susan	12/79
Howard, Alice Q.	9/80
Hreha, Alyce M.	12/79
Idaho Native Plant Society	courtesy
Irwin, Lorna	2/80
Kelsey, Ann	8/80
Kunzler, Lynn M.	4/80
Lahey, Edna M.	11/80
Lewis, M. E.	1/80
Loa Ranger District	courtesy
Long, Anne W.	courtesy
Mark, Mrs. John T.	4/80
Manson, Gerald	7/80
McArthur, Dr. Edward	12/79
McKinny, Jana L.	10/80
McNulty, Erving B.	--
Miller, Richard H.	11/79
Miller, Walter J.	2/80
Mitchell, Janet W.	5/80
Morse, Larry E.	2/80
Morrison, James B.	1/80

<u>Name</u>	<u>Expiration Date</u>
Neese, Elizabeth	1/80
Nelson, Marian F.	12/79
Northern Nevada Native Plant Society	courtesy
North, Jack E.	7/80
Page, Richard J.	7/80
Pinzl, Mrs. John J.	4/80
Plummer, A. Perry	2/80
Poulson, Marvin W. and Pamela M.	2/81
Ray, Loretta J.	1/80
Reese, C. W.	--
Reichman, Ann	8/80
Reitherman, Bruce	2/80
Schlatterer, Edward F.	12/79
Skabelund, R. E and family	4/80
Smith, Gibbs M.	--
Stevens, Mary R.	12/79
Stutz, Howard and Mildred	12/79
Taye, Alan Carl	12/79
Thompson, Robert M.	10/79
Thorne, Kaye H.	6/81
Von Loh, James D.	12/79
Wallentine, Keith J. and family	4/80
Welsh, Stanley L.	1/80
West, Neil E.	12/79
Wilson, Roberta	12/79
California Native Plant Society	courtesy
Colorado Native Plant Society	courtesy
Native Plant Society of Oregon	courtesy
Washington Native Plant Society	courtesy
Native Plant Society of New Mexico	courtesy

#### Membership Schedule



Life . . . . .	\$250.00	Senior Citizens. .	\$ 4.00
Supporting . . .	\$25.00	Individual . . . .	\$ 8.00
Students . . . .	\$ 4.00 per yr.	Family . . . . .	\$12.00

All questions and remittance should be sent to: Duane Atwood,  
4054 West Juniper Driver, Cedar Hills, Utah 84062.

Peak flowering times vary within the state according to the elevation and climate. To be able to observe the greatest number of flowers a general time schedule follows: Peak flowering times: Washington Co., mid-April to first of May. Foothills and local valleys, May to June. Mid-elevation plateaus and canyons, June to July. High Uintas, late July through August.

Board of Directors

<u>Name</u>	<u>Address</u>
Dr. W. Richard Hildreth, Chairman	2669 East Willow Wick Dr. Sandy, Utah 84070
G. Michael Alder	3650 Avondale Dr. Salt Lake City, Utah 84121
Dr. Duane Atwood	4054 West Juniper Drive Cedar Hills, Utah 84062
Dr. Arthur H. Holmgren	1738 Country Club Drive Logan, Utah 84321
Dr. Irving B. McNulty	1408 Winder Lane Salt Lake City, Utah 84117
Walter J. Miller	1448 North 500 East Centerville, Utah 84014
Richard J. Page	440 East 8180 South Sandy, Utah 84070
Dr. Edward R. Schlatterer	P.O. Box 1592 Ogden, Utah 84402
Robert M. Thompson	10 North Carbon Avenue Price, Utah 84501
Dr. Stanley L. Welsh	129 North 1000 East Orem, Utah 84057
Elizabeth Neese	4478 Zarahemla Drive Salt Lake City, Utah 84117

Society Officers

Dr. Duane Atwood, Pres.	4054 West Juniper Drive Cedar Hills, Utah 84062
Elizabeth Neese, Vice Pres.	4478 Zarahemla Drive Salt Lake City, Utah 84117
Richard J. Page, Sec.	440 East 8180 South Sandy, Utah 84070
Walter J. Miller, Treas.	1448 No. 500 East Centerville, Utah 84014

Salt Lake Chapter Officers

Dr. W. Richard Hildreth, Acting Pres.	2669 East Willow Wick Dr. Sandy, Utah 84070
Pam Grubaugh, Vice Pres.	121 "D" Street Salt Lake City, Utah 84103
Barbara Halliday, Sec./Treas.	3043 Brighton Place Salt Lake City, Utah 84121

QUESTIONNAIRE ON FORMING A NATIONAL ORGANIZATION  
OF NATIVE PLANT SOCIETIES

Yes No

I agree that a National Organization of Native Plant Societies is needed and should be formed.

I do not feel a National Organization is needed for the following reasons: \_\_\_\_\_  
\_\_\_\_\_

I agree the UNPS should affiliate with this National Organization.

I do not think Utah should support the formation of this National Organization or become a supporting member for the following reasons: \_\_\_\_\_  
\_\_\_\_\_

List the benefits you feel such as organization would provide in protecting and conserving native floras in the U.S., or specifically for our Native Flora of Utah.. \_\_\_\_\_  
\_\_\_\_\_

List issues you feel should be addressed in the planning stage of organizing a National Society. \_\_\_\_\_  
\_\_\_\_\_

If such an organization is formed, the following items should be part of the By-laws: \_\_\_\_\_  
\_\_\_\_\_

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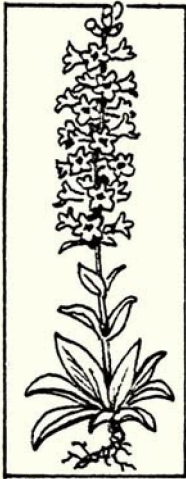
PLEASE RETURN THIS QUESTIONNAIRE

TO: UNPS  
c/o Duane Atwood  
4054 W. Juniper Drive  
Cedar Hills, UT 84062

# UTAH NATIVE PLANT SOCIETY

May 1980

NEWSLETTER



Penstemon  
utahensis

"What is the most important problem facing this nation or the world at the start of the decade, and what resolutions should we be making to deal with it? How well will we have coped with the problem by the end of the Eighties?" The Harvard Magazine, January-February 1980 issue, featured responses to these questions by prominent members of the University's faculty in the article "Resolutions for the 80s."

E. O. Wilson, Frank B. Baird Jr. Professor of Science, offered the following reply:

Permit me to rephrase the question as follows: What event likely to occur in the 1980s will our descendants most regret, even those living a thousand years from now? My opinion is not conventional, although I wish it were. The worst thing that can happen--will happen-- is not energy depletion, economic collapse, limited nuclear war, or conquest by a totalitarian government. As terrible as these catastrophes would be for us, they can be repaired within a few generations. The one process ongoing in the 1980s that will take millions of years to correct is the loss of genetic and species diversity by the destruction of natural habitats. This is the folly our descendants are least likely to forgive us.

Species extinction is now accelerating and will reach ruinous proportions during the next twenty years. No one is sure of the number of living species of plants and animals, including such smaller forms as mosses, insects, and minnows, but estimates range between five and ten million. A conservative estimate of the current extinction rate is one thousand species a year, mostly due to the accelerating destruction of tropical forests and other key habitats. By the late 1980s the figure could easily rise to ten thousand species a year (one species per hour) and it is expected to accelerate further through the 1990s. During the next thirty years, fully one million species could be erased. The current rate is already by far the greatest in recent geological history; it is vastly higher than the rate of production of new species by natural evolution. Furthermore, many unique forms that emerged slowly over millions of years will disappear. In our own lifetime humanity will suffer an incomparable loss in aesthetic value, practical benefits from biological research, and world-wide environmental stability. Deep mines of biological diversity will have been dug out and discarded carelessly and incidentally in the course of environmental exploitation without our even knowing fully what they contained.

This impoverishment cannot be halted during the 1980s, but it can be slowed. We need to shift the emphasis of conservation from the temperate zone to the tropics, from the preservation of isolated "star" species, such as the harpy eagle and Indian white rhinoceros, to the entire ecosystems in which they live. A more powerful, global conservation ethic should be

cultivated. The endemic plants and animals of each nation should be treated by its citizens as part of their heritage, as precious as their art and history. When national leaders such as former president Daniel Oduber Quiros of Costa Rica have the courage to advance the preservation of ecosystems within their domains, they should be accorded international honors up to and including the Nobel Peace Prize, in recognition of the very great contributions they make, not just to their own generation but to generations as far into the future as it is possible to imagine.

Taken from Natural Heritage, Preserving  
Natural Diversity in America, Vol. II,  
No. 3, March 1980.



Native pharmacopoeia of the eastern Great Basin:  
A report of work in progress.

Janet Hugie Smith

In the study of man's adaptation to his environment, an important question that should be asked is -- what did he do when he was sick and how effective was the treatment? The examination of disease and disease outcome is important because all societies face illness and injury, and most populations develop specialized behavior regarding health problems. Many anthropological studies of aboriginal medical practices have emphasized shamanism and supernaturalism, but there was a large area of primitive medicine that could be termed "rational therapy". In the eastern Great Basin, natural drugs utilized were crude animal, mineral or plant materials, but many were effective and suitable for their intended purposes.

Numerous plants were utilized medicinally by the aboriginal inhabitants of the eastern Great Basin. Although many of the plants are no longer used commercially because of newer and more effective drugs, both natural and synthetic, are now on the market, some are still important in modern medicine, and there are a number of plants the chemistry of which is not well understood.

Collections of about thirty plants were made with the help of Shoshone herbalists during the summer of 1972. Of these only about twenty are currently accepted as having some degree of therapeutic value. A society's ability to deal with disease seems to be dependent on three major factors: (1) the level of technological sophistication (2) the raw drug materials available in the environment, and (3) the types of diseases and injuries that are the most prevalent.



Successful treatment of most diseases requires accurate determination of the cause. Because of limited technology, aboriginal societies simply could not diagnose many illnesses. If the disease were severe, chronic or exotic, the cause was attributed to some supernatural or social agent and the afflicted person or his family sought the help of a shaman. If the cause of distress was obvious as in wounds, cuts, skin irritations, bruises, eye inflammation, etc. the treatment was empirical. Even when the problem was internal, successful treatment could be had if the disease was common and the symptoms clear cut. Specific plants became associated with specific sets of symptoms or injuries. Some plants with similar effects were used interchangeably for related problems and a few were effective for dissimilar problems.

Those people living in the high mountain valleys or low mountain areas had access to more medicinal plants than those people living in high mountain forests, deserts, or marshy areas. However, there was exchange of information and plant materials among these peoples.

(The following few plants and their uses were among those collected on the Duck Valley Indian Reservation during the summer of 1972.)

(1) Yarrow: Achillea millefolium

The root was collected in the early summer and dried for use as a poultice on cuts, swellings, wounds or bruises. It was pounded between rocks then mixed with water to form a paste-like mass. This was applied to the afflicted area, allowed to dry, removed and another applied. Sometimes the tops and leaves were picked and made into a tea for stomach upsets. Yarrow contains the alkaloid achilleine which reduces the clotting time of blood.



(2) Columbine: Aquilegia formosa

The root was collected during the spring to use as a poultice on swellings, bites and boils. It was dried, pounded and made into a paste similar to yarrow.



(3) Big Sagebrush: Artemisia tridentata

Sage was commonly used throughout the Great Basin for colds and congestion. The leaves were gathered throughout the year and dried for teas. Sometimes they were used as a chest poultice being crushed and wrapped in a hot cloth for lung congestion. Green leaves were also wrapped in a cloth and used to stop external bleeding on both men and horses. Some recent experiments indicate that it may be useful in treating mouth and gum disorders such as pyorrhea.

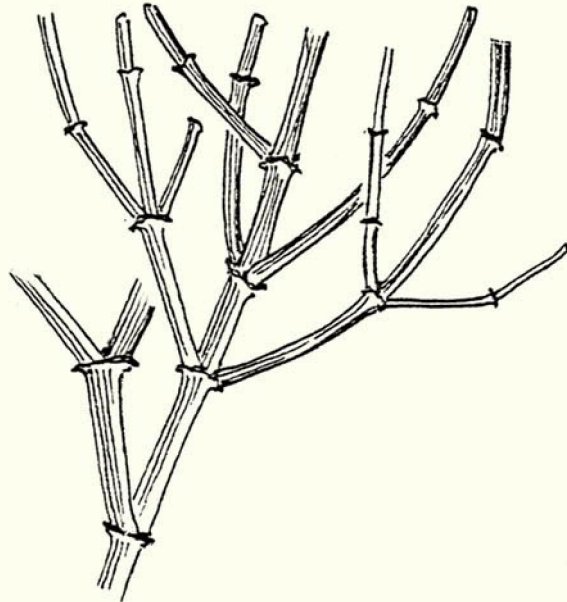


(4) Oregon grape: Mahonia repens

The root was gathered during the summer, the outer bark peeled and the inner root mashed and dried. When needed it was soaked in water and the water used as an eyewash. The plant contains two alkaloids which reduce the inflammation of mucous membranes and are found in the commercial product Murine along with other ingredients.

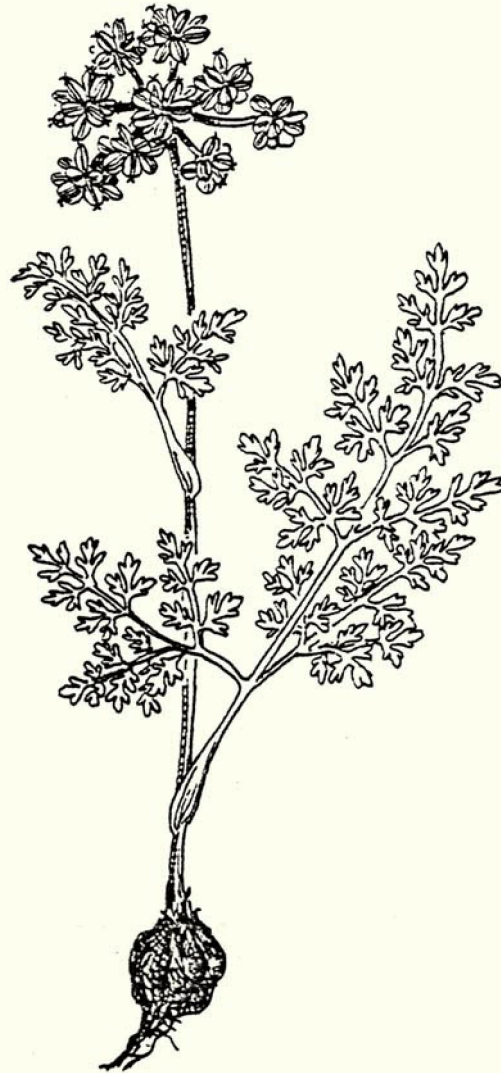
(5) Mormon tea: Ephedra

The branches of the plant were dried and made into a tea for stomach, bowel disorders and general "crummy" feeling. Pharmaceutical investigations on Ephedra are conflicting, but it seems clear that these species are not as physiologically active as those found in the Orient.



(6) Desert parsley: Lomatium  
dissectum

This plant was one of the ones most widely used among the people of the Great Basin for both man and animals. The root was collected in the summer, cut into cross sections and dried in the sun. For colds and flu the dried pieces were ground into a powder for a tea. The ground root was also mixed with tobacco and smoked for both head and lung congestion. Sometimes a piece of root was inserted into the nostrils for relief of headache or steeped in hot water for rheumatic pains. External washes were prepared for a variety of ailments ranging from dandruff to skin abrasions. Antibiotic studies on Lomatium dissectum compare its action roughly to that of penicillian in the complete inhibition of acid fast organisms including the tuberculosis bacteria.



(7) Curly dock: Rumex crispus

The root was gathered in the summer and fall usually after the flowering parts had turned a deep red. Then was pounded and mixed with water to make a poultice for swellings, cuts, and sore muscles.



A WELCOME FOR TWO NEW UTAH NATIVE PLANT SOCIETY CHAPTERS!!!

The first meeting of the Northern Chapter of the Utah Native Plant Society was held April 1, 1980 at Utah State University at Logan. Following a brief discussion of the general purposes of such a society and possible future activities of this chapter, a slide presentation of some rare and endemic plant species of Utah was given by Leila and John Shultz. The chapter officers were elected and are as follows:

John Shultz, President  
Art Holmgren, Vice-president  
Betsey Neely, Secretary and Treasurer

The next chapter meeting is scheduled for Saturday, May 31, when members will meet at 10:00 at 623 Canyon Road at the home of Leila and John Shultz to look at native species introduced into the garden and then to trip (bring a sack lunch) up Logan Canyon for a look at whatever is in bloom.

The first meeting of the Cedar City Chapter of Utah Native Plant Society was held April 10, 1980 and the program was a slideshow of local plants. The second meeting was held on April 22, and a professor from Southern Utah State College spoke on revegetation of mining areas. About seven or eight people attended both meetings. Officers were not elected at these meetings but next fall it may be possible to set up the organization for the chapter.

(It is good to see things going, and our thanks to John Shultz, Logan and Laura Houk, Cedar City for their reports.)

A WELCOME FOR MANY NEW MEMBERS TO THE UTAH NATIVE PLANT SOCIETY!

Tomas Alleman, S.U.S.C. Box 246, Cedar City, Utah 84720  
John Anderson, P.O. Box 962, Cedar City, Utah 84720  
Helen B. Cannon, 647 Canyon Road, Logan, Utah 84321  
Judyth A. Clarkson, 2096 Castle Hill Ave., Salt Lake City, Utah 84121  
Mary B. DiMuzio, P.O. Box 1115, Cedar City, Utah 84720  
Noel and Patricia Holmgren, New York Botanical Garden, Bronx, N.Y. 10458  
Walter and Delora Hoopes, P.O. Box 514, Moab, Utah 84532  
Laura Houck, P.O. Box 1420, Moab, Utah 84532  
Camille Fullmer, P.O. Box 1144, Fillmore, Utah 84631  
Robert Larsen, P.O. Box 341, Cedar City, Utah 84720  
Carole Loveland, 1780 E 2500 N, Logan Utah 84321  
Michael Madany, 511 E. 9 N., Logan, Utah 84321  
Steve Mann, 155 N 600 W., Cedar City, Utah 84720  
Meiji Resource Consultants, P.O. Box 250, 38 N Main, Layton, UT. 84041  
Betsey Neely, 698 E. 700 N., Logan, Utah 84321  
Karl and Norma Parker, 281 Stewart Hill Drive, Logan, UT. 84321  
Lori Pratt, 66 N 200 E., Cedar City, Ut 84720

(continuation of new members)

Dixie E. Rose, 718 9th Ave., Salt Lake City, UT 84103  
John and Leila Shultz, 623 Canyon Road, Logan, Utah 84321  
Tammy Stockton, 3282 W 500N., Vernal UT, 84078  
John K. Wood, 1359 Juniper Dr., Logan, UT 84321  
Greg Woodall, P.O. Box 1655, Cedar City, UT 84720  
Mary Ann Wright, 1018 E. 600 S., Salt Lake City, UT 84102  
Donald and Arlene Younker, 2828 N. 16th E., Logan, UT 84321  
Eric Zurcher, 511 E 9th N., Logan, UT 84321

Items of possible interest to members:

June 16-20 Flowers of Zion. A study of the kinds, relationships, and classifications of the flowering plants of the park and surrounding area. Professor Al Tait, Southern Utah State College, Instructor. Each seminar will be held daily and on some evenings for a period 5-6 days. Participants may enroll either for credit or non-credit through Southern Utah State College, Cedar City, Utah 84720. This will be held at Zion National Park.

WILDFLOWERS, "Utah's Intermountain Wildflowers" by Dixie E. Rose. This delightful book has descriptions of scores, besides dozens of color photographs of intermountain wildflowers. The price is \$5.95, plus tax, and can be purchased at the Rose residence: 718 9th Ave. (lower apartment) from 10:00 a.m. to 5:00 p.m. or postpaid \$6.85.

PLANT SALE! May 31 will be the first annual Arboretum Guild plant sale and because it will contain much exotic flora like orchids, cactus, and a demonstration on the art of bonsai trees it promises to be an interesting day even if you resist buying something. It will be held on the University of Utah Campus at the Arboretum Center from 10:00 a.m. to 4:00 p.m. There will be gardening demonstrations on all kinds of plants. If you would like to help out with the "native plant" section contact Dick Hildreth at 581-5322, he will answer any questions.

SEND remittances to: UNPS, Duane Atwood, President  
4054 Juniper Dr.  
Cedar Hills, UT 84062

SEND news items to: UNPS, Kaye H. Thorne, Editor  
1119 E. 2620 N.  
Provo, Utah 84601



Penstemon  
urohensis

# UTAH NATIVE PLANT SOCIETY

NEWSLETTER

1 October 1980

## NOTICE!

New UNPS officers for the state will be selected at the UNPS December 11 meeting in Salt Lake City, University of Utah Chem. Building in room 102 at 7:00 p.m. If you have any nominations please contact John Schultz, 623 Canyon Road, Logan, Utah 84321; or Glen Halliday, 3043 Brighton Pl., S.L.C. Utah 84121. It is important to have enthusiastic people in these positions.

## "Vegetation of the Henry Mountains"

by Elizabeth Neese  
Brigham Young University

Vegetatively, the Henry Mountains stand alone and unique, their peaks abruptly elevated and isolated above the surrounding desert. Their geographic location is such that the flora is influenced by proximity to the diverse floras of the Great Basin, the high Utah and Colorado plateaus, the southern Rocky Mountain ranges, the Navajo Basin, and the Mojave Desert. They lie midway, both environmentally and geographically, between two major ancestral geofloras.

Geology is a controlling factor. Weathering and erosion of the alternating sandstones and shales of the Mancos Shale Formation whose thick deposits dominate the topography in the foothills section of the Henry Mountains have resulted in a distinctive series of badlands and mesas. Along the southern and eastern boundaries of the Henry Mountains deep canyons, adjacent slickrock, and low warm sand deserts provide a major migration pathway from southern vegetative types. The peaks, anomalous high elevation islands, support montane and alpine vegetation. Varied physiography and the great elevational and precipitation range provides environments suitable for a multitude of communities and for nearly every major vegetational zone that occurs in Utah.

At the base of the mountains in communities of the Colorado canyonlands and plateaus, grow a series of narrow endemics, some of which are proposed for federally listed threatened or endangered status. These include Asclepias ruthiae, Astragalus fucatus, A. henri-montanensis, A. malacoides, A. monumentalis, A. barnebyi, A. pardalinus, Eriogonum cronquistii, Euphorbia nephradenia, Pediocactus winkleri, and Sclerocactus wrightiae. Already listed as endangered is Sclerocactus wrightiae, a fishhook cactus which occurs rarely on deserts at the base of the mountains. Astragalus henrimontanensis, Eriogonum cronquistii, and Pediocactus winkleri are known only from the Henry Mountains.

Long isolated by distance and by terrain both difficult to traverse and little-amenable to settlement, these mountains are still poorly botanized and the vegetation incompletely described. As collection and inventory of the area,

now more readily accessible, continues, the list of species known from the area will grow. The Henry Mountains vegetative regime is unique and represents a natural laboratory. Study of the flora has much to reveal relative to phenomena of plant distribution, migration, endemism, and speciation.

Approximately 700 taxa of vascular plants belonging to 310 genera and 77 families are known from the Henry Mountain structural basin, an area defined by Hunt (1953) as comprising an oval-shaped area about 40 miles wide and 70 miles long. Nearly one-fourth of the plant species known from Utah occur here, in a land area representing only three percent of the state. Although floristic diversity within communities is not particularly high, perhaps due to arid environment and lack of microhabitat diversity, a wide range of vegetative types are present, contributing overall to a diverse flora and to one that is compositionally different than those nearby. Factors which in combination determine the components of the vegetation and are responsible for the diversity and uniqueness of the flora are: great elevational differences; isolation of the peaks from surrounding similar environments; highly varied substrates and landforms; and intermediate geographic position relative to ancestral geofloras and extant phytogeographic units.

From the top of Mt. Ellen at 11,605 feet elevation to the surface of Lake Powell 25 miles distant, an elevational range exists of 8,000 feet or about one and one-half miles. A wide range is represented as well in the rocks and soils which occur within the Henry Mountain structural basin, these being derived from Permian to upper Cretaceous sedimentary strata which include sandstones, shales, mudstones, siltstones, and conglomerates as well as intrusive granites and recent alluvial and colluvial deposits (Hunt 1953).

The varied topography and great elevational range present in the Henry Mountains area results in a complex and intergrading assemblage of plant communities and associations. These communities can be lumped into general vegetative zones, climatically controlled and representing climax units, that have been variously described and designated for the Intermountain region by Merriam (1898), Jones (1910), Tidestrom (1925), Cottam (1929), Dixon (1935), Billings (1951), Holmgren (in Cronquist et al. 1972) and others. Zones which are readily recognizable in the Henry Mountain area are listed in Table 1, where they are correlated (after Graham, 1937) with comparable zones recognized by previous authors. It is evident from the chart that, despite the small areal extent involved in the Henry Mountain structural basin, an altitudinal range exists of sufficient magnitude to allow development of vegetative types from nearly all the major vegetational zones of Utah. Only the Creosote Bush and the higher Alpine Tundra types of vegetation are not represented.

Edaphic conditions and microenvironment within the altitudinal zones control the floristic composition and determine the community type which develops at any given location. Table 2 lists the principal communities, typified by the one or few species which are dominant on the basis of size, percentage cover, and stable occupancy of the land surface within each of the major altitudinal vegetational zones; it reflects the unique vegetative regimes of the Henry Mountains.

Taken from Utah Geologic Society Publication "Guidebook to the Geology of the Henry Mountains".

Henry Mountains	(After Holmgren 1978) Intermountain Area	(Merriam 1898) Western United States	(Jones 1910) Great Plateau	(Tidestrom 1925) Utah and Nevada	(Cottam 1929 and 1933) Utah	(Dixon 1935) High Plateau of Utah	
----- Alpine	Alpine Tundra	Arctic-Alpine	Frigid	Alpine	Alpine Grass-land	Alpine Meadow Alpine Scrub	
Subalpine	Subalpine Fir-Engelmann Spruce	Hudsonian	Upper Temperate	Subalpine	Spruce-Fir	Subalpine Forest	
Montane	Douglas Fir-White Fir-Blue Spruce	Canadian	Middle Temperate	Spruce	Spruce-Fir	Montane	
Ponderosa Pine Mountain Brush	Chaparral and Ponderosa Pine	Transition		Aspen	Aspen	Pinus Ponderosa	
Pygmy Forest	Pinyon-Juniper	Upper Sonoran	Lower Temperate	Yellow Pine	Scrub Oak-Western Yellow Pine	Pinyon	
Cool Desert Shrub	Sagebrush			Pinyon	Pinyon		Pygmy Forest
	Shadscale			Artemisia	Northern Desert Shrub Salt Desert Shrub		Northern Semi-Desert Northern Desert Alkali Association
----- Warm Desert Shrub	Creosote Bush	Lower Sonoran	Arid Tropical	Covillea (Creosote Bush)	Salt Desert Shrub Southern Desert Shrub	Southern Desert	

TABLE 1. Altitudinal Vegetation Zones (After Graham 1937)  
Vegetative zones of the Henry Mountains correlated with zones recognized by previous authors.



Vegetational Zone	Principal Community Types
Alpine	Carex--Grass--Forb Tundra
Subalpine	Poa--Festuca Subalpine Grassland Subalpine Fir--Engelmann Spruce Forest
Montane	Aspen Woodland Douglas Fir Forest Upper-elevation Sagebrush Grassland
Ponderosa Pine-- Mountain Brush	Ponderosa Pine Forest Scrub Oak--Mixed Mountain Brush
Pygmy Forest	Pinyon--Juniper Woodland Low-elevation Sagebrush
Cool Desert Shrub	Little Rabbitbrush--Mixed Desert Shrub Galleta--Three-awn Grassland Big Rabbitbrush Desert Wash Saltgrass Meadow and Salt Marsh Cottonwood Floodplain Greasewood Flats Mat Atriplex Clay Barrens Shadscale Salt Desert
Warm Desert Shrub	Sandsage--Ephedra Desert Blackbrush Desert

TABLE 2. Principal Plant Communities in the Henry Mountains in Relation to their Vegetational Zones

The following seeds are for sale at the State Arboretum of Utah, c/o Richard Hildreth, 018 Greenhouse, University of Utah, Salt Lake City, Utah 84112:

Scientific Name	Family	Comments
<i>Acer grandidentatum</i> Nutt. in Torr. & Gray	Aceraceae	perennial
<i>Acer negundo</i> L.	Aceraceae	perennial
<i>Agave utahensis</i> Engelm.	Agavaceae	perennial
<i>Rhus glabra</i> L.	Anacardiaceae	perennial
<i>Rhus trilobata</i> Nutt. in Torr. & Gray	Anacardiaceae	perennial
<i>Lomatium minimum</i> (Mathias) Mathias	Apiaceae	perennial
<i>Osmorhiza chilensis</i> H. & A.	Apiaceae	perennial
<i>Artemisia filifolia</i> Torr.	Asteraceae	perennial
<i>Artemisia ludoviciana</i> Nutt.	Asteraceae	perennial
<i>Artemisia papposa</i> Blake & Cronq.	Asteraceae	perennial
<i>Chaenactis douglasii</i> (Hook) H. & A.	Asteraceae	biennial
<i>Chamechaenactis scaposa</i> (Eastw.) Rydb.	Asteraceae	perennial
<i>Enceliopsis nudicaulis</i> (Gray) Nels.	Asteraceae	perennial
<i>Erigeron compositus</i> Pursh	Asteraceae	perennial
<i>Erigeron pumilus</i> Nutt.	Asteraceae	perennial
<i>Gaillardia</i> ssp.	Asteraceae	perennial
<i>Helianthella microcephala</i> Gray	Asteraceae	perennial
<i>Lygodesmia grandiflora</i> (Nutt.) Torr. & Gray	Asteraceae	perennial
<i>Tetradymia canescens</i> DC.	Asteraceae	perennial
<i>Thelesperma subnuda</i> Gray	Asteraceae	perennial
* <i>Townsendia aprica</i> Welsh & Reveal	Asteraceae	perennial
<i>Townsendia florifera</i> (Hook.) Gray	Asteraceae	perennial
* <i>Townsendia mensana</i> Jones	Asteraceae	perennial
<i>Berberis fremontii</i> Torr.	Berberidaceae	perennial
<i>Berberis repens</i> Lindl.	Berberidaceae	perennial
<i>Alnus incana</i> (L.) Moench	Betulaceae	perennial
<i>Chilopsis linearis</i> (Cav.) Sweet	Bignoniaceae	perennial
<i>Cryptantha barnebyi</i> Johnston	Boraginaceae	perennial
<i>Caulanthus crassicaulis</i> (Torr.) Wats.	Brassicaceae	perennial
<i>Physaria chambersii</i> Rollins	Brassicaceae	perennial
<i>Stanleya pinnata</i> (Pursh) Britt.	Brassicaceae	perennial
<i>Opuntia littoralis</i> (Englem.) Cockerell	Cactaceae	perennial
<i>Polanisia trachysperma</i> Torr. & Gray	Capparidaceae	annual
<i>Sambucus caerulea</i> Raf.	Caprifoliaceae	perennial
<i>Sambucus racemosa</i> L.	Caprifoliaceae	perennial
<i>Atriplex canescens</i> (Pursh) Nutt.	Chenopodiaceae	perennial
<i>Atriplex confertifolia</i> (Torr. & Frem.) Wats.	Chenopodiaceae	perennial
<i>Atriplex corrugata</i> Wats.	Chenopodiaceae	perennial
<i>Atriplex gardneri</i> (Moq.) Dietr.	Chenopodiaceae	perennial
<i>Sarcobatus vermiculatus</i> (Hook.) Torr.	Chenopodiaceae	perennial
<i>Cornus stolonifera</i> Michx. ( <i>Cornus sericeae</i> L.)	Cornaceae	perennial
<i>Juniperus osteosperma</i> (Torr.) Little	Cupressaceae	perennial
<i>Shepherdia argentea</i> (Pursh) Nutt.	Elaeagnaceae	perennial
<i>Ephedra viridis</i> Cov.	Ephedraceae	perennial
<i>Arctostaphylos patula</i> Greene	Ericaceae	perennial
<i>Astragalus amphioxys</i> Gray	Fabaceae	annual
<i>Astragalus asclepiadoides</i> Jones	Fabaceae	yellow flower annual
<i>Astragalus asclepiadoides</i> Jones	Fabaceae	purple flower annual

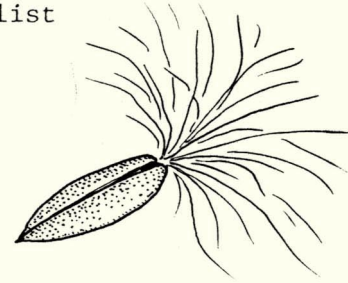
Astragalus bisulcatus (Hook.) Gray	Fabaceae	annual
Astragalus desperatus Jones	Fabaceae	annual
Astragalus purshii Dougl. ex Hook.	Fabaceae	annual
Astragalus utahensis (Torr.) Torr. & Gray	Fabaceae	perennial
Hedysarum boreale Nutt.	Fabaceae	perennial
Lupinus argenteus Pursh	Fabaceae	perennial
Iris missouriensis Nutt.	Iridaceae	annual
Sisyrinchium ssp.	Iridaceae	annual
Veratrum californicum Durand	Liliaceae	perennial
Yucca baccata Torr.	Liliaceae	perennial
Linum lewisii Pursh	Linaceae	annual
Linum rigidum Pursh	Linaceae	annual
Sphaeralcea coccinea (Pursh) Rydb.	Malvaceae	annual
Sphaeralcea grossulariaefolia (H. & A.) Rydb.	Malvaceae	perennial
Sphaeralcea munroana (Dougl.) Spach	Malvaceae	perennial
Sphaeralcea parvifolia Nels.	Malvaceae	annual
Abronia fragrans Nutt. ex Hook.	Nyctaginaceae	perennial
Fraxinus anomala Torr. in Wats.	Oleaceae	perennial
Fraxinus velutina Torr.	Oleaceae	perennial
Epilobium angustifolium L.	Onagraceae	perennial
Arctomecon humilus Cov. (ENDANGERED)	Papaveraceae	perennial
*Gilia caespitosa Gray	Polemoniaceae	perennial
Phlox longifolia Nutt.	Polemoniaceae	perennial
Polemonium viscosum Nutt.	Polemoniaceae	perennial
Eriogonum heracleoides Nutt.	Polygonaceae	perennial
Doecatheon pulchellum (Raf.) Merr.	Primulaceae	perennial
*Aquilegia barnebyi Munz	Ranunculaceae	perennial
Aquilegia triternatum Payson	Ranunculaceae	perennial
Clematis ligusticifolia Nutt.	Ranunculaceae	perennial
Delphinium occidentale Wats.	Ranunculaceae	perennial
Ceanothus greggii Gray	Rhamnaceae	perennial
Amelanchier alnifolia Nutt.	Rosaceae	perennial
Amelanchier utahensis Koehne	Rosaceae	shrub
Cercocarpus ledifolius Nutt.	Rosaceae	perennial
Cercocarpus montanus Raf.	Rosaceae	perennial
Chamaebatiaria millefolium (Torr.) Maxim.	Rosaceae	perennial
Coleogyne ramosissima Torr.	Rosaceae	perennial
Cowania mexicana D. Don	Rosaceae	perennial
Fallugia paradoxa (D. Don) Endl.	Rosaceae	shrub
Peraphyllum ramosissimum Nutt.	Rosaceae	perennial
Physocarpus malvaceus (Greene) Kuntze	Rosaceae	perennial
Prunus fasciculata (Torr.) Gray	Rosaceae	perennial
Prunus virginiana L.	Rosaceae	perennial
Purshia tridentata (Pursh.) DC.	Rosaceae	shrub
Rosa woodsii Lindl.	Rosaceae	perennial
Sorbus scopulina Greene	Rosaceae	perennial
Pedicularis centranthera Gray	Scrophulariaceae	perennial
Penstemon cyananthus Hook.	Scrophulariaceae	perennial
Penstemon eatonis Gray	Scrophulariaceae	perennial
*Penstemon grahamii Keck	Scrophulariaceae	perennial
Penstemon humilus Nutt. ex Gray	Scrophulariaceae	perennial
Penstemon osterhoutii Pennell	Scrophulariaceae	perennial
Penstemon palmeri Gray	Scrophulariaceae	perennial
Penstemon ssp.	Scrophulariaceae	perennial

Ribes montigenum McClatchie  
Celtis reticulata Torr.

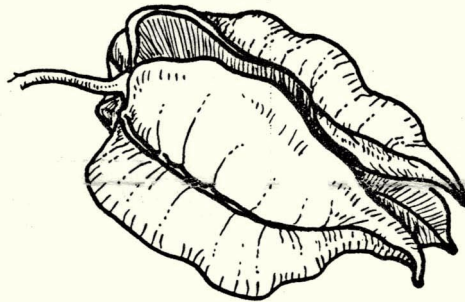
Saxifragaceae  
Ulmaceae

perennial  
perennial

\*Plants which are proposed for the Utah threatened and endangered list



Utah Native Plant Society has contracted with the U. S. Forest Service to do work on one of Utah's most endangered plants, Phacelia argillacea. Until recently only five plants were known to exist along a railroad bed in Utah County. Bob Thompson, Dick Hildreth, Sherel Goodrich, Duane Atwood and Jim Boyner found several additional plants near the original population, and more were located nearby. It was thought there were about 100 plants seen. Seeds were collected and will be available through the arboretum on the University of Utah campus.



The Association of Western Native Plant Societies held meetings in Phoenix, Arizona on October 11 - 12, 1980. These were attended by representatives of plant societies in several western states. Duane Atwood attended for UNPS. One of the topics discussed was the impact of M-X on the habitat of native floras.

NOTICE:

Ms. Claire Gabriel (272-4014) and Mr. Glen Halliday (943-4286) are the selection committee for the SL Chapter of UNPS. Please contact one of them with your nominations for new officers for the SL Chapter. It is important to have interested and enthusiastic people to keep this new organization going!