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KAIPAROWITS FLORA

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ABSTRACT.— The paper presents an annotated list of 851 taxa in 358 genera and 80 families. Threatened and endangered plants are enumerated.

Diversity of vegetative types in the Kaiparowits Basin is reflected in the large number of species present in that basin.³ Elevational differences of 2,680 m from the low point at Lee's Ferry to the high point on the summit of Navajo Mountain accounts for some of the diversity of plant species. Substrate differences in the basin range from saline clays through all the common particle sizes to boulders and slickrock. The focus of the basin is the Colorado River canyon into which all of the drainages of the basin pour their loads, and plants have followed this feature as a major migrational pathway. This is true of the major communities of plants in the vicinity, and is especially so for those at lower elevations.

Lower elevational species are representative of more southern distributional patterns which find the hot dry canyon and the lower features compatible with their needs. Middle and higher elevation species are more representative of boreal vegetation. The two types intertongue in the lower middle elevations where soil conditions are compatible. Specific soil types tend to be

occupied by characteristic kinds of vegetation, that which is sufficiently specialized as to survive and compete on the unusual soils. This is demonstrated on the saline clays of such formations as the Tropic Shale which forms the benchland below the Nipple Bench-Smoky Mountain uplands.

Amounts of precipitation are roughly correlatable with elevation, and the low amounts at low elevations are reflected in the kinds of plants which can grow there. This is also true for the middle and higher elevations. Vegetation and the diversity of species change from one rainfall regimen to another. Where water is available on a permanent basis, such as along streams or in hanging gardens, the plant assemblage changes drastically when contrasted to that in nearby arid lands. All of these habitat types combine to set the Kaiparowits Basin apart as a unique entity.

The following annotated list of vascular plants contains some 851 taxa (822 species and 29 infraspecific units) placed in 358 genera and 80 families. They represent diverse phytogeographical provinces from

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cold to warm temperate and even subtropical regions of this hemisphere. They are recognized as belonging to montane forest, ponderosa pine, juniper-pinyon, sagebrush, salt-desert shrub, warm desert shrub, riparian, and hanging garden communities.

The list is based upon the plant collections made by the authors and by others at the Navajo-Kaiparowits Project during the period from 1971 to 1975. Additionally, all plants in the herbarium of Brigham Young University have been reviewed, and the pertinent specimens are cited in the list. Lists published by others have been studied and some species added in that manner, but unless the reports could be validated, questionable reports have been excluded. All specimens cited are in the herbarium of Brigham Young University (BRY) unless otherwise indicated.

The list should not be thought to be exhaustive; other species will be found in the Basin. This is indicated by species being added to the list in the summer of 1975, following several years of extensive investigation of the region to sample its flora.

Many of the plants are recognized as threatened (T), endangered (E), or possibly extinct (PoEx). Designations for these species is in a paper by Welsh et al. (1975). Some 42 species in the Kaiparowits Basin are considered as belonging to one of these categories. This number represents about 5 percent of the species in the Basin and approximately 20 percent of the threatened, endangered, or possibly extinct species known for Utah. The following species, with status indicated, belong to this unique group of plants.

Astragalus desperatus var. *conspectus* (T)
Astragalus bryantii (PoEx)
Astragalus emoryanus (T)^o
Astragalus hallii var. *fallax* (T)^o
Astragalus kentrophyta var. *coloradoensis* (T)^o
Astragalus lancearius (T)
Astragalus malacoides (T)
Astragalus striatiflorus (E)
Atriplex navajoensis (T)
Carex curatorum (T)
Castilleja revealii (E)
Cirsium rydbergii (T)^o
Cladium californicum (E)^o
Draba subalpina (T)
Erigeron abajoensis (T)
Euphorbia nephradenia (T)

Geranium marginale (T)
Gilia latifolia (T)^o
Imperata breviflora (PoEx)^o
Ivesia sabulosa (T)^o
Lesquerella rubicundula (T)
Lesquerella tumulosa (E)
Lomatium minimum (T)
Machaeranthera glabriuscula var. *confertiflora* (T)
Menodora scabra (T)
Muhlenbergia curtifolia (T)^o
Nama retrorsum (T)
Oenothera megalantha (E)^o
Oxytropis jonesii (T)^o
Penstemon leiophyllus (T)
Phacelia cephalotes (T)
Phacelia constancei (T)
Phacelia mammillariensis (E)
Phacelia rafaensis (T)
Phlox cluteana (T)^o
Pinus longaeva (T)^o
Primula specuicola (T)
Psoralea epipsila (E)
Ptelea trifoliata ssp. *pallida* (PoEx)^o
Townsendia minima (T)
Viguiera annua (T)
Yucca toftiae (T)

Most of these plants occupy only small portions of the Basin, and they must be avoided by any planned development of the region. Generally, the plants are those which occupy some specific habitat or soil types, and they are not known to be cultivatable by standard agricultural techniques. Thus, the only means of preservation of these unique plants lies in the maintenance of the areas occupied by them.

In the annotated list, the collector's names have been abbreviated or shortened. The most commonly noted collectors are as follows; a look at collection dates will allow one to determine an outline of the history of floristic investigations of the Basin.

Abbreviation	Collector's Name
Boyle	W. S. Boyle
Burkey	N. Burkey
BW	B. W. Wood
Christensen	E. M. Christensen
Beck	D. E. Beck
Buchanan	H. Buchanan
CAT	C. A. Toft
Cottam	W. P. Cottam
DT	D. Trotter
JRM	J. R. Murdock
Gentry	J. Gentry, Jr.
Harrison	B. F. Harrison
Holmgren	N. Holmgren
Holmgren	P. Holmgren
Karren	J. B. Karren
LCH	L. C. Higgins

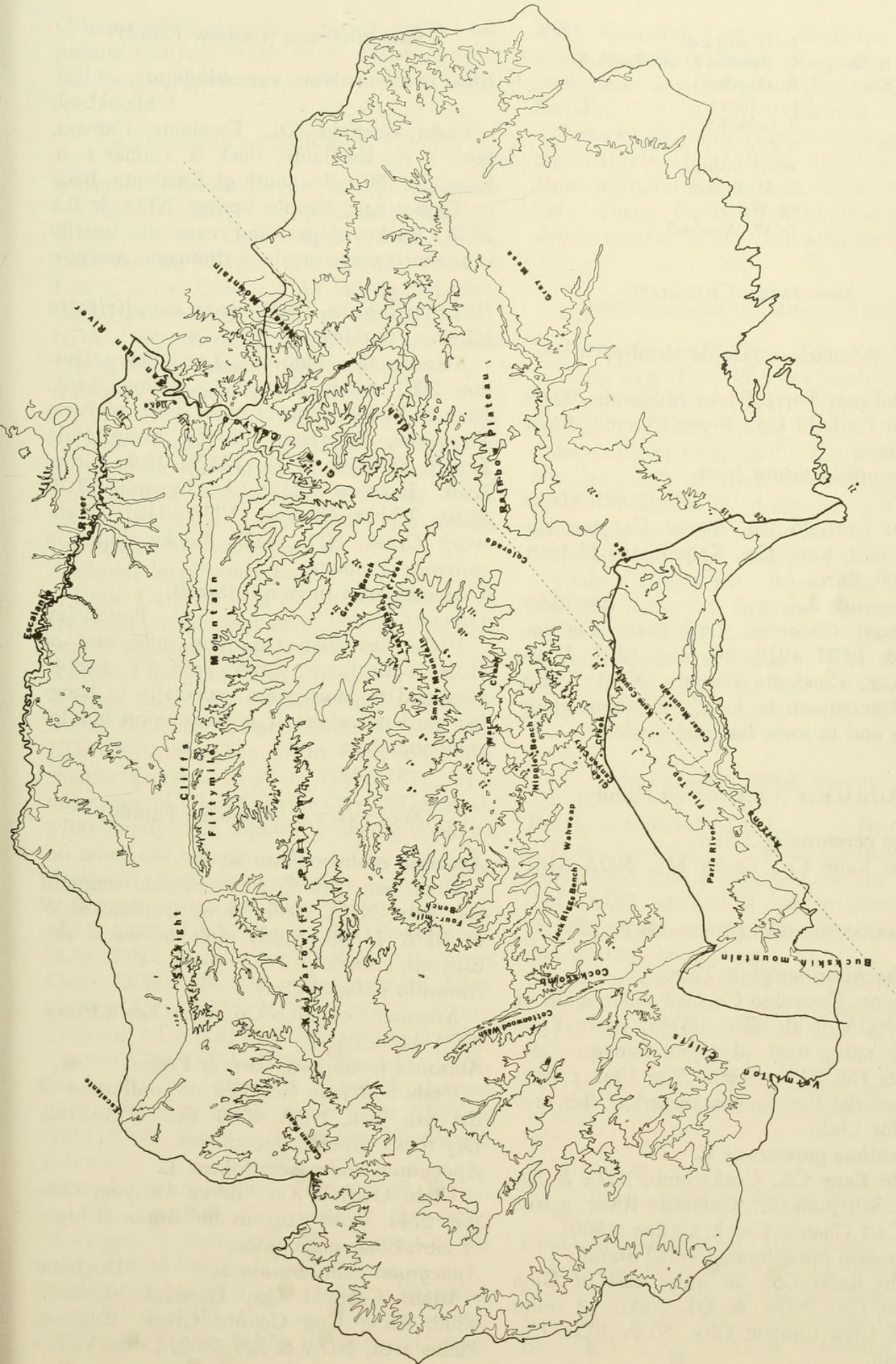


Fig. 1. The Kaiparowits Basin of Utah and Arizona

NDA	N. D. Atwood
Nebeker & Skougard	G. Nebeker & M. Skougard
RA or RWA	R. W. Allen
Reveal	J. L. Reveal
SLW	S. L. Welsh
SL & SLW	S. L. & S. L. Welsh
Stanton	W. D. Stanton
Tanner	V. M. Tanner
Webb	M. Webb
Woodruff	D. W. Woodruff

ANNOTATED CHECKLIST

ACERACEAE (Maple Family)

Acer glabrum Torr. Rocky Mountain Maple
Utah: Garfield Co., Bryce Canyon, Boyle 1154. Rare.

Acer grandidentatum Nutt.

Big-Tooth Maple

Utah: Garfield Co., Bryce Canyon, Buchanan 379. Kane Co., Kaiparowits Plateau, JRM 399. Rare.

Acer negundo L.

Box Elder

Arizona: Coconino Co., Paria Canyon, NDA & LCH 4015, 20 May 1972. Utah: Kane Co., Escalante Canyon, NDA & RA 3216. Uncommon to locally common along streams and in some hanging gardens.

AIZOACEAE (Carpetweed Family)

Mollugo cerviana (L.) Ser.

Utah: Kane Co., Cedar Mt., NDA 3101. Rare.

AMARANTHACEAE (Amaranth Family)

Acanthochiton wrightii Torr.

Arizona: Coconino Co., 9.3 miles south of Page, NDA et al. 3346, 3346a. Utah: Kane Co., 2 miles west of Glen Canyon City, NDA & DK 3360, 3360a. The Utah collections are the first known record of this rare plant for Utah.

Amaranthus graecizans L.

Utah: Kane Co., Cockscomb, NDA & RA 2888b. San Juan Co., Colorado River, across from Last Chance Creek, Gaines (1960).

Tidestromia lanuginosa (Nutt.) Standl.

Utah: Kane Co., 30 miles east of Glen Canyon City NDA & DK 3335; 18 miles east of Glen Canyon City, NDA 4059. Uncommon.

ANACARDIACEAE (Cashew Family)

Rhus trilobata Nutt. var. *trilobata*

Skunkbush

Utah: Garfield Co., Escalante Canyon, Beck s. n.; Escalante, Beck & Tanner s. n. Kane Co., 50 miles south of Escalante, Beck & Tanner s.n.; Nipple Spring, NDA & RA 2825. Rocky slopes and canyons, usually near moist seeps or along drainages; uncommon.

Rhus trilobata Nutt. var. *simplicifolia* (Greene) Barkley

Arizona: Coconino Co., Lee's Ferry, Cottam 2607. Utah: Kane Co., Willow Tank, Beck & Tanner s. n.; 8 miles south of Paria Townsite, Harrison 12046; Four Mile Bench, SLW & NDA 12376; Hole-in-the-Rock, Harrison 12128; Cockscomb, SLW 5330; Tibbet Canyon, NDA 3461; Wahweap Creek, NDA 3475. Rocky slopes in canyons; common.

Toxicodendron rydbergii (Small)

Greene

Poison Ivy

Utah: San Juan Co., one mile east of Hole-in-the-Rock, SLW & CAT 11868. Confined to moist sites, especially in hanging gardens, where it is uncommon but locally abundant.

APOCYNACEAE (Dogbane Family)

Amsonia eastwoodiana Rydb.

Utah: San Juan Co., east of confluence of San Juan, NDA 4089; Three Garden, SLW & NDA 11699. Sandy sites in warm dry canyons; common.

Amsonia palmeri Gray

Arizona: Coconino Co., near Lee's Ferry, NDA 4429. Rare.

Amsonia tomentosa Torr. & Frem.

Utah: San Juan Co., east of confluence of the San Juan, NDA 4090; do, NDA 3182. Dry rocky ground; uncommon.

Apocynum androsaemifolium L.

Utah: Garfield Co., Bryce Canyon, Cottam 2744. Moist canyons and slopes at higher elevations; uncommon.

Apocynum cannabinum L.

Dogbane

Utah: Garfield Co., Escalante, Cottam 4396. Kane Co., Coyote Creek, Brigham Plains area, NDA & RA 2802; Little Valley

Canyon, NDA et al. 2718. San Juan Co., Escalante Canyon, NDA 4116. Seeps, springs, and hanging gardens; common.

ASCLEPIADACEAE (Milkweed Family)

***Asclepias asperula* Decne** Rough Milkweed

Utah: Garfield Co., Escalante Canyon, Woodruff 1164. Kane Co., Dry Rock Creek, Lake Powell, SLW & NDA 11628; head of Last Chance Creek. NDA 4072. San Juan Co., Navajo Mt., NDA et al. 2973; do, NDA 4196; Three Garden, SLW & NDA 11679. Widespread but uncommon.

***Asclepias cryptoceras* Wats.**

Hidden-horn Milkweed

Utah: Garfield Co., 1.3 miles south of Cannonville, Reveal et al. 762. Kane Co., Cottonwood Wash road, LCH & NDA 5258; do, NDA & RA 2907. Clay soils, widespread but uncommon.

***Asclepias labriformis* Jones**

Utah: Garfield Co., 10 miles southeast of Escalante, Holmgren et al. 2042. Utah endemic; widespread northward.

***Asclepias latifolia* (Torr.) Raf.**

Utah: Kane Co., 50 miles south of Escalante, Beck & Tanner s. n.; Cedar Mt., NDA 2919; Flat Top, NDA et al. 2959; Escalante Canyon, SLW & GM 11812; 31.5 miles east of Glen Canyon City, NDA et al. 2700. Sandy sites, especially among boulders on talus; uncommon.

***Asclepias macrosperma* Eastw.**

Arizona: Coconino Co., Navajo Canyon, NDA 3728. **Utah:** Kane Co., Cockscomb, SLW 5350; 5 miles north of Glen Canyon Dam, LCH 1006; 13 miles west of Glen Canyon City, NDA & RA 2859; Escalante Canyon, NDA 4215; 2 miles east of Glen Canyon City, NDA 2918; Hole-in-the-Rock, White 212, do, Harrison 12146; Wahweap Creek, Harrison 12089; Paria River, SLW & NDA 9752. Sandy soils at low elevations; common.

***Asclepias subverticillata* (Gray) Vail**

Utah: Garfield Co., east of Escalante, Holmgren & Holmgren 4723. Kane Co., 30 miles east of Kanab, NDA 5588.

***Asclepias tuberosa* L. var. *interior* Woodson**

Utah: Garfield Co., east of Escalante, Holmgren et al. 2117; Escalante, Cottam

4381, Escalante Canyon, Beck s.n. Rare in sandy rimrock situations.

***Funastrum heterophyllum* (Engelm.)**

Standl.

Climbing Milkweed

Arizona: Coconino Co., Lee's Ferry, Cottam 2617; do NDA 6388. **Utah:** Kane Co., Hole-in-the-Rock, Harrison 12730. San Juan Co., Three Garden, NDA 4263. Talus slopes, canyon of the Colorado; rare.

BERBERIDACEAE (Barberry Family)

***Mahonia fremontii* Torr.** Fremont Mahonia

Utah: Kane Co., 35 miles southeast of Escalante, Harrison 12341; Nipple Canyon, RA 257; Tibbet Spring, NDA 3463; 20 miles south of Cannonville, Christensen s.n.; 8 miles south of Paria Townsite, Harrison 12060. Common in drainages and benchlands through much of the Basin.

***Mahonia repens* L.** Creeping Oregon-grape

Utah: Garfield Co., Bryce Canyon, Burkey 124. Kane Co., Brigham Plains vicinity, NDA & RA 2798; Buckskin Mountain, NDA 4658; Kaiparowits Plateau, JRN 398. San Juan Co., Navajo Mt., NDA 4159. Mountains and moist drainages; locally common.

BETULACEAE (Birch Family)

***Betula occidentalis* Hook.** River Birch

Utah: Garfield Co., Bryce Canyon, Boyle 1155. Kane Co., Escalante Canyon, SLW & GM 11829; head of Wahweap Creek, SLW & BW 12441. Along drainages and seeps and springs; uncommon.

***Ostrya knowltonii* Cov.** Knowlton Ironwood

Utah: San Juan Co., Rincon Canyon, NDA 4103; do, SLW & GM 11783; do SLW & NDA 11693; do, SLW & NDA 11711; do SLW 11893. Local in Ribbon Canyon, and observed in Escalante Canyon; rare.

BORAGINACEAE (Borage Family)

***Coldenia hispidissima* (Torr.) Gray**

Arizona: Coconino Co., upstream from Lee's Ferry, NDA & LCH 4032. **Utah:** Kane Co., Cedar Mt., NDA 3096; Gunsight Bay, SLW & NDA 11576; Wahweap Creek,

Lake Powell, NDA 3702. Sandy sites at low elevations; common.

***Cryptantha abata* Johnst.**

Utah: Garfield Co., Bryce Canyon, Boyle 1117. Kane Co., Last Chance Creek, NDA 3747; Collet Wash, NDA 1866. Clay soils; local and uncommon.

***Cryptantha bakeri* Pays.**

Utah: Garfield Co., Bryce Canyon, Weight s. n., 1934; 4 miles southwest of Cannonville, Reveal et al. 772; Canaan Peak, NDA & DT 5314. Moderate to high elevations; uncommon.

***Cryptantha capitata* (Eastw.) Johnst.**

Utah: Kane Co., Kaiparowits Plateau, NDA & DT 5253. High elevations; rare.

***Cryptantha circumscissa* (H. & A.) Johnst.**

Arizona: Coconino Co., one mile west of Glen Canyon Dam, NDA 3447. **Utah:** Kane Co., East Clark Bench, LCH 4251, 20 May 1971; Paria River, SLW & NDA 9747; Warm Creek, NDA 3712; Grand Bench, NDA 3526; Kaiparowits Plateau, Holmgren et al. 2068; Labyrinth Canyon, Lake Powell, NDA 3737; Cottonwood Wash road, Reveal & Gentry 809; Cedar Mt., NDA 2736a. Sandy soils, a common spring annual.

***Cryptantha confertiflora* (Greene) Pays.**

Utah: Garfield Co., 8 miles southeast of Escalante, Holmgren et al. 2036. Kane Co., Paria Townsite, Webb 62; Collet Wash, NDA 1873; Paria River, NDA & LCH 3957; Hackberry Canyon, NDA 3678; Ahlstrom Point road, NDA 3668; Cockscomb, NDA 3613; Tibbett Canyon, NDA 3602. Common yellow-flowered perennial of sandy soils.

***Cryptantha crassisejala* (T. & G.) Greene**

Arizona: Coconino Co., 3 miles south of Wahweap Marina, SLW & NDA 9768; upstream from Lee's Ferry, NDA 4593; Paria Plateau, NDA & LCH 3767. **Utah:** Garfield Co., Willow Tank, Beck & Tanner s. n.; Warm Creek, NDA 3715; Paria River, NDA & LCH 3976; Wahweap Bay, Lake Powell, NDA 3551; Paria River, SLW & NDA 9748. Annual plant of sandy soils; common.

***Cryptantha fendleri* (Gray) Greene**

Arizona: Coconino Co., Lee's Ferry, NDA 4573; one mile west of Glen Canyon Dam, NDA 3569. **Utah:** Kane Co., 2 miles west of Glen Canyon City, Nebeker & Skougard

191; Paria River, NDA & LCH 3944; Little Valley Canyon, NDA 3520. Sandy soils; uncommon.

***Cryptantha flava* (A. Nels.) Pays.**

Arizona: Coconino Co., east of Glen Canyon Dam, NDA 3451. do, SLW & NDA 9778; 9 miles south of Page, RA 218. **Utah:** Garfield Co., Escalante, Cottam 4408. Kane Co., 31 miles south of Escalante, Karren 89; Cottonwood Wash road, NDA & RA 2807; East Clark Bench, NDA & RA 2677; Kaiparowits Plateau, Woodruff 1147; Paria River, SLW & NDA 9750; Grand Bench, NDA 3528; head of Rock Creek, Harrison 9033; Cockscomb, SLW 5342; Buckskin Gulch, SLW 5319. Widespread and common, yellow-flowered, ubiquitous plant.

***Cryptantha fulvocanescens* (Gray) Pays. var. *echinoides* (Jones) Higgins**

Utah: Garfield Co., 1.3 miles south of Cannonville, Reveal et al. 745. Kane Co., Cottonwood Wash road, NDA 3468; 5 miles east of Butler Valley, NDA 3458a; 6 miles southeast of Canaan Peak, SLW & NDA 12372; head of Last Chance Creek, NDA 3752; Paria Townsite, SLW & NDA 9729; East Clark Bench, NDA & RA 2673. Sandy to clay soils; common.

***Cryptantha gracilis* Osterch.**

Utah: Kane Co., Four Mile Bench, SLW & JRM 12409; Kaiparowits Plateau, NDA & DT 5288; Cockscomb, NDA 4608; Kaiparowits Plateau, Harrison 9070a. Understory in pinyon-juniper woodland; common.

***Cryptantha humilis* Gray Pays. var. *commixta* (Macbr.) Higgins**

Utah: Garfield Co., Bryce Canyon, Buchanan 1484 (Bryce). Kane Co., Ahlstrom Point road, NDA 3669; Five Mile Mountain, NDA 4642. Rocky soils at middle elevations; uncommon.

***Cryptantha jamesii* (Torr.) Pays. var. *disticha* (Eastw.) Pays.**

Arizona: Coconino Co., Page vicinity, SLW & NDA 9777, do, NDA 3452. **Utah:** Kane Co., Paria River, NDA & LCH 3970; 24 miles west of head of Collet Wash, NDA 1873a; Nipple Bench, NDA & RA 2816; Tibbet Canyon, NDA 3601; Crosby Canyon, NDA 3634; Kaiparowits Plateau, NDA & DT 5239; Cockscomb, NDA 3581; Hack-

berry Canyon, NDA 3677. Ubiquitous; common.

Cryptantha jamesii (Torr.) Pays. var. *pustulosa* (Rydb.) Harrington

Utah: Kane Co., Circle Cliffs, Beck s. n.

Cryptantha jamesii (Torr.) Pays. var. *setosa* (Jones) Johnst.

Utah: Kane Co., Cottonwood Wash road, LCH & NDA 5261; 20 miles east of Kanab, NDA 1792a. Uncommon.

Cryptantha micrantha (Torr.) Johnst.

Arizona: Coconino Co., Lee's Ferry, NDA 4577; 3 miles south of Wahweap Marina, SLW & NDA 9767. Utah: Kane Co., Cedar Mt., NDA et al. 2735; Warm Creek, NDA 3708; Paria River, NDA & LCH 3950; 2 miles west of Glen Canyon City, Nebeker & Skougard 185. Sandy soil; common.

Cryptantha nevadensis Nels. & Kenn.

Arizona: Coconino Co., upstream from Lee's Ferry, NDA 4587; Lee's Ferry, NDA 4571. Utah: Kane Co., Labyrinth Canyon, Lake Powell, NDA 3736; 6 miles east of Glen Canyon City, SLW & NDA 9810. Lower elevations; uncommon.

Cryptantha pterocarya (Torr.) Greene

Arizona: Coconino Co., Lee's Ferry, NDA 4572; upstream from Lee's Ferry, NDA 4586; one mile west of Glen Canyon Dam, NDA 3568. Utah: Kane Co., Hackberry Canyon, NDA 3676; Kaiparowits Plateau, Holmgren et al. 2064; one mile west of Glen Canyon City, Cronquist 10155; Cedar Mt., NDA et al. 2736, 1971. Sandy soils; common.

Cryptantha recurvata Cov.

Arizona: Coconino Co., Lee's Ferry, NDA 4570. Utah: Kane Co., Little Valley Canyon, NDA 3518; Nipple Canyon, RA 247; Labyrinth Canyon, Lake Powell, NDA 3738; Kaiparowits Plateau, Harrison 9070 b; 6 miles east of Glen Canyon City, SLW & NDA 9811. San Juan Co., Three Garden, SLW & NDA 11703. Sandy soils; uncommon.

Cryptantha setosissima (Gray) Pays.

Utah: Garfield Co., Bryce Canyon, Buchanan 2053 (Bryce).

Heliotropium convolvulaceum (Nutt.)

Gray Heliotrope

Utah: Kane Co., Cedar Mt., NDA & RA 3073; Warm Creek, NDA & RA 2846.

Dunes, sandy terraces, and drainages; uncommon.

Lappula occidentalis (Wats.) Greene

Arizona: Coconino Co., upstream from Lee's Ferry, NDA 4584. Utah: Garfield Co., Bryce Canyon, Weight s. n.; 1.3 miles south of Cannonville, Reveal et al. 752. Kane Co.; Willow Tank, Beck & Tanner s. n.; Cockscomb, NDA 3626, Cottonwood Wash road, NDA & RA 2756; Gunsight Bay Lake Powell, SLW & NDA 11586; Paria River, NDA & LCH 3981. Kaiparowits Plateau, NDA & DT 5286; Four Mile Bench, NDA 3756. Ubiquitous; common.

Lithospermum incisum Lehm.

Utah: Garfield Co., Bryce Canyon, Buchanan 1449, 1454, and 1483 (Bryce); do, Boyle 1112. Kane Co., Grosvenor Arch vicinity, NDA 3469; Cottonwood Wash road, Reveal 814; Horse Mt., Four Mile Bench vicinity, SLW & NDA 12371. Uncommon, widespread.

Lithospermum multiflorum Torr. Stoneseed

Utah: Garfield Co., Bryce Canyon, Buchanan 1448 (Bryce); do, Boyle 1114.

Pectocarya platycarpa Munz

Utah: San Juan Co., Three Garden, SLW & NDA 11906. Sandy soils; uncommon to rare.

CACTACEAE (Cactus Family)

Coryphantha vivipara (Nutt.) Britt. & Rose var. *arizonica* (Engelm.) W. T. Marshall

Utah: San Juan Co., Navajo Mt., NDA 4151. Widespread; rare.

Echinocereus engelmannii (Parry)

Rumpler Hedgehog Cactus

Utah: Kane Co., Brigham Plains, NDA & RA 2784a; 36 miles east of Glen Canyon City, NDA et al. 2707. Dry, open slopes, at lower elevations; uncommon.

Echinocereus triglochidiatus Engelm. var. *melanacanthus* (Engelm.) Benson

Utah: Garfield Co., 1.5 miles south of Cannonville, Reveal et al. 768. Kane Co., Four Mile Bench, SLW & JRM 12397a; 8 miles south of Glen Canyon City, NDA 3556; Cockscomb, SLW 5364; Willow Tank, SLW s.n. 18 miles south of Paria Townsite, Harrison 12056. Widespread, mostly at middle elevations; uncommon.

***Opuntia basillaris* Engelm. & Bigel var. *aurea* (Baxter) Benson**

Utah: Kane Co., Four Mile Bench, SLW & JRM 12397. Widespread and locally common, middle elevations.

***Opuntia chlorotica* Engelm. & Bigel.**

Arizona: Coconino Co., Lee's Ferry, Clover and Jotter (1941).

***Opuntia erinacea* Engelm. & Bigel. var. *histicina* (Engelm. & Bigel.) Benson**

Utah: Kane Co., Grand Bench, NDA 4258; Little Valley Canyon, NDA et al. 2732. Common low elevations.

***Opuntia erinacea* Engelm. & Bigel. var. *utahensis* (Engelm.) Benson**

Utah: Kane Co., Four Mile Bench, NDA 4057. Widespread; locally common.

Opuntia macrorhiza* Engelm. var. *macrorhiza

Utah: San Juan Co., Surprise Valley, Clover and Jotter (1941).

***Opuntia phaecantha* Engelm.**

Utah: San Juan Co., Navajo Mt., NDA 4141. Common in low elevation canyons and terraces.

Opuntia polyacantha* Haw. var. *polyacantha

Utah: Kane Co., 20 miles east of Glen Canyon City, NDA 4063; Fifty Mile Spring, White 155. Widespread and locally common.

***Opuntia whipplei* Engelm. & Bigel.**

Arizona: Coconino Co., 9.3 miles south of Page, NDA 4083; Kaibito-Tonolea road, NDA et al. 2912. Utah: Kane Co., Cedar Mt., SLW & JRM s.n. Sandy sites at low to moderate elevations in southern portion of basin; uncommon.

***Sclerocactus whipplei* (Engelm. & Bigel.) Britt. & Rose**

Utah: Kane Co., Four Mile Bench, SLW & JRM 12411; Crosby Canyon, NDA 3636; 8 miles south of Glen Canyon City, NDA 3557. Widespread; uncommon to locally common.

CAMPANULACEAE (Bellflower Family)

***Campanula parryi* Gray**

Utah: Garfield Co., Bryce Canyon, Weight s. n., 1934; Escalante Canyon, Beck 134. Moist sites; uncommon.

***Campanula rotundifolia* L.**

Utah: Garfield Co., Bryce Canyon, Buchanan 1723 (Bryce). Uncommon.

***Lobelia cardinalis* L. ssp. *graminea* (Lam.) McVaugh**

Utah: Kane Co., Reflection Canyon, Lake Powell, SLW 11879; Escalante Canyon, NDA & RA 3204. San Juan Co., Rainbow Bridge, NDA & RA 3301; Three Gardens, NDA & RA 3192; do, NDA et al. 3228; east of confluence of the San Juan, NDA & RA s.n. Hanging gardens and seeps; uncommon except locally.

***Nemacladus glanduliferus* Jeps. var. *orientalis* McVaugh**

Arizona: Coconino Co., Lee's Ferry, NDA 4576. Uncommon; southern portion of included area.

CAPPARIDACEAE (Caper Family)

***Cleome lutea* Hook.**

Beeplant

Utah: Garfield Co., Escalante, Beck & Tanner s.n.; 5 miles west of Escalante, Anderson 683; 1.3 miles south of Cannonville, Reveal et al. 751; Kane Co., 50 miles south of Escalante, Beck & Tanner s.n., 16 June 1936; Escalante Canyon, SLW & GM 11831; Paria River, SLW & NDA 9742; East Clark Bench, LCH 4246; Left-hand fork of Collet Wash, Woodruff 1160; Cottonwood Wash road, NDA & RA 1769; Cockscomb, SLW 5351. Widespread; common.

***Cleome serrulata* Pursh**

Utah: Kane Co., Paria River, NDA & LCH s.n.; Four Mile Bench, NDA 4303. Widespread; uncommon.

***Cleomella palmeriana* Jones**

Utah: Garfield Co., one mile east of Henrieville, NDA 1877; 18 miles west of Escalante, SLW 9411. Kane Co., Crosby Canyon, NDA 3635; 17 miles northeast of Glen Canyon City, RA 203; Paria River, NDA & LCH 3989; Cottonwood Wash road, NDA & LCH 3830; 18 miles east of Glen Canyon City, NDA 4058; 4 miles east of Glen Canyon City, NDA 2629. Restricted to clay soils, mainly on the Tropic Shale formation; endemic to the Navajo Basin of Utah and Colorado; common.

CAPRIFOLIACEAE (Honeysuckle Family)

Sambucus coerulea Raf. Elderberry

Utah: Garfield Co., between Death Ridge and Canaan Peak, SLW et al. 12589. San Juan Co., Navajo Mt., NDA et al. 2979. Canyons and slopes at middle elevations; uncommon.

Symphoricarpos longiflorus Gray Snowberry

Utah: Kane Co., Brigham Plains vicinity, NDA & RA 2799. San Juan Co., Ribbon Garden, Lake Powell, SLW & NDA 11696. Common in canyons at low to moderate elevations.

Symphoricarpos parishii Rydb.

Utah: San Juan Co., Navajo Mt., NDA 4146. Uncommon.

Symphoricarpos vaccinioides Rydb.

Utah: Garfield Co., vicinity of Death Ridge SLW & JRM s.n., June 1975. Kane Co., Bryce Canyon, Boyle 1132; Kaiparowits Plateau, NDA & DT 5290. Middle and higher elevations; uncommon.

CARYOPHYLLACEAE (Pink Family)

Arenaria eastwoodiae Rydb. Sandwort

Utah: Kane Co., Hole-in-the-Rock, Harrison 12144; 16 miles east of Glen Canyon City, NDA 3667; Kaiparowits Plateau, NDA & DT 52227. Sandy sites and rimrock; uncommon.

Arenaria fendleri (Rydb.) Fern.

Utah: Garfield Co., Canaan Peak, NDA & DT 5318. Uncommon.

Arenaria kingii Wats.

Utah: Garfield Co., 2 miles southeast of Escalante, NDA S.N. Kane Co., Four-Mile Bench, NDA 4304.

Arenaria nutallii Wats.

Utah: Garfield Co., Bryce Canyon, Burkey 129. Uncommon; higher elevations.

Silene antirrhina L.

Arizona: Coconino Co., 9.3 miles north of junction of US 89 and 169, NDA 3656.

Utah: Kane Co., Cockscomb, NDA 4609. San Juan Co., Three Garden, SLW & NDA 11667, 4 May 1972; Ribbon Canyon, SLW & NDA 11712; Trail Canyon, Lake Powell, SLW 11911. Widespread; uncommon.

Silene scouleri Hook. ssp. *pringlei* (Wats.) Hitchc. & Maguire

Utah: San Juan Co., Navajo Mt., NDA 4180. Rare.

Stellaria jamesiana Torr. James Starwort

Utah: Kane Co., Kaiparowits Plateau, NDA & DT 5239. San Juan Co., Navajo Mt., NDA et al. 2994; do, Gentry & Davidse 1770. Uncommon; middle elevations.

CELASTRACEAE (Bittersweet Family)

Forsellesia spinescens (Gray)

Greene

Greasebush

Utah: Kane Co., Cockscomb, NDA 4613. Uncommon.

Pachystima myrsinites

(Pursh) Raf.

Mountain Lover

Utah: Garfield Co., Bryce Canyon, Buchanan 1488 (Bryce). Uncommon.

CHENOPODIACEAE (Goosefoot Family)

Atriplex canescens (Pursh)

Gray

Fourwing Saltbush

Utah: Garfield Co., Escalante Canyon, Harrison 9142. Kane Co., Four Mile Bench, SLW et al. 12583; Nipple Bench, NDA & RA 2821; Gunsight Bay, SLW & NDA 11592; Hole-in-the-Rock, Hansen 432a; 13 miles east of Warm Creek Junction, NDA 3457. Common throughout the Basin in most vegetative types.

Atriplex confertifolia (Torr. & Frem.)

Wats.

Shadscale

Utah: Garfield Co., 3 miles east of Henrieville, Hansen 395. Kane Co., Nipple Canyon, RA 248; Gunsight Bay, Lake Powell, SLW & NDA 11588; 5 miles southeast of Cannonville, Reveal et al. 794; Sit Down Bench, Patton 137; 6 miles east of Glen Canyon City, SLW & NDA 9803. Throughout the Basin; abundant.

Atriplex corrugata Wats.

Mat-Atriplex

Utah: Kane Co., lower Wahweap Creek, Albee 60; 30 miles east of Glen Canyon City, NDA 4545; Ahlstrom road, RA 120; Nipple Canyon, RA 261; Cottonwood Wash road, Reveal et al. 826; 6 miles east of Glen Canyon City, SLW & NDA 9802. Principal perennial vegetation of Tropic Shale formation.

Atriplex garrettii Rydb.

Utah: Kane Co., Hole-in-the-Rock, Hansen 432b; San Juan Co., Three Garden, SLW & NDA 11687; east of confluence of

the San Juan, NDA 4088; Ribbon Garden, NDA 4109; between Three Garden and Willow Cove, Lake Powell, SLW 11895. Talus slopes, canyons of the Colorado; uncommon.

***Atriplex graciliflora* Jones**

Utah: Kane Co., Warm Creek, NDA & RA 2839; 29.2 miles southeast of Escalante, Reveal et al. 827. Saline soils; uncommon.

***Atriplex jonesii* Standl.**

Arizona: Coconino Co., Lee's Ferry, Clover and Jotter (1941).

Atriplex navajoensis

Hanson

Navajo Saltbush

Arizona: Coconino Co., Lee's Ferry, NDA 6393; do, Cottam 2620; do, NDA 4351, 4352. Endemic to Coconino County, Arizona; known only from Lee's Ferry to Navajo Bridge vicinity; possibly threatened.

***Atriplex powellii* Wats.**

Utah: Garfield Co., 2 miles east of Henrieville, NDA 5359. Kane Co., Cottonwood Wash road, Reveal et al. 828. Locally and periodically abundant, especially on saline clay soils.

***Atriplex saccaria* Wats.**

Utah: Kane Co., Cockscomb, NDA & RA 2883; Little Valley Canyon, SLW & NDA 11610. Uncommon, saline clay soils.

***Ceratoides lanata* (Pursh) Howell**

Utah: Kane Co., Last Chance Bay, Lake Powell, NDA et al. 3291; one mile east of Church Wells, NDA & RA 3116; 5 miles south of Glen Canyon City, NDA & RA 3116. Common in low elevations, especially on sandy or silty soils.

***Chenopodium fremontii* Wats.**

Goosefoot

Utah: Kane Co., Dry Rock Creek, SLW & NDA 11623; miles south of Glen Canyon City, NDA 3117a. Uncommon.

***Chenopodium leptophyllum* Nutt.**

Arizona: Coconino Co., 9.3 miles south of Page, NDA et al. 3340. **Utah:** Kane Co., near mouth of Kane Creek Gaines (1960). Uncommon to rare.

***Chenopodium pratericola* Rydb.**

Utah: Kane Co., 5 miles south of Glen Canyon City, NDA 3117. Rare to uncommon.

***Chenopodium* sp.**

Utah: Kane Co., Reflection Canyon, SLW 11876.

***Corispermum hyssopifolium* (Pallas) L.**

Bugseed

Arizona: Coconino Co., 9.3 miles south of Page, NDA et al. 3343. **Utah:** Kane Co., Four Mile Bench, NDA 4309. Uncommon.

***Corispermum nitidum* Kit.**

Arizona: Coconino Co., Teetso Spring, NDA 3420; 25 miles north of Shonto, NDA & DT 3392. **Utah:** San Juan Co., 5.5 miles below Klondike Bar, Gaines (1960). Uncommon.

***Cycloloma atriplicifolium* (Spreng.) Coult.**

Utah: Kane Co., Willow Tank, Beck & Tanner s.n.; Warm Creek, NDA et al. 3289.

***Grayia brandegei* Gray**

Utah: Garfield Co., 12 miles east of Henrieville, Hanson 396a; 18 miles west of Escalante, SLW 9140. Kane Co., Hackberry Canyon, NDA 3685; Cottonwood Wash road, Christensen s.n.; do, NDA & DK 3319. Restricted to clay and silty, saline soils where locally abundant.

***Grayia spinosa* (Hook.) Moq.**

Utah: Kane Co., 31 miles east of Glen Canyon City, NDA et al. 2697; Last Chance Bay, Lake Powell, SLW & NDA 11608; Nipple Canyon, RWA 256. Codominant with *Coleogyne ramosissima* in portions of the desert shrub community; uncommon to very common.

***Halogeton glomeratus* (Bieb.) C.A. Meyer**

Utah: Garfield Co., Pet Hollow, NDA 4323. Observed elsewhere; uncommon in the Basin.

***Kochia americana* Wats.**

Gray Molly

Utah: Kane Co., observed but not collected. Locally common on pediment gravels overlying Tropic Shale formation east from Glen Canyon City.

***Monolepis nuttalliana* (Schult.) Greene**

Arizona: Coconino Co., upstream from Lee's Ferry, NDA 4583. **Utah:** Kane Co., Warm Creek, NDA 3600; Tibbet Canyon, NDA 3608. Widespread; uncommon.

***Salsola iberica* Sennen & Pau**

Russian Thistle

Arizona: Coconino Co., 9.3 miles south of Page, NDA et al. 3348. **Utah:** Kane Co., Willow Tank, Beck & Tanner s.n.; 6 miles east of Glen Canyon City, NDA & DK 3356; Warm Creek, NDA & RA 2837. Widespread, adventive weed.

Sarcobatus vermiculatus (Hook.)

Torr. Greasewood

Utah: Garfield Co., Pet Hollow, NDA 4328. Greasewood is a dominant plant species in saline soils along drainages throughout middle and lower elevations.

Suaeda fruticosa (L.) Forsk. Seepweed

Utah: Garfield Co., 18 miles west of Escalante, SL & SLW 9412. Locally abundant; saline clay soils.

Suaeda torreyana Wats.

Utah: Kane Co., Cottonwood Wash road, NDA & DK 3324. Locally abundant; saline clay soils.

COMMELINACEAE (Spiderwort Family)

Tradescantia occidentalis (Britt.)

Smyth Spiderwort

Arizona: Coconino Co., Paria Canyon, Woodruff 1122. Utah: Garfield Co., Escalante Canyon, Beck s.n. San Juan Co., Forbidden Canyon, SLW & NDA 11661; Aztec Canyon, Gaines (1960).

COMPOSITAE (Composite Family)

Acamptopappus sphaerocephalus (Harv. & Gray) Gray Goldenhead

Utah: Kane Co., Warm Creek, NDA 3599; Gunsight Bay, SLW & NDA 11589; Dry Rock Creek, SLW & NDA 11624; Labyrinth Canyon, NDA 3731; 14 miles east of Glen Canyon City, NDA 4062. San Juan Co., confluence of the San Juan, SLW 11933. Sandy and gravelly benches at low elevations; locally common.

Achillea millefolium L.

Utah: Garfield Co., Escalante Canyon, Beck 144. Widespread at higher and middle elevations; uncommon.

Agoseris arizonica

Greene Mountain Dandelion

Utah: San Juan Co., Navajo Mt., NDA & DT 5339. Uncommon.

Agoseris aurantiaca (Hook.) Greene

Utah: San Juan Co., Navajo Mt., NDA 4168. Uncommon.

Agoseris glauca (Pursh) D. Dietr.

Utah: Garfield Co., Bryce Canyon, Weight s.n., 1934. Kane Co., Kaiparowits Plateau, Harrison 9045; do, NDA & DT

5233. High elevations; uncommon.

Ambrosia acanthicarpa (Hook.) Cov.

Arizona: Coconino Co., 9.3 miles south of Page, NDA et al. 3342. Utah: Kane Co., Cedar Mt., NDA 3120; Paria River, NDA & DK 3374; 6 miles east of Glen Canyon City, NDA & DK 3358; Four Mile Bench, NDA 4306. Sandy and silty soils; widespread and common.

Antennaria dimorpha (Nutt.)

T. & G. Pussytoes

Utah: Garfield Co., Bryce Canyon, Buchanan 2058 (Bryce). Uncommon.

Antennaria parvifolia Nutt.

Utah: Garfield Co., Bryce Canyon, Cottam 2750. San Juan Co., Navajo Mt., NDA 4183. High and moderate elevations; uncommon.

Antennaria rosulata Rydb.

Utah: Garfield Co., Bryce Canyon, Buchanan 1718 (Bryce).

Arnica cordifolia Hook.

Utah: Garfield Co., Circle Cliffs, Beck s.n.

Artemisia bigelovii Gray Bigelow Sagebrush

Utah: Garfield Co., west of Escalante, Cottam 6356. Kane Co., Tibbet Canyon, NDA & DK 3326. Rocky slopes and draws; common.

Artemisia campestris L.

Utah: Garfield Co., Escalante Canyon, Beck 116. Uncommon.

Artemisia filifolia Torr. Old Man Sagebrush

Utah: Garfield Co., Escalante Canyon Beck 115. Kane Co., 50 miles south of Escalante, Beck & Tanner s.n.; 5 miles south of Glen Canyon City, NDA 3118; Paria River, JRM 322; Nipple Bench, NDA & DK 3328. Common on sandy sites, especially at lower elevations.

Artemisia frigida Willd.

Utah: Garfield Co., Bryce Canyon, Buchanan 493; Escalante Canyon, Beck 114. Uncommon.

Artemisia ludoviciana Nutt.

Utah: Kane Co., Paria River, NDA & DK 3377; Escalante River, NDA 4221. Locally common especially in talus.

Artemisia nova A. Nels. Black Sagebrush

Utah: Garfield Co., Bryce Canyon, Buchanan 73. Abundant at high elevations, mostly west of our area.

***Artemisia pygmaea* Gray**

Utah: Garfield Co., locally common to abundant, limestone scablands, Bryce Canyon vicinity; 5 miles west of Widtsoe Junction, SLW & JRM 12563.

***Artemisia spinescens* DC.** Bud Sagebrush

Utah: Kane Co., one mile northwest of Warm Creek-Last Chance Road, NDA 3438, Ahlstrom road, RA 121; Nipple Canyon, RA 255. San Juan Co., Rock Creek vicinity, Gaines 91960). Locally common; gravelly pediment over saline soils.

***Artemisia tridentata* Nutt.** Big Sagebrush

Utah: Garfield Co., Escalante, Beck & Tanner s.n. Kane Co., Four Mile Bench, SLW 12367. San Juan Co., Navajo Mt., NDA & DK 3396. Common to abundant in openings in juniper-pinyon woodlands at middle elevations.

***Aster chilensis* Nees ssp. *adscendens* (Lindl.) Cronq.**

Aster

Utah: Garfield Co., Bryce Canyon, Weight s.n. Kane Co., Reflection Canyon, SLW 11888. San Juan Co., Surprise Valley, Clover and Jotter (1941). Moist sites; uncommon.

***Aster arenosus* (Heller) Blake**

Arizona: Coconino Co., near Tse' eh' aah, Nebeker & Skougard 208. Utah: Garfield Co., Bryce Canyon, Cottam 2769; Escalante Beck & Tanner s.n. Kane Co., Four Mile Bench, SLW & JRM 12401; Willow Tank, Harrison, 9115; East Clark Bench, Harrison 12062; Paria River, NDA & LCH 4011; Grand Bench, NDA 3527; Nipple Bench, NDA & RA 2808. Ubiquitous; common.

***Aster commutatus* (T. & G.) Gray**

Utah: Kane Co., Four Mile Bench, Wahweap Creek, SLW 12568. Seeps and springs; rare.

***Aster frondosus* (Nutt.) T. & G.**

Utah: Kane Co., Four Mile Bench, Wahweap Creek, NDA 4316. Seeps; rare.

***Aster glaucodes* Blake**

Utah: Garfield Co., Bryce Canyon, Weight s.n.; Pet Hollow, NDA 4335. Kane Co., Escalante Canyon, NDA 4210. Moist or shaded sites; uncommon.

***Aster pauciflorus* Nutt.**

Utah: Garfield Co., Escalante Canyon, Beck 1135. Kane Co., Upper Wahweap Creek, NDA 4342. Moist sites; uncommon.

***Aster spinosus* Benth.**

Arizona: Coconino Co., Lee's Ferry, Cottam 2626. Rare.

***Baccharis emoryi* Gray**

Arizona: Coconino Co., 9.3 miles south of Page, NDA 4085. Utah: Kane Co., Driftwood Canyon, SLW & NDA 11649; Reflection Canyon, SLW 11884; Hole-in-the-Rock, Harrison 12125. Moist sites along major, low elevations drainages; locally common.

***Baccharis glutinosa* Pers.**

Arizona: Coconino Co., Lee's Ferry, Cottam 2619. Utah: San Juan Co., 5.5 miles below Klondike Bar, Gaines (1960). Uncommon.

***Bahia neomexicana* Gray**

Arizona: Coconino Co., Cockscomb, NDA & DK 3382. Rare.

***Balsamorhiza sagittata* (Pursh) Nutt.**

Utah: Garfield Co., Bryce Canyon, Weight s.n. Kane Co., Horse Mt., north of Four Mile Bench, SLW s.n. Gravelly soils at middle elevations; locally common.

***Brickellia atractylodes* Gray**

Utah: San Juan Co., Three Garden, SLW & NDA 11688. Uncommon to rare.

***Brickellia californica* (T. & G.) Gray**

Utah: Kane Co., Brigham Plains vicinity, NDA & RA 2794. Rare.

***Brickellia longifolia* Wats.**

Utah: Kane Co., Tibbet Canyon, NDA & DK 3332; do, NDA & DK 3411. Canyon bottoms and talus slopes; locally common in tributaries of the Colorado.

***Brickellia oblongifolia* Nutt. var. *linifolia* (DC.) Robinson**

Utah: Garfield Co., Bryce Canyon, Maguire 19105; do Cottam 4363; 3 miles southeast of Escalante, Holmgren et al. 2025. Kane Co., Four Mile Bench. SLW 12832; Willow Tank, Beck & Tanner s.n. Cottonwood Wash road, NDA & RA 2757. Uncommon to locally common at middle and low elevations.

***Brickellia scabra* (Gray) A. Nels.**

Arizona: Coconino Co., 8 miles southeast of Page, NDA et al. 3242. Utah: Garfield Co., Escalante Canyon, Beck s.n. Locally common on sandstone outcrops.

***Calycoseris parryi* Gray**

Utah: Kane Co., Hole-in-the-Rock, Gaines (1960).

***Centaurea repens* L.**

Utah: Kane Co., Cottonwood Wash road, NDA & RA 2767; Four Mile Bench NDA 4315. Uncommon; introduced weed.

***Chaenactis brachiata* Greene**

Utah: Garfield Co., Bryce Canyon, Cot-tam 2573. Rare.

***Chaenactis douglasii* (Hook.) H. & A.**

Utah: Garfield Co., Bryce Canyon, Weight s.n., 1934. Kane Co., East Clark Bench, JRM 329; Collet Top, Woodruff 1151. San Juan Co., Navajo Mt., NDA et al. 2967. Uncommon to locally common bien-nial.

***Chaenactis macrantha* DC.**

Utah: Kane Co., 20 miles east of Glen Canyon City, NDA & DT 5071; Gunsight Bay, Lake Powell, SLW & NDA 11585. San Juan Co., 2 miles below Last Chance Creek, Gaines, (1960). Locally common in sandy sites at low elevations.

***Chaenactis stevioides* H. & A.**

Arizona: Coconino Co., Page vicinity, SLW & NDA 9773. Utah: Kane Co., 3.3 miles southwest of Glen Canyon City, NDA et al. 2745; 1.1 miles west of Glen Canyon City, Cronquist 10158; Gunsight Bay, Lake Powell, SLW & NDA 11575; Grand Bench, NDA 3529. Common in sandy sites at low elevations.

***Chamaechaenactis scaposa* (Eastw.) Rydb.
var. *parva* Preece & Turner**

Utah: Garfield Co., Red Canyon, Reveal & Reveal 1029. Perhaps outside the limits of the Kaiparowits Basin.

***Chrysothamnus depressus* Nutt.**

Utah: Garfield Co., Bryce Canyon, Harri-son 11030. Common at moderate elevations.

***Chrysothamnus linifolius* Greene**

Utah: Garfield Co., Escalante Canyon, Beck 136. Kane Co., Reflection Canyon, CAT 192; Four Mile Bench, SLW et al. 12574; Last Chance Creek, NDA 427a. A tall shrub of drainage margins; locally abun-dant.

***Chrysothamnus nauseosus* (Pall.) Britt. var.
albicaulis (Nutt.) Rydb.**

Utah: Garfield Co., Bryce Canyon, Bu-chanan 1725 (Bryce). Moderate to high ele-vations; common.

***Chrysothamnus nauseosus* (Pall.) Britt. var.
bigelovii (Gray) Hall**

Arizona: Coconino Co., Lee's Ferry, Cot-tam 2603. Uncommon.

***Chrysothamnus nauseosus* (Pall.) Britt. var.
consimilis (Greene) Hall**

Arizona: Coconino Co., Lee's Ferry, Clo-ver and Jotter (1941). Utah: Kane Co., Tib-bet Canyon, NDA & DK 3408, 3409; Last Chance Creek, NDA 4274. Locally common on terraces and flood plains.

***Chrysothamnus nauseosus* (Pall.) Britt. var.
gnaphaloides (Greene) Hall**

Utah: Kane Co., Tibbet Canyon, NDA & DK 3410. Locally common along canyon bottoms.

***Chrysothamnus nauseosus* (Pall.) Britt. var.
graveolens (Nutt.) Hall**

Utah: Garfield Co., Bryce Canyon, Cot-tam & Hutchings 2775. Locally common at middle elevations.

***Chrysothamnus nauseosus* (Pall.) Britt. var.
junceus (Greene) Hall**

Utah: Kane Co., Nipple Bench, NDA & DK 3330. Uncommon.

***Chrysothamnus nauseosus* (Pall.) Britt. var.
leiospermus (Gray) Hall**

Utah: Kane Co., Reflection Canyon, SLW 1182; 2 miles west of Glen Canyon City, NDA & DK 3407. Uncommon.

***Chrysothamnus parryi* (Gray) Greene var.
attenuatus (Jones) Kittel in Tidestr. & Kit-tel**

Utah: Garfield Co., Escalante vicinity, Holmgren et al. 2535; Bryce Canyon, Bu-chanan 1728 (Bryce). Moderate elevations; common.

***Chrysothamnus viscidiflorus* (Hook.) Nutt.
var. *puberulus* (Eat.) Jeps.**

Utah: Garfield Co., Bryce Canyon, Bu-chanan 1726 (Bryce). Moderate elevations; common.

***Chrysothamnus viscidiflorus* (Hook.) Nutt.
var. *stenophyllus* (Gray) Hall**

Arizona: Coconino Co., 9 miles southeast of Page, NDA et al. 3240. Utah: Kane Co., 2 miles south of Glen Canyon City, NDA 3097; Buckskin Gulch, SLW 9423; East Clark Bench, NDA & DK 3366. Common at lower elevations on several soil types.

***Chrysothamnus viscidiflorus* (Hook.) Nutt.
var. *viscidiflorus***

Utah: Garfield Co., Escalante Canyon, Beck 145. Uncommon.

***Cichorium intybus* L.**

Chickory

Utah: Kane Co., Four Mile Bench, NDA 4118. Introduced weed; uncommon.

***Cirsium arizonicum* (Gray) Petrak**

Utah: Kane Co., Four Mile Creek, SLW et al. 12576. Canyon bottom; uncommon.

***Cirsium bipinnatum* (Eastw.) Rydb.**

Utah: Kane Co., Escalante Canyon, SLW & GM 11828. Canyon bottoms; rare.

***Cirsium neomexicanum* Gray**

Utah: Kane Co., Driftwood Canyon, SLW & NDA 11648; Dry Rock Creek, Lake Powell, SLW & NDA 11633; Grand Bench, NDA 4261. Sandy sites, especially in canyons at low elevations; common.

***Cirsium nidulum* (Jones) Petrak**

Utah: Kane Co., Escalante Canyon, NDA 4120. Uncommon.

***Cirsium pulchellum* (Greene) W. & S.**

Arizona: Coconino Co., Paria Canyon, Woodruff 1126. Utah: Kane Co., 20 miles east of Glen Canyon City, NDA & DT 5070. Left-hand Fork of Collet Canyon, Woodruff 1154; Wahweap Creek, Four Mile Bench, SLW & BW 12441; Brigham Plains vicinity, NDA & RA 2793; Little Valley Canyon, NDA et al. 2714. Common, especially in canyon bottoms.

***Cirsium rothrockii* (Gray) Petrak**

Utah: San Juan Co., Navajo Mt., Gentry & Davidse 1975. Uncommon.

***Cirsium rydbergii* Petrak**

Utah: San Juan Co., east of confluence of the San Juan, NDA & RA 3181. Endemic to the Navajo Basin, restricted mainly to Hanging Gardens; local and possibly threatened (Welsh et al., 1975).

***Cirsium utahense* Petrak**

Utah: Kane Co., Escalante Canyon, NDA 4115. Uncommon.

***Conyza canadensis* (L.) Cronq.** Horsetweed

Utah: San Juan Co., Three Garden vicinity, NDA & RA 3182. Rainbow Bridge, Clover and Jotter (1941).

***Crepis intermedia* Gray**

Utah: Garfield Co., Bryce Canyon, Weight B-31/28. Uncommon.

***Crepis occidentalis* Nutt.**

Utah: Kane Co., Kaiparowits Plateau, NDA & DT 5341. Uncommon.

***Crepis runcinata* T. & G. var. *glauca* (Babcock) Stebb.**

Utah: Kane Co., Four Mile Creek, SLW & BW 12443. Seeps and springs margins; rare.

***Dicoria canescens* Gray**

Utah: Kane Co., East Clark Bench, NDA & DK 3371; 6 miles east of Glen Canyon City, NDA & DK 3371. Common in sandy sites.

***Dyssodia thurberi* (Gray) A. Nels.**

Arizona: Coconino Co., Lee's Ferry, NDA 4565. Utah: Kane Co., Escalante Canyon, NDA & RA 3215; do, NDA & RA 3200; Dry Rock Creek; SLW & NDA 11626; Tibbet Canyon, NDA 3609; Rainbow Bridge, SLW & NDA 11652; Hole-in-the-Rock, Beck 141. San Juan Co., east of confluence of the San Juan, NDA & RA 3159. Widespread and common.

***Encelia frutescens* Gray**

Utah: Kane Co., Warm Creek, NDA 3722; Dry Rock Creek, SLW & NDA 11616; Gunsight Bay, SLW & NDA 11579; Last Chance Creek, Woodruff 1142. Widespread in canyons at low elevations; uncommon.

***Enceliopsis nudicaulis* (Gray) A. Nels.**

Arizona: Coconino Co., Lee's Ferry vicinity, Cottam 2629. Rare.

***Erigeron abajoensis* Cronq.**

Utah: Garfield Co., Bryce Canyon, Cottam 2754; do NDA 6128. Kane Co., Kaiparowits Plateau, Harrison 9062. A rare and threatened species endemic to Garfield, Kane, and San Juan counties, Utah (Welsh et al., 1975).

Erigeron bellidiastrum* Nutt. var. *bellidiastrum

Utah: Garfield Co., Escalante, Cottam 4394. Kane Co., 45 miles south of Escalante, Beck 8278, July 1937; 22 miles south of Cannonville, Reveal et al. 810; Hole-in-the-Rock, Buss 93; 2 miles west of Glen Canyon City, NDA 3637. Common.

***Erigeron compositus* Pursh**

Utah: Garfield Co., Bryce Canyon, Cottam 2768. Uncommon; higher elevations.

***Erigeron divergens* T. & G.**

Arizona: Coconino Co., upstream from Lee's Ferry, NDA & LCH 4021. Utah: San Juan Co., Three Garden vicinity NDA & RA 3184; Navajo Mt., Gentry & Davidse

1972. Locally common, especially in moist canyon bottoms.

***Erigeron eatonii* Gray**

Utah: Garfield Co., Bryce Canyon, Buchanan 2049 (Bryce). Kane Co., Kaiparowits Plateau, Harrison 9062. San Juan Co., Navajo Mt., NDA 4156.

***Erigeron flagellaris* Gray**

Utah: Garfield Co., Bryce Canyon, Cottam & Hutchings 2770. Uncommon.

***Erigeron pumilus* Nutt. ssp. *concinoides* Cronq.**

Utah: Garfield Co., 1.3 miles south of Cannonville, Reveal et al. 754. Kane Co., Four Mile Bench, SLW & JRM 124000; Kaiparowits Plateau, NDA & DT 5227; Brigham Plains vicinity, NDA & RA 2795; Fifty Mile Spring, JRM 358. Widespread; uncommon.

***Erigeron speciosus* (Lindl.) DC. var. *macranthus* (Nutt.) Cronq.**

Utah: Garfield Co., Bryce Canyon, Weight s.n., 1934. Uncommon.

***Erigeron utahensis* Gray**

Utah: Garfield Co., Escalante Canyon, McKnight & Beck 199; Escalante, Cottam 4392. Kane Co., 20 miles southeast of Cannonville, Holmgren et al. 2052; Brigham Plains, NDA & RA 2783; 2 miles west of Glen Canyon City, Cronquist 10167; 37 miles east of Glen Canyon City, NDA et al. 2708; Kaiparowits Plateau, NDA & DT 5270; Willow Tank, Harrison 9029; Driftwood Canyon, SLW & NDA 11647; Paria River, NDA & LCH 3978; Warm Creek, NDA & RA 2904. Common; especially in rocky canyon slopes.

***Erigeron vagus* Pays.**

Utah: Garfield Co., Bryce Canyon, Reveal 1019. Rare.

***Gaillardia gracilis* A. Nels. Blanket Flower**

Utah: Garfield Co., Escalante Canyon, Beck s.n. Kane Co., Cockscomb, SLW 5348; Willow Tank, Harrison 9106; 15 miles west of Glen Canyon City, NDA & RA 2682a. Sandy soils; locally abundant.

***Gaillardia parryi* Greene**

Utah: Garfield Co., Escalante vicinity, Holmgren et al. 2073; Kane Co., 10 miles southeast of Cannonville, Reveal et al. 804; Buckskin Wash, SLW 9421. Locally common.

***Gaillardia pinnatifida* Torr.**

Utah: Garfield Co., Escalante Canyon, McArthur & Beck 200, June 1940. Kane Co., 6 miles west of Escalante, NDA 3575; 15 miles west of Glen Canyon City, NDA & RA 2862; Paria River, LCH & NDA 5370a. Locally common.

***Gnaphalium palustre* Nutt.**

Utah: San Juan Co., near mouth of Aztec Creek, Gaines (1960).

***Grindelia aphanactis* Rydb.**

Utah: San Juan Co., Three Garden vicinity, NDA & RA 3189; do SLW & CAT 11864. Locally common; canyon bottoms.

***Grindelia squarrosa* (Pursh) Dunal**

Utah: Kane Co., Four Mile Bench, NDA 4321. Locally common.

***Gutierrezia microcephala* (DC.) Gray**

Arizona: Coconino Co., 8 miles southeast of Page, NDA et al. 3245. Utah: Garfield Co., Escalante Canyon, Beck 120. Kane Co., Tibbet Spring, NDA & DK 3414. Common.

***Gutierrezia sarothrae* (Pursh) Britt. & Rusby**

Utah: Garfield Co., Escalante Canyon, Beck 137. Pet Hollow, NDA 4326. San Juan Co., Navajo Mt., Gentry & Davidse 1971. Common at higher and middle elevations.

***Haplopappus acaulis* (Nutt.) Gray**

Utah: Garfield Co., 1.3 miles south of Cannonville, Reveal et al. 750. Kane Co., Cockscomb, NDA 3621; Cockscomb, NDA 3584; Buckskin Gulch, SLW 5314. Common.

***Haplopappus acradenius* (Greene)**

Blake Goldenweed

Arizona: Coconino Co., Lee's Ferry, Clover and Jotter (1941).

***Haplopappus armerioides* (Nutt.) T. & G.**

Utah: Garfield Co., Bryce Canyon, Cottam 4357. Kane Co., Smoky Mt., RA 20; 51 miles south of Escalante, NDA 517; Four Mile Bench, SLW & JRM 12404. Locally common.

***Haplopappus drummondii* (T. & G.) Blake**

Arizona: Coconino Co., Lee's ferry, NDA 6392. Utah: Kane Co., Kane Creek along Colorado River, Buss s. n., 1935; Hole-in-the-Rock, Beck 140; Cottonwood Wash road, SL & SLW 9417; Tibbet Canyon, NDA & DK 3331; Wahweap Creek, NDA et al. 4299. San Juan Co., east of confluence

of the San Juan, NDA & RA 3188. Locally common; canyon bottoms.

***Haplopappus scopulorum* (Jones) Blake**

Utah: San Juan Co., Ribbon Canyon, NDA 4100; Navajo Mt., NDA & DK 3394. Uncommon to rare; threatened (Welsh et al., 1975).

***Helenium hoopesii* Gray** Sneezeweed

Utah: Garfield Co., north of Escalante, McArthur & Beck 188. Uncommon; higher elevations.

***Helianthella parryi* Gray**

Utah: San Juan Co., Navajo Mt., NDA et al. 3001; do, Gentry & Davidse 1788. Rare.

***Helianthus anomalus* Blake** Sunflower

Utah: Garfield Co., Escalante, Beck & Tanner s. n. Kane Co., Dry Rock Creek, SLW & NDA 11615; Escalante Canyon, SLW & GM 11822; Willow Springs south of Escalante, Harrison 9099. Uncommon; sandy drainages and dunes.

***Helianthus petiolaris* Nutt.**

Arizona: Coconino Co., 9.3 miles south of Page, NDA et al. 3347. **Utah:** Garfield Co., Escalante Canyon, McKnight & Beck 201; Cannonville, SLW 9413. Kane Co., 3.3 miles north of Paradise Estates, NDA & RA 2676. San Juan Co., Colorado Canyon, 2 miles below Last Chance, Gaines (1960). Common.

***Heterotheca villosa* (Nutt.)**

Shinners Golden Aster

Arizona: Coconino Co., Paria Canyon, Woodruff 1124. **Utah:** Kane Co., 43 miles east of Glen Canyon City, NDA et al. 2720; Left-hand fork of Collet Wash, Woodruff 1162; 6 miles west of Glen Canyon City, NDA 2921; Cockscomb, NDA 3615; Hackberry Canyon, NDA & RA 2804; Smoky Mt., NDA et al. 3296; Cedar Mt., NDA 3129a. San Juan Co., Navajo Mt., NDA et al. 2978; Three Garden, NDA & RA 3179. 3185. Ubiquitous; common.

***Hymenopappus filifolius* Hook. var. *cine-reus* (Rydb.) Johnst.**

Utah: Kane Co., Willow Tank, Harrison 9096; 37 miles east of Glen Canyon City, NDA et al. 2710. San Juan Co., Three Garden vicinity, SLW & NDA 11664; Forbidding Canyon, SLW & NDA 11656; Navajo Mt., NDA 4149. Common.

***Hymenopappus fillifolius* Hook. var. *nudipes* (Maguire) Turner**

Utah: Garfield Co., Pet Hollow, NDA 4330; Escalante Canyon, Beck 118; Escalante, Beck & Tanner s. n. Kane Co., East Clark Bench, Harrison 12071; one mile west of Glen Canyon City, Cronquist 10159; Hole-in-the-Rock, Karren 109; Paria Canyon, Woodruff 1116; Cottonwood Wash road, NDA & RA 2773. San Juan Co., Ribbon Canyon, Lake Powell, NDA 4111. Common.

***Hymenoxys acaulis* (Pursh) Parker var. *arizonica* (Greene) Parker**

Utah: Garfield Co., 1.3 miles south of Cannonville, Reveal et al. 749; Bryce Canyon, Cottam 4356; 10 miles south of Escalante, Harrison 9121. Kane Co., Cockscomb, NDA 4633; Kaiparowits Plateau, NDA & DT 5249; Paria Townsite, SLW & NDA 9740; Buckskin Gulch, SLW 5315; Nipple Bench, NDA & RA 2812. Common.

***Hymenoxys acaulis* (Pursh) Parker var. *ivesiana* Greene**

Utah: Garfield Co., Escalante Canyon, McArthur & Beck s. n., June 1940. Kane Co., Four Mile Bench, SLW & JRM 12405; Little Valley Canyon, NDA 3523a; Dry Rock Creek, SLW & NDA 11620; Four Mile Bench, NDA 5173; Fifty Mile Spring, JRM 363; Kaiparowits Plateau, Harrison 9068. San Juan Co., Navajo Mt., Gentry & Davidse 1786; do, NDA 4150. Common.

***Hymenoxys cooperi* (Gray) Cockerell**

Utah: Garfield Co., 10 miles south of Escalante, Harrison 9122; Escalante, Stanton 873. Kane Co., Left-hand fork of Collet Wash, Woodruff 1155; 12.7 miles southeast of Cannonville, Horse Mt., north of Four Mile Bench, SLW & JRM 12783. Locally common.

***Hymenoxys richardsonii* (Hook.) Cockerell**

Utah: Garfield Co., Bryce Canyon, Cottam 2756; do, Weight s. n., 1934. Uncommon.

***Iva axillaris* Pursh**

Utah: Kane Co., Four Mile Bench, NDA 4317. Uncommon.

***Lactuca pulchella* (Pursh) Riddel**

Utah: Garfield Co., Bryce Canyon, Weight s. n. Kane Co., Four Mile Creek, SLW et al. 12587. Uncommon.

***Lactuca scariola* L.** Prickly Lettuce

Utah: Escalante Canyon, NDA 4118. Uncommon; introduced weed.

***Layia glandulosa* (Hook.) H. & A.** Tidy Tips

Arizona: Coconino Co., Cedar Mt., NDA & LCH 3825. **Utah:** Kane Co., Kane-Garfield county line, south of Escalante, NDA & DT 5299; Cedar Mt., NDA 4667. Uncommon.

***Lygodesmia grandiflora* (Nutt.)**

T. & G. Rush Pink

Utah: Garfield Co., Bryce Canyon, Cottam 2671. Kane Co., Paria River, NDA & LCH 3966; Dry Rock Creek, SLW & NDA 11618; Last Chance Bay, SLW & NDA 11599; Nipple Bench, NDA & RA 2811. Uncommon.

***Lygodesmia spinosa* Nutt.**

Utah: Garfield Co., Escalante Canyon, Beck 146. Kane Co., 30 miles east of Kanab, NDA 5586; Four Mile Bench, NDA 4305. Uncommon.

***Machaeranthera canescens* (Pursh) Gray**

Arizona: Coconino Co., between Page and Kaibito, Shaw 2643; Paria Plateau, NDA 6425. **Utah:** Kane Co., Cedar Mt., NDA 3130. Common in sandy sites.

***Machaeranthera glabriuscula* (Nutt.) Cronq. & Keck var. *confertifolia* Cronq.**

Utah: Kane Co., Four Mile Bench, NDA 5172; Horse Mt., SLW 12819. Endemic, rare, and threatened (Welsh et al., 1975).

***Machaeranthera grindelioides* (Nutt.) Shinnars**

Utah: Garfield Co., Escalante, Cottam 4400; 8 miles southeast of Escalante, Holmgren et al. 2029. Kane Co., 20 miles south of Cannonville, Christensen s. n., 8 May 1963; Collet Top, Woodruff 1153. Locally common.

***Machaeranthera linearis* Greene**

Utah: Garfield Co., Escalante Canyon, McArthur & Beck 198. Kane Co., Reflection Canyon, Lake Powell SLW 11887. Uncommon.

***Machaeranthera tanacetifolia* (H.B.K.) Nees**

Utah: Garfield Co., 20 miles southeast of Escalante, Holmgren et al. 2054. Kane Co., Cockscomb, SLW 5349; Paria River, JRM 323; Crosby Canyon, NDA 3633; 6 miles east of Glen Canyon City, SLW & NDA 9759; Sit Down Bench, Olsen 40; Paria Riv-

er, NDA & LCH 4009; Tibbet Spring, NDA et al. 4272. Common.

***Machaeranthera tortifolia* (T. & G.) Cronq.**

Arizona: Coconino Co., upstream from Lee's Ferry, NDA 4588. **Utah:** Kane Co., Smoky Mt., RA 199; 25 miles south of Escalante, Buss 80; Kaiparowits Plateau, Harrison 9072; Cottonwood Wash Road, Cronquist 10208; Last Chance Bay, SLW & NDA 11600; Nipple Creek, RA 258; Little Valley Canyon, NDA 3535; 6 miles east of Glen Canyon City, SLW & NDA 9801; Wahweap Creek, NDA 3484. Common; especially at lower elevations.

***Malacothrix glabrata* Gray**

Arizona: Coconino Co., upstream from Lee's Ferry, NDA & LCH 4035. **Utah:** Kane Co., one mile west of Glen Canyon City, Cronquist 10146; Fifty Mile Spring, JRM 362; Little Valley Canyon, NDA 3524a; Warm Creek, NDA 3719. Widespread; common.

***Malacothrix sonchioides* (Nutt.) T. & G.**

Arizona: Coconino Co., Page vicinity, SLW & NDA 9782. **Utah:** Kane Co., Willow Tank, Harrison 9101; Kodachrome Flat vicinity, Reveal et al. 800, 6 June 1967; Paria Canyon, Woodruff 1117; 13 miles west of Glen Canyon City, NDA & RA 2858; one mile west of Glen Canyon City, Cronquist 10147; 14 miles east of Glen Canyon City, RWA 198. Common.

***Oxytenia acerosa* Nutt.** Copperweed

Utah: Kane Co., Tibbet Canyon, NDA & DK 3413; Four Mile Creek, SLW et al. 12584. Common along stream courses and seeps in saline sites.

***Pectis papposa* (Harv.) Gray** Chinchweed

Arizona: Coconino Co., 9.3 miles south of Page, NDA et al. 3351. **Utah:** Kane Co., 55 miles east of Kanab, SL & SLW 9419; 3 miles south of Glen Canyon City, NDA 3129; Escalante Canyon, NDA & RA 3213. Uncommon; widespread at lower elevations.

***Perezia wrightii* Gray**

Utah: Kane Co., Nipple Bench, NDA & RA 2815; Kaiparowits Plateau, Woodruff & Meyer 1144; Dry Rock Creek, SLW & NDA 11641; Smoky Mt., NDA 5204. Along canyons; locally common.

***Petradoria pumila* (Nutt.) Greene**

Utah: Kane Co., Four Mile Bench, NDA

4307. San Juan Co., Navajo Mt., NDA 4152. Widespread; locally common in rimrock sites.

***Pluchea sericea* (Nutt.) Cov.**

Arizona: Coconino Co., Lee's Ferry, Cottam 2618; do, NDA & LCH 3815. **Utah:** Kane Co., Hole-in-the-Rock, Harrison 12115. Uncommon along the Colorado River.

***Psathyrotes pilifera* Gray**

Arizona: Coconino Co., Lee's Ferry, Cottam 2630. Rare.

***Psilostrophe sparsiflora* (Gray) A. Nels.**

Arizona: Coconino Co., Lee's Ferry, Cottam 2614; south base of Navajo Mt., NDA et al. 3006. **Utah:** Garfield Co., Escalante Canyon, Harrison 9133; Pet Hollow, NDA 4334; 8 miles southeast of Escalante, Holmgren et al. 2021. Kane Co., Cottonwood Wash, NDA & RA 2776; Paria River, NDA & LCH 3953; Four Mile Bench, SLW & JRM 12406. Common, widespread.

***Senecio douglasii* DC. var. *longilobus* (Benth.) Benson**

Utah: Kane Co., Paria River, Holmgren & Holmgren 4710; Cottonwood Wash Road, Reveal & Gentry 832; do, NDA & RA 2770. Uncommon.

***Senecio multilobatus* T. & G.**

Utah: Kane Co., Four Mile Bench, NDA 3757; head of Last Chance Canyon, SLW & JRM 12784. Uncommon.

***Senecio spartioides* T. & G.**

Utah: Garfield Co., Bryce Canyon, Weight s. n.; Escalante, Beck & Tanner s. n. Uncommon.

***Solidago canadensis* L.** Goldenrod

Utah: Kane Co., Escalante Canyon, SLW & GM 11815; Reflection Canyon, SLW & CAT 11847. San Juan Co., Rainbow Bridge, NDA & NW 3304. Local and restricted; uncommon.

***Solidago occidentalis* (Nutt.) T. & G.**

Arizona: Coconino Co., Lee's Ferry, NDA 6390. **Utah:** Kane Co., Reflection Canyon, SLW & CAT 11861. San Juan Co., east of confluence of the San Juan, NDA & RA 3175. Uncommon.

***Solidago sparsiflora* Gray**

Utah: Garfield Co., Pet Hollow, NDA 4333. Kane Co., Driftwood Canyon, SLW & GM 11781. San Juan Co., east of confluence

of the San Juan, NDA & RA 3160. Hanging gardens; locally common.

***Solidago trinervata* Greene**

Arizona: Coconino Co., Lee's Ferry, Clover and Jotter (1941). The specimen has not been seen by the present writers, and the report requires confirmation.

***Sonchus asper* (L.) Hill**

Utah: Kane Co., Escalante River, NDA & RA 3208. San Juan Co., Hanging garden, San Juan River, above the confluence, NDA 4099. Uncommon.

***Stephanomeria exigua* Nutt.** Wire Lettuce

Utah: Kane Co., Spencer Flat, southeast of Escalante, NDA 483, 16 June 1965; Church Wells, JRM 328; Paria River, north of US Highway 89, NDA & LCH 3955; do, NDA & RA 2761; NDA et al. 2739. San Juan Co., Three Garden, SLW & NDA 11674. Common.

***Stephanomeria parryi* Gray**

Utah: Kane Co., Nipple Bench, NDA & RA 2822a. Rare.

***Stephanomeria tenuifolia* (Jones) Hall**

Arizona: Coconino Co., Colorado River channel, north of Navajo Canyon, NDA & RA 3141. **Utah:** Kane Co., 3 miles south of Glen Canyon City, NDA 3134; Cottonwood Wash, 12 miles north of Highway 89, NDA & KD 3322; Head of left fork of Last Chance Canyon, NDA et al. 2701. Common; rock outcrops and talus slopes.

***Stylocline micropoides* Gray**

Arizona: Coconino Co., Lee's Ferry, NDA 4568. **Utah:** San Juan Co., Ribbon Canyon, SLW & NDA 11713. Rare.

***Taraxacum officinale* (L.)**

Wiggers

Dandelion

Utah: Kane Co., Nipple Canyon, RWA 246. Introduced, ubiquitous weed.

***Tetradymia canescens* DC.**

Utah: Kane Co., West side of Cockscomb, NDA 2924; Four Mile Bench, NDA 4068; Buckskin Gulch, NDA 6387. Locally common.

***Thelysperma subnudum* Gray**

Utah: Garfield Co., 8 miles southeast of Escalante, Holmgren et al. 2026. Kane Co., Nipple Bench, NDA & RA 2810. Uncommon.

***Townsendia annua* Beaman**

Arizona: Lee's Ferry, NDA 4578. **Utah:**

Kane Co., Tibbet Canyon, NDA 3605; Tibbet Bench, NDA & DT 5059; Wahweap Bay, NDA 3552; Grand Bench, NDA 4260. Ca 15 miles west of Glen Canyon City, NDA & T. A. 2870. Common, low elevations.

***Townsendia incana* Nutt.**

Utah: Garfield Co., Escalante, Cottam 4402; Ca 8 miles southeast of Escalante, Holmgren et al. 3020; Ca 20 miles southeast of Escalante, Holmgren et al. 2048. Kane Co., Wahweap Creek, Harrison 12087; Kaiparowits Plateau, NDA & DT 5271; Paria River Bridge, SWL & NDA 9753; Paria River, NDA & RA 2777; Glen Canyon City, Cronquist 10156; Cockscomb, SLW 5345; Paria River, NDA & LC Higgins 3968; Paria River, Woodruff 1110; 4 miles south of Cannonville, Cronquist 10082; East Clark Bench, Harrison 12300; Cottonwood Wash, NDA 3589; Cedar Mt., NDA 3114. Abundant; widespread.

***Townsendia exscapa* (Richards.) Porter**

Arizona: Coconino Co., Buckskin Mt., NDA 4943. **Utah:** Garfield Co., Bryce Canyon, Buchanan 1481 (Bryce). Uncommon.

***Townsendia minima* Eastw.**

Utah: Garfield Co., Bryce Canyon, Cottam 5672. Endemic, rare, and possibly threatened (Welsh et al., 1975).

***Vanclevea stylosa* (Eastw.) Greene**

Arizona: Coconino Co., 9.3 miles south of Page, NDA et al., 3339; Colorado River Canyon, north of Navajo Canyon, NDA & RA 3144. **Utah:** Kane Co., 6 miles east of Glen Canyon City, NDA & DK 3355; Fifty Mile Spring, JRM 375; 2 miles south of Glen Canyon City, NDA 3095; East Clark Bench, SL & SLW 9418; Cedar Mt., NDA 6009A. Abundant on sandy sites at lower elevations.

***Verbesina encelioides* (Cov.) Benth. & Hook**

Utah: Garfield Co., Bryce Canyon, Weight B-32/343 (Bryce). Uncommon.

***Viguiera annua* (Jones) Blake**

Utah: Kane Co., Tropic shale, east of Paria River, NDA & LCH 3993; do, NDA & DK 3320; Cottonwood Canyon, SL & SLW 9416. Uncommon.

***Viguiera soliceps* Barneby**

Utah: Kane Co., Tropic shale, 4 miles

north of Highway 89 along Cottonwood Wash Road, NDA & RA 2759; 20 miles east of Glen Canyon City, NDA & DT 5073; mouth of Paria Canyon, Cottonwood Wash Road, SLW 11056; do, Reveal & Gentry 833. Note: This plant is considered as endangered (Welsh et al. 1975). It is endemic to the Tropic Shale formation.

***Wyethia scabra* Hook.**

Utah: Kane Co., Willow Tank, Beck & Tanner s. n.; Hall Cave, 50 miles south of Escalante, Beck & Tanner s. n.; East Clark Bench, NDA & RA 2684. San Juan Co., Rainbow Bridge, SLW & NDA s. n. Widespread, uncommon.

***Xanthium saccharatum* Wallr.**

Utah: San Juan Co., Three Garden NDA & RA 3187, 23 Aug. 1971; do, CAT & SLW 166. Locally common.

CONVOLVULACEAE (Morning Glory Family)

***Convolvulus arvensis* L.**

Utah: Kane Co., 15 miles south of Cannonville, NDA & RA 2911. Uncommon.

***Evolvulus nuttallianus* R. & S.**

Utah: Kane Co., Paria River, NDA & LCH 3962; East Clark Bench, Harrison 12299; do, Cronquist, 10174; do, NDA & RA 2669. Uncommon.

CRASSULACEAE (Stonecrop Family)

***Sedum lanceolatum* Torr.**

Utah: San Juan Co., Navajo Mt., NDA et al. 2997; do, NDA 4184. Uncommon.

CRUCIFERAE (Mustard Family)

***Arabis fendleri* (Wats.) Greene**

Arizona: Coconino Co., Buckskin Mt., NDA 4941. **Utah:** San Juan Co., Navajo Mt., NDA 4179. Common.

***Arabis holboellii* Hornem.**

Utah: Kane Co., Kaiparowits Plateau, Harrison 9056. Uncommon.

***Arabis lignifera* A. Nels.**

Utah: Kane Co., Four Mile Bench, NDA 5167; west of Cockscomb, NDA 4611. Uncommon.

***Arabis pendulina* Greene**

Utah: Garfield Co., Four miles southwest

Smoky Mt., RWA 167; Fifty Mile Spring, JRM 368; Cedar Mt., NDA et al. 1746. Common and widespread.

Lepidium montanum Nutt. var. *integri-folium* (Nutt.) C. L. Hitchc.

Arizona: Coconino Co., Lee's Ferry, NDA 6391. Uncommon.

Lepidium montanum Nutt. var. *jonesii* (Rydb.) C. L. Hitchc.

Arizona: Coconino Co., Cedar Mt., RWA 170. Utah: Kane Co., 20 miles south of Cannonville, Christensen s.n.; Willow Tank, Harrison 9028; do, White 112; Tibbet Canyon, NDA 3444; Nipple Canyon, RWA 244; Collet Canyon, Woodruff 1159; Paria River, NDA & LCH 3975. Common and widespread.

Lepidium perfoliatum L.

Utah: Kane Co., Nipple Bench vicinity, LCH & NDA 5244; Cockscomb, NDA 3617. Uncommon, introduced weed.

Lesquerella intermedia (Wats.) Heller

Arizona: Coconino Co., Cockscomb, NDA et al. 3008. Uncommon.

Lesquerella kingii Wats. ssp. *latifolia* (A. Nels.) Rollins & Shaw

Utah: Garfield Co., Canyon above Tropic, Jones 5312d (US); Bryce Canyon, Weight s.n., 1932 (US).

Lesquerella ludoviciana (Nutt.) S. Wats.

Utah: Garfield Co., Ca 6 miles southeast of Escalante, Karren 121. Uncommon.

Lesquerella rectipes Woot. & Standl.

Arizona: Coconino Co.; Cockscomb, NDA & RA 2887; do, NDA 3064. Utah: Kane Co., Last Chance Creek, NDA 3749; Cockscomb, NDA 3580. San Juan Co., Navajo Mt., NDA 4139. Common.

Lesquerella rubicundula Rollins.

Utah: Garfield Co., Bryce Canyon, observed but not collected (see Reveal 1970); rare and threatened (Welsh et al., 1975).

Lesquerella tumulosa (Barneby) Reveal

Utah: Kane Co., 6.5 miles southeast of Cannonville, SLW 12765. Endemic, rare, and threatened (Welsh et al., 1975).

Lesquerella wardii Wats.

Utah: Kane Co., Four Mile Bench, SLW & NDA 12379. Uncommon.

Malcolmia africana (L.) R. Br.

Arizona: Coconino Co., Colorado River Canyon, between Glen Canyon Dam and

Lee's Ferry, NDA & LCH 4029. Utah: Kane Co., Paria River, NDA & LCH 3963. Uncommon to very common introduced weed.

Nasturtium officinale R. Br.

Arizona: Coconino Co., Paria primitive area, Woodruff 1133. Rare; watercress.

Physaria chambersii Rollins

Utah: Kane Co., Last Chance Creek, NDA 3748; Horse Mt., SLW & NDA 12373; Paria River, NDA & LCH 3980; Warm Creek RWA 116; Brigham Plains NDA et al. 3490; Buckskin Gulch 5318. Common.

Physaria newberryi Gray

Utah: Garfield Co., Bryce Canyon, Burkey 138; 6 miles north of Escalante, White 145. Kane Co., Kaiparowits Plateau, JRM 403. Common.

Schoenocrambe linifolia (Nutt.) Greene

Utah: Kane Co., Smoky Mt., Cronquist 10018; Paria Townsite, SLW & NDA 9734; Last Chance Creek, NDA et al. 3514; Kaiparowits Plateau, Olson 41; do, NDA & DT 5238; Smoky Mt., NDA 3441; do, RWA 132; Cockscomb, NDA 4623. Common; widespread.

Sisymbrium altissimum L.

Utah: Kane Co., Buckskin Mt., NDA 4651. Uncommon.

Stanleya pinnata (Pursh) Britt.

Utah: Garfield Co., 6 miles southeast of Escalante, NDA 466; Escalante, Cottam 4422. Kane Co., 50 miles southeast of Escalante, Beck s.n.; Paria Townsite, SLW & NDA 9722; 31 miles east of Glen Canyon City, NDA et al. 2696; Kaiparowits Plateau, Woodruff 1146. San Juan Co., San Juan River Canyon, east of the confluence, NDA 4087. Common selenophyte; widespread.

Streptanthella longirostris (Wats.) Rydb.

Arizona: Coconino Co., Colorado River between Lee's Ferry and Glen Canyon Dam, NDA 4592; 4 miles southeast of Page, RWA 235. Utah: Kane Co., Warm Creek SLW & NDA 9798; Nipple Bench vicinity, Cronquist 10015; East Clark Bench, Harrison 12074; 4 miles east of Glen Canyon City, RWA 118; Smoky Mt., RWA 130; Willow Tank, Harrison 9091; 2 miles south of Cannonville, Reveal et al. 779. Common; widespread.

***Streptanthus cordatus* Nutt.**

Utah: Kane Co., Grand Bench, NDA 3533; Kaiparowits Plateau, NDA & DT 5281; Five Mile Mt., NDA 4640. Common.

***Thelypodium integrifolium* (Nutt.) Endl.**

Utah: Kane Co., head of Last Chance Canyon, SLW et al. 12597; Lake Powell, NDA 3137. San Juan Co., San Juan River, east of the confluence, NDA & RA 3150. Uncommon.

***Thelypodium sagittatum* (Nutt.) Endl. var. *ovalifolium* (Rydb.) Welsh & Reveal**

Utah: Garfield Co., Bryce Canyon, Eastwood & Howell 766 (CAS), fide Al-shebaz (1973). Uncommon.

***Thlaspi arvense* L.**

Utah: Kane Co., Bryce Canyon, NDA 6125. Introduced weed; uncommon.

***Thlaspi montanum* L.**

Utah: Garfield Co., Death Ridge, NDA 5183. High elevations; uncommon.

CUPRESSACEAE (Cypress Family)

***Juniperus communis* L.**

Utah: Garfield Co., Bryce Canyon, Burkey 128, San Juan Co., Navajo Mt., NDA 4181. Uncommon; higher elevations.

***Juniperus osteosperma* (Torr.) Little**

Arizona: Coconino Co., 8 miles southeast of Page, NDA et al. 3246. Utah: Garfield Co., Escalante, Beck & Tanner s.n. Kane Co., Kaiparowits Plateau, Harrison 9079; 6 miles east from Glen Canyon City, SLW & NDA 9806; Four Mile Bench, SLW & ERW 12368; Nipple Canyon, RWA 259. San Juan Co., Navajo Mt. NDA et al. 3004; Ribbon Garden, SLW & NDA 11708. Common at middle elevations.

***Juniperus scopulorum* Sarg.**

Utah: Kane Co., Canaan Peak vicinity, common but not collected; San Juan Co., Navajo Mt., NDA et al. 2981. Middle elevations.

CUSCUTACEAE (Dodder Family)

***Cuscuta cephalanthii* Engelm.**

Utah: Kane Co., Hole-in-the-Rock, Beck 138. Rare.

CYPERACEAE (Sedge Family)

***Carex curatorum* Stacey**

Utah: San Juan Co., Three Garden, SLW 12425. New Utah Record; rare and threatened (Welsh et al., 1975).

***Carex douglasii* Britt.**

Utah: Garfield Co., Bryce Canyon, Buchanan 66. (Bryce). Uncommon.

***Carex eleocharis* Bailey**

Utah: Garfield Co., Bryce Canyon, Burkey 144. Uncommon.

***Carex garberi* Fern.**

Utah: Kane Co., Little Valley Canyon, SLW & NDA 11613; San Juan Co., Ribbon Garden, SLW & NDA 11714. Local in hanging gardens.

***Carex kelloggii* Boott**

Utah: San Juan Co., Mystery Canyon, Gaines (1960).

***Carex haydeniana* Olney**

Utah: Garfield Co., Escalante Canyon, Cottam 4426. Uncommon.

***Carex lanuginosa* Michx.**

Utah: Kane Co., Hole-in-the-Rock, Harrison 12121. Uncommon.

***Carex nebraskensis* Dewey**

Utah: Garfield Co., Escalante Canyon, Cottam 4377. Uncommon

***Carex rossii* Boott.**

Utah: San Juan Co., Navajo Mt., NDA 4161. Uncommon.

***Carex scirpiformis* Mack.**

Utah: Kane Co., Hd. Mill Fk., east fork of Sevier River, Lewis s.n. Uncommon.

***Carex vesicaria* L.**

Utah: San Juan Co., Escalante Canyon, NDA 4124. Uncommon.

***Cladium californicum* (Wats.) O'Neill**

Utah: Kane Co., Driftwood Canyon, SLW & NDA 11709; do, SLW & GM 11780; Hidden Passage Canyon, SLW & CAT, 11870; San Juan Co., Utah, Wilson Creek, SLW & CAT 11874. Rare and threatened (Welsh et al., 1975).

***Cyperus schwenitzii* Torr.**

Arizona: Coconino Co., Cockscomb, NDA et al. 3009a, do, NDA, 3070. Uncommon.

***Eleocharis palustris* (L.) R. & S.**

Utah: Garfield Co., Escalante River, Beck s.n. Kane Co., Cottonwood Wash, Reveal et al. 820; Willow Tank, Beck s.n. Locally abundant.

***Eleocharis rostellata* Torr.**

Utah: San Juan Co., Three Garden, SLW & NDA 11669; do, SLW 112437. Local and uncommon.

***Fimbristylis puberula* (Michx.) Vahl**

Utah: Kane Co., north of Iceberg Canyon, NDA & NW 3311. Uncommon.

***Fimbristylis thermalis* Wats.**

Utah: Kane Co., north of Iceberg Canyon, NDA & NW 3311; Long Garden, Escalante River, SLW & CAT 11873. Rare. Uncommon.

***Scirpus acutus* Muhl.**

Utah: Kane Co., Paradise Canyon, Welsh et al. 12601, Escalante Canyon, NDA 4223; first hanging garden mouth of Escalante River, SLW & GM 11814. Uncommon.

***Scirpus americanus* Pers.**

Arizona: Coconino Co., Paria River, NDA 4008; do. **Utah:** Kane Co., Ca .6 miles south of Nipple Spring, NDA & RA 2831; do, Four Mile Bench, NDA 4310; Paradise Canyon, SLW et al. 12595; Willow Tank, Harrison 9105; Cottonwood Wash Spring, Revea et al. 822.

***Scirpus paludosus* A. Nels.**

Utah: Kane Co., Tibbet Spring, NDA & Kaneko 3415. Rare.

ELAEAGNACEAE (Oleaster Family)

***Elaeagnus augustifolia* L.** Russian Olive

Utah: Kane Co., 16 miles north of gravel pit in Wahweap Creek, NDA 3471. Introduced weedy tree.

***Shepherdia argentea* (Pursh)**

Nutt. Silver Buffaloberry

Utah: Garfield Co., 3 miles north of Escalante, Maguire s.n., Kane Co., Head of Last Chance Canyon, NDA et al. 3508. Uncommon.

***Shepherdia canadensis* (L.) Nutt.**

Utah: Garfield Co., Bryce Canyon, Weight B-32/256. Rare.

***Shepherdia rotundifolia* Parry**

Utah: Garfield Co., Escalante, Cottam 4374; do, Beck & Tanner s.n. Kane Co., 50 miles south of Escalante, Beck & Tanner s.n.; 32 miles south of Escalante, Cronquist 10029; 6 miles southeast of Canaan Peak, SLW & NDA 12370; Paria Townsite, Patton 124; do, SLW & NDA 9723; Kaiparowits Plateau, JRM 397; do, Harrison 9078; do, NDA & DT 5294; 20 miles south of Cannonville, Christensen s.n., Paria River, NDA & LCH 4002; 31.5 miles east of Glen Canyon City, NDA et al. 2704; 10 miles southeast of Cannonville, NDA et al. 3505b; 8 miles south of Paria, Harrison 12048. Abundant to common; widespread.

EPHEDRACEAE (Jointfir Family)

***Ephedra cutleri* Peebles**

Arizona: Coconino Co., one mile east of Page, NDA & LCH 4019; 4 miles southeast of Page, RWA 215. **Utah:** Kane Co., Last Chance Bay, Lake Powell, SLW & NDA 11607, 20 miles east of Glen Canyon City, NDA 4061; 7 miles southeast of Glen Canyon City, RWA 227; one mile west of Glen Canyon Dam, NDA 3573.

***Ephedra torreyana* Wats.**

Arizona: Coconino Co., Colorado river Canyon, between Glen Canyon Dam and Lee's Ferry, NDA & LCH 4041. **Utah:** Garfield Co., 8 miles southeast of Escalante, Holmgren et al. 2037. Kane Co., Wahweap Creek, Harrison 12100; Warm Creek vicinity, Lake Powell, NDA 3721; East Clark Bench, NDA & RA 2689; Gunsight Bay, Lake Powell, SLW & NDA; Paria River, NDA & LCH 4016, Hole-in-the-Rock, Harrison 12141. Widespread; common.

***Ephedra viridis* Coville** Green Mormon-Tea

Utah: Garfield Co., Escalante, Cottam 4380; 28 miles southeast of Escalante, Harrison 9119. Kane Co., Willow Tank, Paria Townsite, Olson 27; 4½ miles south of Glen Canyon City, RWA 331; Fifty Mile Spring, JRM 365; Cedar Mt., NDA et al. 2747a. San Juan Co., Ribbon Garden, SLW & NDA 11697. Abundant; widespread.

EQUISETACEAE (Horsetail Family)

***Equisetum arvense* L.**

Utah: Garfield Co., Escalante Canyon, Beck, s.n., Kane Co., Paria River, NDA & LCH 4012; Hackberry Canyon, NDA 3686, 3697. Uncommon.

***Equisetum hyemale* L.**

Utah: San Juan Co., Rainbow Bridge, SLW & NDA 11660. Uncommon.

ERICACEAE (Heather Family)

Arctostaphylos patula Greene Manzanita

Utah: Garfield Co., Bryce Canyon, White 151; do, Burkey 127; Cockscomb, NDA 3538; do, NDA 3596; Kaiparowits Plateau; Harrison 9082. Local; uncommon.

EUPHORBIACEAE (Spurge Family)

Croton texensis (Klotzsch) Muell. Arg.

Arizona: Coconino Co., Paria Plateau, NDA 6411. **Utah:** Kane Co., 6 miles east of Glen Canyon City, NDA & DK 3359; Glen Canyon City vicinity, NDA 2915; Halls Creek Bay, Lake Powell, SLW & GM 11795; Warm Creek Bay, NDA, 3288a; Paria Primitive Area, NDA & RA 2860. Common; sandy sites at low elevations.

Euphorbia albomarginata T. & G.

Utah: Garfield Co., Escalante Canyon, Harrison 9124. Kane Co., Cedar Mt., RWA 441. Uncommon.

Euphorbia fendleri T. & G.

Arizona: Coconino Co., mile 6 A on Lake Powell, NDA 3700. **Utah:** Garfield Co., 8 miles southeast of Escalante, Holmgren et al. 2020; Escalante, Beck & Tanner s.n. Kane Co., Willow Tank, Beck & Tanner s.n.; Ahlstrom Point road, NDA & RA 2894; Kaiparowits Plateau, Woodruff 1148; head of Last Chance Canyon, Cronquist 10027; 4 miles south of Cannonville, Reveal et al. 786. Common.

Euphorbia glyptosperma Englem.

Arizona: Coconino Co., Paria Plateau, NDA & GM 4278. **Utah:** Kane Co., Cedar Mt., NDA 3100. Uncommon.

Euphorbia nephradenia Barneby

Utah: Kane Co., Cottonwood Wash Road, 5.4 miles north of U.S. 89, Reveal and Gentry 834; Paria Primitive Area, NDA & RA 2865; 6 miles south of confluence of Cottonwood Canyon, SLW 11059. Endemic, rare, and threatened (Welsh et al., 1975).

Euphorbia robusta (Englem.) Small

Utah: Kane Co., Kaiparowits Plateau, Harrison 9037a, 9042; do, NDA & DT 5231. Uncommon.

Reverchonia arenaria Gray.

Arizona: Coconino Co., Paria Plateau, NDA 6426. **Utah:** Kane Co., Cedar Mt.,

NDA 3128; Glen Canyon City vicinity, NDA 2920. Rare.

FAGACEAE (Beech Family)

Quercus gambelii Nutt.

Arizona: Coconino Co., Paria Plateau, NDA & GM 4293. **Utah:** Kane Co., Hackberry Canyon, NDA 3689; Kaiparowits Plateau, NDA & DT 5267; Escalante River, SLW & GM 11820; Hole-in-the-Rock, Harrison 12732; do, Harrison 12134; Reflection Canyon, SLW & CAT 11854; Escalante River, NDA 4119. San Juan Co., confluence of San Juan Canyon, NDA 4093; Three Garden, SLW & NDA 11684. Common in canyons, and on higher mountain slopes.

Quercus turbinella Greene

Arizona: Coconino Co., Paria Plateau, NDA & G. Moore 4398. **Utah:** San Juan Co., Three Garden, SLW & NDA 11684. Rare.

Quercus undulata Torr.

Utah: Kane Co., Dance Hall Rock, JRM 381, 382; 50 miles south of Escalante, Beck & Tanner s.n.; Willow Tank, Beck & Tanner s.n. do, Harrison 9087; Escalante Canyon, SLW & GM 11825, 11826; do, NDA 4220; 60 miles south of Escalante, Harrison 12723; Hole-in-the-Rock, White 125; Cockscomb, NDA 3544; do, SLW 5334. Common.

FUMARIACEAE (Fumitory Family)

Corydalis aurea Willd.

Arizona: Coconino Co., Paria Plateau, NDA & LCH 3774. **Utah:** Kane Co., Brigham Plains, NDA et al. 2489. San Juan Co., Navajo Mt., NDA 4138. Widespread; uncommon.

GENTIANACEAE (Gentian Family)

Centaurium exaltatum (Griseb.) Wight

Utah: Kane Co., head of Last Chance Canyon, SLW et al. 12593; San Juan Co., Three Garden, SLW & CAT 11866. Rare.

Frasera albomarginata Wats.

Utah: Garfield Co., Escalante, Cottam 4403. Kane Co., 45 miles east of Glen Canyon City, NDA et al. 2728; Four Mile Bench, NDA 4070; Brigham Plains, NDA &

RA 2786; 25 miles southeast of Escalante, Holmgren et al. 2063. Uncommon.

***Frasera paniculata* Torr.**

Utah: Kane Co., East Clark Bench, NDA & RA 2687; do, NDA & RA 2876. Rare.

***Gentiana affinis* Griseb.**

Utah: Kane Co., Wahweap Creek, Four Mile Bench, SLW 12572. Rare.

***Gentianella tortuosa* (Jones) Gillett**

Utah: Garfield Co., Bryce Canyon, Cottam 2765; do Weight s.n. Rare.

GERANIACEAE (Geranium Family)

***Erodium cicutarium* (L.L) L'Her. Storksbill**

Utah: Kane Co., Cockscomb, NDA 3628; Little Valley, NDA 3431; Kaiparowits Plateau, NDA & DT 5274. Introduced weed; widespread and locally abundant.

***Erodium texanum* Gray**

Arizona: Coconino Co., Lee's Ferry, Cottam 10004.

***Geranium marginale* Rydb.**

Utah: Garfield Co., Bryce Canyon, Buchanan 1716 (Bryce). Rare and possibly threatened (Welsh et al., 1975).

***Geranium richardsonii* Fisch & Trautv.**

Utah: Garfield Co., Escalante Canyon, VanCott 982. Kane Co., between Death Ridge & Canaan Peak, SLW et al. 12590. Uncommon.

GRAMINEAE (Grass Family)

***Agropyron caninum* (L.) Beauv. var. *andinum* (Scribn. & Sm.) C.L. Hitchc.**

Utah: Garfield Co., 15 miles southeast of Escalante, Hall 13569. Uncommon.

***Agropyron caninum* (L.) Beauv. var. *latiglume* (Scribn. & Sm.) C.L. Hitchc.**

Utah: Garfield Co., 15 miles southwest of Escalante, Hall 13604; Bryce Canyon, Boyle 1141. Uncommon.

***Agropyron cristatum* (L.)**

Gaertn. Crested Wheatgrass

Utah: Garfield Co., 15 miles southwest of Escalante, Hall 13571. Introduced forage grass.

***Agropyron dasystachyum* (Hook.) Scribn.**

Utah: Garfield Co., Escalante Canyon, Beck s.n. Uncommon.

***Agropyron intermedium* (Host.) Beauv.**

Utah: Kane Co., east of Kanab; NDA 3279A. Introduced forage grass.

***Agropyron repens* (L.) Beauv. Quackgrass**

Utah: Kane Co., Last Chance Canyon, east of Four Mile Bench, SLW et al. 12595. Uncommon.

Agropyron smithii

Rydb.

Western Wheatgrass

Utah: Garfield Co., 15 miles southwest of Escalante, Hall 13575; Bryce Canyon, Boyle 1142; do, Cottam & Hutchings 2773. Common at middle elevations.

***Agropyron spicatum* (Pursh) Scribn. & Sim.**

Utah: Garfield Co., 15 miles southeast of Escalante, Hall 13561. Kane Co., Kaiparowits Plateau, NDA & DT 5251. Uncommon.

***Agrostis alba* L.**

Utah: Garfield Co., 15 miles southwest of Escalante, Hall 13560. Kane Co., Four Mile Bench, SLW et al. 12588; do, NDA 4313. Locally abundant.

***Agrostis semiverticillata* (Forsk.) C. Christ.**

Utah: Kane Co., Hole-in-the-Rock, Harrison, 12136; Escalante River, SLW & GM 11823; do, NDA 4120, 4130. San Juan Co., Ribbon Canyon, NDA 4104. Widespread; canyon bottoms.

***Andropogon barbinodis* Lag.**

Utah: Kane Co., Escalante River, NDA 4219; 2 miles north of confluence of San Juan and Colorado canyons, SL & SLW 11881. San Juan Co., Rainbow Bridge, NDA 4356; east of San Juan confluence, NDA & RA 3165. Uncommon.

***Andropogon glomeratus* (Walt.) B. S. P.**

Utah: Kane Co., Hole-in-the-Rock, Harrison 12131; Reflection Canyon, SLW 11889; east of San Juan confluence, NDA & RA 3161. Rare and threatened (Welsh et al., 1975).

***Andropogon hallii* Hack.**

Utah: Kane Co., Reflection Canyon, observed but not collected (SLW). Uncommon.

***Aristida adscensionis* L.**

Arizona: Coconino Co., Cockscomb NDA & DK 3381. Uncommon.

***Aristida arizonica* Vasey**

Utah: Kane Co., NDA 3131. Rare.

***Aristida fendleriana* Steud.**

Utah: Kane Co., Escalante River, NDA & RA 3201; Dry Rock Creek, Lake Powell,

SLW & NDA 11637; Willow Tank, Harrison 9110; Cottonwood Wash, NDA & RA 2774. San Juan Co., east of San Juan confluence, NDA et al. 3227. Common.

***Aristida glauca* (Nees) Walt.**

Utah: Garfield Co., Escalante Canyon, Harrison 9130. Kane Co., 35 miles southeast of Escalante, Harrison 9116; Gunsight Bay, Lake Powell, SLW & NDA 11596; Rainbow Bridge SLW & NDA 11654; Hole-in-the-Rock, Harrison 12143; Willow Tank, Beck & Tanner s.n. San Juan Co., east of the San Juan confluence, NDA 4095; confluence of the San Juan, SLW 11935. Common.

***Aristida longiseta* Steud.**

Arizona: Coconino Co., Colorado River Canyon north of Navajo Canyon, NDA & RA 3140. **Utah:** Garfield Co., Escalante Desert, Beck s.n. Kane Co., Dry Rock Creek, Lake Powell, SLW & NDA 11622; Cedar Mt., NDA 3127; Cockscomb, JRM 335. Common.

***Bouteloua aristidoides* (H.B.K.) Girseb.**

Utah: Kane Co., Cedar Mt., NDA et al. 3254. Rare.

***Bouteloua barbata* Lag.**

Arizona: Coconino Co., Navajo Canyon, NDA & RA 3221. **Utah:** Kane Co., East Clark Bench, NDA & DK 3373. Locally common.

***Bouteloua curtipendula* (Michx.) Torr.**

Arizona: Coconino Co., Colorado River Canyon, north of Navajo Canyon, NDA & RA 3138. **Utah:** Kane Co., 6 miles east of Glen Canyon City, NDA & DK 3354; Dry Rock Creek, Lake Powell, SLW & NDA 11621. San Juan Co., east of San Juan confluence, NDA 4269; San Juan confluence, SLW 11934. Uncommon.

***Bouteloua eriopoda* Torr.**

Arizona: Coconino Co., Colorado River Canyon, north of Navajo Canyon, NDA & RA 3139; Paria Plateau, NDA 6423. **Utah:** Kane Co., Cedar Mt., NDA et al. 32521 do, NDA 3104, do, NDA et al. 2961; Nipple Bench, NDA & DK 3327; East Clark Bench, NDA & DT 3363. Common at lower elevations.

***Bouteloua gracilis* (H.B.K.) Lag.**

Arizona: Coconino Co., 6 miles south of Page, NDA et al. 3238; Paria Plateau, NDA 6422; Cockscomb, NDA & DK 3385. **Utah:**

Kane Co., Cedar Mt., RWA 179; do, NDA et al. 3251; do, NDA 3133. Common.

***Bromus anomalus* Rupr.**

Utah: Garfield Co., Bryce Canyon, Buchanan 54; do, Weight s.n. Uncommon.

***Bromus carinatus* Hook. & Arn.**

Utah: Kane Co., Paria River, LCH & NDA 5393; do, NDA 4004. Uncommon.

***Bromus inermis* Leyss.**

Utah: Garfield Co., Bryce Canyon, Boyle 1130. Introduced forage grass.

***Bromus marginatus* Nees**

Utah: Garfield Co., Escalante Canyon vicinity, Harrison 9147. Kane Co., Cottonwood Wash, NDA 3688. Uncommon.

***Bromus porteri* (Coulter) Nash**

Utah: Garfield Co., 15 miles southwest of Escalante, Hall 13584; Bryce Canyon, Weight s.n.; do, Boyle 1139. Uncommon.

***Bromus rigidus* Roth**

Utah: San Juan Co., Rainbow Bridge, SLW & NDA 11655. Uncommon.

***Bromus rubens* L.**

Arizona: Coconino Co., Colorado Canyon, between Lee's Ferry and Glen Canyon Dam, NDA 4594. **Utah:** Kane Co., Wahweap Creek, Harrison 12097; Little Valley Canyon, NDA et al. 2716; Fifty Mile Spring, JRM 374; Kaiparowits Plateau, Bingham 32. San Juan Co., Three Garden, SLW et al. s.n. Warm Creek, Olson 31; Dry Rock Creek, Lake Powell, SLW & NDA 11629. Abundant.

***Bromus tectorum* L.**

Arizona: Coconino Co., Colorado Canyon, between Lee's Ferry and Glen Canyon Dam, NDA & LCH 4040. **Utah:** Kane Co., 50 miles south of Escalante, Beck & Tanner s.n.; Paria River, NDA & LCH 3995; Little Valley Canyon, NDA & SLW 2717A; Kaiparowits Plateau, NDA & DT 5255. San Juan Co., Rainbow Bridge, SLW & NDA 11651; Navajo Mt., NDA 4147. Abundant.

***Calamagrostis scopulorum* Jones**

Utah: Garfield Co., Bryce Canyon, Boyle 1153; Kane Co., Last Chance Canyon, NDA et al. 2702. San Juan Co., Rainbow Bridge, NDA & NW 3300; east of San Juan confluence, NDA & RA 3164. Local and uncommon.

***Dactylis glomerata* L.**

Orchard Grass

Utah: Kane Co., Bryce Canyon, Boyle

1133; Grand Bench, NDA 4262. Introduced forage grass.

***Distichlis stricta* (Torr.) Rydb.**

Utah: Kane Co., Hole-in-the-Rock, Harrison 12126; Paria Primitive area, NDA & RA 2875A. Widespread in saline sites at lower elevations.

***Elymus canadensis* L.**

Utah: Kane Co., Escalante Canyon, NDA 4260, 4209; mile 47, Lake Powell, NDA et al. 3224. San Juan Co., Three Garden, SLW & CAT 11867; Ribbon Canyon, NDA 4110. Widespread; uncommon.

***Elymus salina* Jones**

Utah: Garfield Co., Bryce Canyon, Harrison 11044; Escalante Mts., Stanton 773; 15 miles southwest of Escalante, Hall s.n.; Kane Co., Kaiparowits Plateau, NDA & DT 5252. Widespread; uncommon.

***Elymus triticoides* Buckl.**

Utah: San Juan Co., Ribbon Garden, SLW & NDA 11695. Rare.

***Festuca elatior* L.**

Utah: Garfield Co., Bryce Canyon, Weight s.n.; 15 miles southwest of Escalante, Hall 13596. Introduced forage grass.

***Festuca octoflora* Walt.** Six-weeks Fescue

Arizona: Coconino Co., 4 miles southeast of Page, RWA 233; Colorado Canyon, between Lee's Ferry and Glen Canyon Dam, NDA 4596; 1 mile west of Glen Canyon Dam, NDA 3446. **Utah:** Kane Co., Kaiparowits Plateau, Harrison 9036; 14 miles east of Glen Canyon City, RWA 336; Cedar Mt., RWA 340; Grosvenor Arch, Reveal et al. 806. San Juan Co., Three Garden, SLW & NDA 11700; do, SLW 11900. Abundant.

***Glyceria elata* (Nash) Hitchc.**

Utah: Kane Co., Brigham Plains, NDA & RA 2796. Rare.

***Glyceria striata* (Lam.) Hitchc.**

Utah: Garfield Co., northeast of Escalante, Harrison 12345. Rare.

***Hilaria jamesii* (Torr.) Benth.** Galleta

Arizona: Coconino Co., Cockscomb, NDA & RA 2882. **Utah:** Garfield Co., 50 miles south of Escalante, Beck & Tanner s.n. Kane Co., Willow Tank, Beck & Tanner s.n.; Cedar Mt., NDA 3127A; do, RWA 178; Wahweap Bay, NDA 3554; 14 miles east of Glen Canyon City, RWA 317; Nipple Canyon, RWA 251; Dance Hall

Rock, JRM 383; Hole-in-the-Rock, Harrison 12118; Willow Tank, Harrison 9084; Kaiparowits Plateau; Bingham 33, Dry Rock Creek, Lake Powell, SLW & NDA 11636; East Clark Bench, NDA & DK 3369; Warm Creek Olsen 33; Halls Creek Bay, Lake Powell, SLW & GM, 11790; Gunsight Bay, Lake Powell, SLW & NDA 11594; Sit Down Bench, Patton 117, Paria Townsite, JRM 320. Abundant.

***Hordeum glaucum* Steud.**

Utah: Kane Co., Paria Townsite, JRM 315. Rare.

***Hordeum jubatum* L.**

Utah: Garfield Co., Escalante, Beck & Tanner s.n. Locally common.

***Imperata brevifolia* Vasey**

Utah: San Juan Co., Wilson Creek, Lake Powell, SLW 12356, 12356a. Rare, endangered, or possibly extinct (Welsh et al., 1975).

***Koeleria nitida* Nutt.**

Utah: Garfield Co., Bryce Canyon, Boyle 1144; 15 miles southwest of Escalante, Hall 13588; 18 miles southwest of Escalante, Hall 13577. Uncommon.

***Muhlenbergia andina* (Nutt.) Hitchc.**

Utah: Kane Co., Escalante River, NDA 4226; Four Mile Creek, SLW et al. 12578a; Paradise Canyon, SLW et al. 12598. Uncommon.

***Muhlenbergia asperifolia* (Nees & Mey.) Parodi**

Utah: Kane Co., Tibbet Spring, NDA & DK 3416; Four Mile Creek, SLW et al. 12578. San Juan Co., east of San Juan confluence. NDA & RA 3177. Uncommon; saline seeps.

***Muhlenbergia curtifolia* Scribn.**

Utah: Kane Co., Mile 47, Lake Powell, NDA et al. 3233. Local, uncommon, and possibly threatened (Welsh et al., 1975).

***Muhlenbergia pungens* Thurb.**

Arizona: Coconino Co., between Page and Kaibito, Shaw 2648; Paria Plateau, NDA 6415. **Utah:** Kane Co., Cedar Mt., NDA 3103; Gunsight Bay, Lake Powell, SLW & NDA 11592. Common.

***Munroa squarrosa* (Nutt.) Torr.**

Arizona: Coconino Co., Paria Plateau, NDA 6421; Cockscomb, NDA 3062; Lee's Ferry, NDA 4569; 9.3 miles south of Page,

NDA et al. 3352. **Utah:** Kane Co., Cedar Mt., NDA 3103; Gunsight Bay, Lake Powell, SLW & NDA 11592. Common.

***Oryzopsis bloomeri* (Boland.) Ricker**

Arizona: Coconino Co., Lee's Ferry vicinity, NDA 5210. **Utah:** Kane Co., Kaiparowits Plateau, NDA & DT 5259; Paria Townsite, JRM 313. Rare.

***Oryzopsis hymenoides* (R. & S.) Ricker**

Arizona: Coconino Co., ca 5 miles south of Page, RWA 230. **Utah:** Kane Co., 50 miles south of Escalante, Beck & Tanner, s.n.; Cedar Mt., NDA & LCH 3827; do., NDA 3113, Hole-in-the-Rock, Harrison 12130; Willow Tank, Harrison 9086; Dance Hall Rock, JRM 384; Cottonwood Wash Road, NDA & RA 2765; Paria River, NDA & LCH 3948; Four Mile Bench, SLW & JRM 12402; Nipple Canyon, FWA 262; 14 miles east of Glen Canyon City, RWA 326. San Juan Co., Three Garden, SLW & NDA 11680. Abundant.

***Panicum capillare* L.** Witchgrass

Utah: Kane Co., Escalante Canyon, NDA & RA 3210. Rare.

***Panicum lanuginosum* Ell.**

Utah: Kane Co., canyon at mile 47, Lake Powell, NDA et al. 3232; Reflection Canyon, SLW & CAT 11852; Escalante Canyon, SLW & GM 11824; do., NDA 4123. San Juan Co., east of confluence of San Juan, NDA & RA 3162; Three Garden, SLW 12438. Local; uncommon.

***Panicum obtusum* H.B.K.**

Utah: Hole-in-the-Rock, Harrison 12133. Rare.

***Panicum virgatum* L.**

Utah: San Juan Co., east of confluence of San Juan, NDA & RA 3163; Ribbon Canyon, NDA 4104; Three Garden, SLW & CAT 11863. Rare.

***Phragmites communis* Trin.**

Utah: Kane Co., Lake Powell, NDA 3136. Widespread; locally common.

***Poa bigelovii* Vasey & Scribn.**

Utah: Kane Co., Cockscomb, NDA 4625; San Juan Co., Three Garden, SLW & NDA 11701. Rare.

***Poa canbyi* (Scribn.) Piper**

Utah: Kane Co., Kaiparowits Plateau, NDA & DT 5250. Rare.

***Poa fendleriana* (Steud.) Vasey**

Utah: Kane Co., Kaiparowits Plateau, Harrison 9041; Cockscomb, NDA 4607; do, NDA 3578; Fifty Mile Spring, JRM 372; Paria Townsite, SLW & NDA 9730; Lake Powell, 2 miles east of Warm Creek, NDA 3720; San Juan Co., Navajo Mt., NDA 4162, 4165; Ribbon Garden, SLW & NDA 11698. Common; widespread.

***Poa pratensis* L.**

Bluegrass

Utah: Garfield Co., Bryce Canyon, Boyle 1124; 15 miles southwest of Escalante, Hall 13586, 13589. Rare; Introduced lawn and forage grass.

***Poa secunda* Presl.**

Utah: Kane Co., Kaiparowits Plateau, Harrison 9052; do, NDA & DT 5255; Cockscomb, NDA 4624. Uncommon.

***Polypogon monspeliensis* (L.) Desf.**

Utah: Garfield Co., Escalante, Beck & Tanner s.n.; Kane Co., Willow Tank, Beck & Tanner s.n.; 50 miles south of Escalante, Beck & Tanner s.n.; Hole-in-the-Rock, Harrison 12110; Warm Creek, NDA & RA 2838; Tibbet Spring, NDA & RA 3417; Escalante River, NDA 4224. Common; widespread.

***Puccinellia nuttalliana* (Schult.) Hitchc.**

Utah: Garfield Co., Escalante, Stanton; 15 miles southwest of Escalante, Hall 13574. Kane Co., Paradise Canyon, SLW et al. 12594. Uncommon.

***Schismus arabicus* Nees.**

Arizona: Coconino Co., Navajo Bridge vicinity, NDA 4560. Uncommon.

***Secale cereale* L.**

Rye

Utah: Kane Co., 15 miles west of Glen Canyon City, NDA & RA 2878. Introduced weedy species.

***Setaria viridis* (L.) Beauv.**

Utah: Kane Co., east of Kanab, NDA 3277. Rare.

***Sitanion hystrix* (Nutt.) J. G. Smith**

Arizona: Coconino Co., Cockscomb, NDA 3780. **Utah:** Garfield Co., Bryce Canyon, Boyle 1129; do, Cottam & Hutchings 2751; 15 miles southwest of Escalante, Hall 13605; do, Hall 13594. Kane Co., Willow Tank, Harrison 9083; Cedar Mt., NDA et al. 2750; Cottonwood Wash road, NDA & RA 2766a; Kaiparowits Plateau, NDA & DT 5276; Paria Townsite, JRM 316; Driftwood Canyon, Lake Powell, SLW & NDA

11643; East Clark Bench, Harrison 12072; Four Mile Bench, NDA 4071; Paria River, NDA & LCH 4001; Cedar Mt., NDA & LCH 3828. San Juan Co., Navajo Mt., Gentry & Davidse 1779; do, NDA et al. 2970; Three Garden, SLW & NDA 11692. Common to abundant; widespread.

***Sorghastum nutans* (L.) Nash**

Utah: Kane Co., 2 miles north of confluence of San Juan and Colorado canyons, SL & SLW 11880. Rare.

***Sorghum halipense* (L.) Pers.** Johnson Grass

Utah: Kane Co., east of Kanab, NDA 3279. Rare.

***Sphenopholis obtusata* (Michx.)**

Scribn.

Wedgegrass

Arizona: Coconino Co., Navajo Creek, NDA 3724. **Utah:** Kane Co., Crosby Canyon, NDA & RA 2890. San Juan Co., Three Garden, SLW & NDA 11670.

***Sporobolus airoides* Torr.**

Dropseed

Utah: Kane Co., Paria Townsite, JRM 317; Cottonwood Wash road, NDA & RA 2766. Common.

***Sporobolus contractus* Hitchc.**

Arizona: Coconino Co., 9.3 miles south of Page, NDA et al. 3350A; Paria Plateau, NDA 6424. **Utah:** Garfield Co., 15 miles southwest of Escalante, Hall 13566. Kane Co., Cottonwood Wash road, NDA & DK 3323; 15 miles west of Glen Canyon City, NDA & RA 2874; Church Wells, NDA & DK 3362. Common.

***Sporobolus cryptandrus* (Torr.) Gray**

Utah: Garfield Co., 15 miles southwest of Escalante, Hall 13562, 13563. Kane Co., Cedar Mt., NDA 3112; do, NDA et al. 3249, do, NDA 3130; Four Mile Bench, SLW et al. 12586; Willow Tank, Harrison 9104; do, Beck & Tanner s.n.; Church Wells, NDA & DK 3364; Halls Creek Bay, Lake Powell, SLW & GM 11802; Wahweap Creek, NDA 3485. Common.

***Sporobolus flexuosus* (Thurb.) Rydb.**

Arizona: Coconino Co., Paria Plateau NDA, 6416; 9.3 miles south of Page, NDA et al. 3350; Colorado River Canyon north of Navajo Canyon, NDA & RA 3143. **Utah:** Garfield Co., 15 miles southwest of Escalante, Hall 13603. Kane Co., 50 miles south of Escalante, Beck & Tanner s.n.; Cedar Mt., NDA et al. 3248; Dry Rock Creek, Lake Powell, SLW & NDA 11635. San Juan

Co., east of confluence of San Juan, NDA et al. 3230. Common.

***Sporobolus giganteus* Nash**

Arizona: Coconino Co., 9.3 miles south of Page, NDA et al. 3345. **Utah:** Kane Co., Cedar Mt., NDA 3122; Church Wells, NDA & DK 3368; 6 miles northwest of Page, NDA & RA 3075. Uncommon to rare.

***Stipa arida* Jones**

Utah: Kane Co., Kaiparowits Plateau, Harrison 9060; do, NDA & DT 5298. Rare.

***Stipa comata* Trin. & Rupr.**

Utah: Kane Co., Hole-in-the-Rock, Harrison 12111; Kaiparowits Plateau, NDA & DT 5256; Cedar Mt., NDA & LCH 3826; Dry Rock Creek, Lake Powell, SLW & NDA 11642; Paria Townsite, JRM 314; Four Mile Bench, SLW & JRM 12403; Paria River, NDA & LCH 3988; Cockscomb, SLW 5337; Last Chance Bay, Lake Powell, SLW & NDA 11602. San Juan Co., Three Garden, SLW & NDA 11666; Navajo Mt., NDA 4198. Common.

***Stipa lettermanii* Vasey**

Utah: Garfield Co., 15 miles southwest of Escalante, Hall 13585. San Juan Co., Navajo Mt., NDA 4187. Uncommon.

***Stipa neomexicana* (Thurb.) Scribn.**

Utah: Kane Co., Willow Tank, Harrison 9095. Uncommon.

***Stipa scribneri* Vasey**

Utah: Garfield Co., 20 miles southeast of Escalante, Holmgren et al. 2050. Kane Co., Little Valley Canyon, NDA et al. 2715. San Juan Co., east of confluence of the San Juan, NDA 4092a. Uncommon.

***Stipa speciosa* Trin. & Rupr.**

Utah: Kane Co., Willow Tank, Harrison 9089; Dry Rock Creek, SLW & NDA 11634; Cockscomb, JRM 339. San Juan Co., Piute Canyon, NDA & DT 5349; Rainbow Bridge, SLW & NDA 11653. Common.

***Tridens pilosus* (Buckl.) Hitchc.**

Utah: Kane Co., Cockscomb, NDA 4619. Uncommon.

***Tridens pulchellus* (HBK) Hitchc.**

Arizona: Coconino Co., Lee's Ferry, Cottam & Hutchings 2602. Kane Co., Willow Tank, Harrison 9085; Nipple Canyon, NDA & RA 2835. Uncommon.

***Trisetum spicatum* (L.) Richt.**

Utah: San Juan Co., Navajo Mt., NDA 4164. Rare.

HYDROPHYLLACEAE (Waterleaf Family)

Eucrypta micrantha Torr.

Utah: Kane Co., Buckskin Mt., NDA 4648; Cockscomb, NDA 4621; do, NDA 4411. Uncommon.

Nama hispidum Gray

Utah: Kane Co., Wahweap Bay, NDA 3549; do, SLW & NDA 9770; Gunsight Bay, SLW & NDA 11584; Warm Creek, NDA 3287. Uncommon.

Nama retrorsum J. T. Howell

Utah: Kane Co., Cedar Mt., NDA et al. 3499; do, NDA 3109, Lake Powell, NDA 3694; Paria River, NDA & LCH 3994. Restricted, local, and possibly threatened (Welsh et al., 1975).

Phacelia affinis Gray

Utah: Kane Co., Cockscomb, NDA 4617. Rare.

Phacelia cephalotes Gray

Arizona: Coconino Co., Cockscomb, NDA 4924. Utah: Kane Co., Cockscomb, NDA 4663; do, NDA 4603. Restricted, local, and possibly threatened (Welsh et al., 1975).

Phacelia constancei Atwood

Utah: Garfield Co., 39 miles east of Escalante, Reveal & Reveal 2823. Edaphically restricted, local, and threatened (Welsh et al., 1975).

Phacelia corrugata A. Nels.

Arizona: Coconino Co., Colorado Canyon, between Lee's Ferry and Glen Canyon Dam, NDA 4589; Glen Canyon Dam, NDA 3450; do, SLW & NDA 9781. Utah: Kane Co., Little Valley Canyon, NDA et al. 2723; Brigham Plains, NDA & RA 2789; 15 miles south of Cannonville, NDA & RA 2908; west of Glen Canyon Dam, NDA 3567; Halls Creek Bay, Lake Powell, SLW & GM, 11793; Warm Creek, NDA 3710; East Clark Bench, Harrison 12063; 5 miles southeast of Cannonville, Reveal et al. 797; Grand Bench, NDA 3531; Dry Rock Creek, Lake Powell, SLW & NDA 11617; Gunsight Bay, Lake Powell, SLW & NDA 11587; Wahweap Bay, SLW & NDA 9771; Paria River bridge, SLW & NDA 9744; do, LCH & DA 5374; Crosby Canyon, NDA 3632; Warm Creek, NDA & RA 2842; 15 miles west of Glen Canyon City, NDA & RA 2863. Abundant.

Phacelia crenulata Torr.

Arizona: Coconino Co., Lee's Ferry, Larson & Anderson 5993. Utah: Kane Co., 10 miles northeast of Glen Canyon City, LCH & NDA 5247; Cedar Mt., NDA 3612, do, RWA 175. Tibbet Canyon, NDA 3603; 14 miles east of Glen Canyon City, RWA 211; Nipple Canyon, RWA 243; 6 miles east of Glen Canyon City, SLW 9791.

Phacelia demissa Gray var. *demissa*

Utah: Garfield Co., 1 mile east of Henrieville, NDA 1975. Kane Co., 6 miles east of Glen Canyon City, SLW & NDA 9789; Cottonwood Wash road, NDA & RA 2762; 10.5 miles east of Glen Canyon City, NDA 2634; 15 miles west of Glen Canyon City, NDA & RA 2864; 4 miles east of Glen Canyon City, NDA 2630; Warm Creek, NDA & RA 2898; 20 miles south of Escalante, Holmgren et al. 2057; Paria River, NDA & RA 3991; do, SLW 11060; do, NDA 5163. Common.

Phacelia heterophylla Pursh

Utah: San Juan Co., Navajo Mt., NDA et al. 2984; do, NDA 4143. Uncommon.

Phacelia howelliana Atwood

Utah: San Juan Co., Ribbon Garden, SLW & NDA 11702; Three Garden, SLE & NDA 11675; Piute Canyon, NDA & DT 5346. Uncommon.

Phacelia integrifolia Torr.

Arizona: Coconino Co., 4 miles south of Page, RWA 124; do, NDA 2626; Colorado Canyon, between Glen Canyon Dam and Lee's Ferry, NDA & LCH 4027; between Page and Glen Canyon Dam, SLW & NDA 9780; do, NDA 1539. Utah: Kane Co., Sit Down Bench, Patton 116; Cedar Mt., NDA 3610; do, NDA et al. 3504; 2 miles west of Glen Canyon City, NDA 3638; do, Nebeker & Skougard 182; do, Cronquist, 10170; Warm Creek, NDA 3709; Northwest of Glen Canyon dam, NDA 1536. Common.

Phacelia ivesiana Torr.

Arizona: Coconino Co., Colorado Canyon, between Lee's Ferry and Glen Canyon Dam, NDA 4591. Utah: Kane Co., Kaiparowits Plateau, NDA 1867, 1868; East Clark Bench, NDA & RA 2674; Little Valley Canyon, NDA et al. 2727; Cedar Mt., NDA et al. 2746A; do, RWA 231, 48 miles southeast of Escalante, Cronquist 10035; Paria River bridge, SLW & NDA 9758; 57 miles east of Kanab, Cronquist 10152; 25 miles southeast

of Escalante, Holmgren et al. 2065a, Ahlstrom Point road, RWA 122. San Juan Co., Three Garden SLW 11896. Common.

***Phacelia mammillariensis* Atwood**

Arizona: Coconino Co., 4 miles southeast of Page, RWA 263. **Utah:** Garfield Co., east of Henrieville, NDA 1874. Kane Co., 10 miles northeast of Glen Canyon City, LCH & NDA 5242; Cottonwood Wash, LCH & NDA 5257; 7 miles east of Glen Canyon City, NDA 2632; Warm Creek, Olsen 34; do, NDA 3597. Brigham Plains vicinity, NDA 3743; Gunsight Bay, Lake Powell, SLW & NDA 11582; 3 miles east of Glen Canyon City, NDA 2628; 16 miles east of Glen Canyon City, NDA 4553; 6 miles east of Glen Canyon City, SLW & NDA 9790. Edaphically restricted and endangered (Welsh et al., 1975).

***Phacelia rotundifolia* Torr.**

Utah: Kane Co., Cockscomb, NDA 4615 Buckskin Mt., NDA 4652. Uncommon.

***Phacelia pulchella* Gray var. *sabulonum* Howell**

Utah: Kane Co., Little Valley Canyon, NDA et al. 2720A; Cottonwood Wash road, NDA & RA 2763a; between Nipple Bench and Lake Powell, Cronquist 10012; Paria River, Cronquist 10201; Warm Creek, NDA & RA 2836; do, NDA & RA 2897; Nipple Canyon, NDA & RA 2827; Nipple Bench, NDA & RA 2809; 18 miles northeast of Glen Canyon City, LCH & NDA 5245. Common.

***Phacelia rafaensis* Atwood**

Arizona: Coconino Co., Navajo Bridge vicinity, NDA & LCH 3814; do, NDA 4563. Restricted, local and possibly threatened (Welsh et al., 1975).

IRIDACEAE (Iris Family)

***Iris missouriensis* Nutt.**

Utah: Garfield Co., Bryce Canyon, Boyle 1110. Rare.

***Sisyrinchium radicum* Bicknell**

Utah: Kane Co., Cottonwood Wash, NDA 5356; Four Mile Bench SLW & BW 12439. Rare.

JUNCACEAE (Rush Family)

***Juncus arcticus* Willd. var. *balticus* (Willd.) Trautv.**

Utah: Kane Co., southeast of Brigham Plains, NDA & RA 2797; Four Mile Bench, SLW et al. 12580; Reflection Canyon, Lake Powell, SLW & CAT 11849; Escalante Canyon, NDA 4213. San Juan Co., Rainbow Bridge, SLW & NDA 11662; east of confluence of San Juan, NDA 4667. Locally abundant.

***Juncus torreyi* Coville**

Utah: Kane Co., Four Mile Bench, SLW et al. 12577; do, NDA 4311; do, SLW et al. 12600. San Juan Co., Three Garden, SLW & CAT 11862; east of confluence of San Juan, NDA 5265. Locally common.

***Juncus tracyi* Rydb.**

Utah: Garfield Co., Bryce Canyon, Burkey 156. Kane Co., Escalante Canyon, SLW & GM 11819; do, NDA 4122; Reflection Canyon, SLW & CAT 11850; Cottonwood Wash, Reveal et al. 818. Locally common.

***Juncus xiphodes* E. Meyer**

Utah: Garfield Co., Escalante vicinity, Beck s.n., Kane Co., Wahweap Creek, NDA 4344, Four Mile Bench vicinity, SLW 12592, 12599. San Juan Co., east of confluence of San Juan, NDA 4264. Locally common.

JUNCAGINACEAE (Arrowgrass Family)

***Triglochin maritima* L.**

Utah: Kane Co., seep, on Four Mile Bench, SLW 12571. Rare.

LABIATAE (Mint Family)

***Hedeoma drummondii* Benth.**

Utah: Kane Co., Buckskin Mt., NDA 4659. San Juan Co., east of confluence of San Juan, NDA & RA 3149. This specimen is fragmentary, and it might belong to another species. Rare.

***Marrubium vulgare* L.**

Utah: Kane Co., east of Kanab, NDA 3282. Rare; introduced weed.

***Monardella odoratissima* Benth.**

Utah: San Juan Co., Navajo Mt., Gentry & Davidse 1769; do, NDA et al. 2977. Uncommon.

***Poliomintha incana* (Torr.) Gray**

Arizona: Coconino Co., Cedar Mt., NDA et al. 2753; 9 miles south of Page, RWA

229. **Utah:** Garfield Co., Escalante, Cottam 4384; 18 miles southeast of Escalante, Holmgren et al. 2043. Kane Co., Paria River, NDA & LCH 3965; 2 miles west of Glen Canyon City, Nebeker & Skougard 190; do, Cronquist 10172; Cockscomb, JRM 338; Wahweap Creek, Harrison 12091; East Clark Bench, NDA & RA 2675A; do, NDA & RA 3370; Warm Creek, NDA & RA 2843. Locally common.

***Salvia dorrii* (Kellogg) Abrams**

Utah: Kane Co., Cedar Mt., NDA et al. 2747; Cockscomb, SLW 5327; Wahweap Creek, Harrison 12090; Nipple Canyon, RWA 242. Uncommon.

LEGUMINOSAE (Legume Family)

***Albizia julibrissin* Durazz** Silk Tree

Arizona: Coconino Co., Page (cultivated), NDA et al. 3247.

***Astragalus agrestis* Nutt.**

Utah: Garfield Co., Bryce Canyon, Weight s.n. Rare.

Astragalus amphioxys* Gray var. *amphioxys

Arizona: Coconino Co., 4 miles southeast of Page, RWA 237; 5 miles southeast of Page, Nebeker & Skougard 196; 3 miles south of Wahweap Marina, SLW & NDA 9765. **Utah:** Kane Co., 14 miles east of Glen Canyon City, RWA 316; Paria River bridge, SLW & NDA 9757; East Clark Bench, Harrison 12094; Glen Canyon City vicinity, Cronquist 10145; Warm Creek Bay, CAT 173; do, NDA 3707; Wahweap Bay, NDA 3555; Cedar Mt., RWA 177; Cockscomb, SLW 5333. Common.

***Astragalus amphioxys* Gray var. *vespertinus* (Sheld.) Jones**

Arizona: Coconino Co., Buckskin Mt., NDA 4939. **Utah:** Garfield Co., 17 miles west of Escalante, SLW 1704; 0.6 miles north of Escalante, SLW 1702; 3 miles west of Tropic, Reveal et al. 743. Kane Co., 6 miles east of Glen Canyon City, SLW & NDA 9807; Cottonwood Wash road, SLW 5358; Kaiparowits Plateau, Harrison 9058; East Clark Bench, Harrison 12305; between Nipple Bench and Lake Powell, Cronquist 10012; Gunsight Bay, Lake Powell; SLW & NDA 11590; Fifty Mile Spring, JRM 345, 392; Cockscomb, NDA 4632; head of Col-

lets Wash, NDA 306, 307. Paria Townsite, SLW & NDA 9736. Common.

***Astragalus ampullarius* Wats.**

Arizona: Coconino Co., Cockscomb, NDA & RA 2880; do, NDA 4923. **Utah:** Kane Co., Cockscomb, NDA 4602; do, 4664. Rare, restricted and threatened (Welsh et al., 1975).

***Astragalus argophyllus* Nutt. var. *panguicensis* (Jones) Jones**

Arizona: Coconino Co., Buckskin Mt., NDA 4938. **Utah:** Garfield Co., Canaan Peak, NDA & DT 5315. Rare.

***Astragalus asclepiadoides* Jones**

Utah: Garfield Co., 3 miles southeast of Escalante, Holmgren et al. 2415; do, NDA 5217. Rare.

***Astragalus bisulcatus* (Hook.) Gray**

Utah: Garfield Co., 2 miles west of Escalante, Karren 125; do, SLW 1703; Alvey Wash, Death Ridge, NDA 5185; southwest of Cannonville, Reveal et al. 770. Kane Co., head of Alvey Wash, NDA 5211; Kaiparowits Plateau, Harrison 9063; do, NDA & DT 5242; head of Collets Wash, NDA 1872.

***Astragalus bryantii* Barneby**

Utah: Kane Co., Glen Canyon (Barneby, 1964). Rare and possibly extinct (Welsh, et al., 1975).

***Astragalus ceramicus* Sheld.**

Arizona: Coconino Co., Paria Plateau, LCH & NDA 5202. **Utah:** Garfield Co., 20 miles southeast of Escalante, Holmgren et al. 2046. Kane Co., Kaiparowits Plateau, Harrison 9057; Paria River bridge, SLW & NDA 9749; 12 miles west of Glen Canyon City, Cronquist 10173; East Clark Bench, NDA & RA 2681; Cottonwood Wash road, NDA & RA 2771; 4 miles south of Cannonville, Reveal et al. 785; Cockscomb, SLW 5352. Widespread; uncommon.

***Astragalus calycosus* Torr.**

Utah: Garfield Co., Bryce Canyon, 1708. Kane Co., Five Mile Mt., NDA 4646; Four Mile Bench, SLW 12754. Rare.

Astragalus coltonii* Jones var. *coltonii

Utah: Garfield Co., 3 miles northeast of Henrieville, NDA 1248. Kane Co., Kaiparowits Plateau, Harrison 9067; do, NDA 7 dt 5297; Paria Townsite, SLW & NDA 9721,

9733. Utah endemic; locally abundant on the Kaiparowits Plateau.

***Astragalus desperatus* Jones var. *conspectus* Barneby**

Utah: Garfield Co., ca 5 miles southeast of Escalante, SLW 1697; do, Isely et al. 8732; do NDA 5218. Rare and local; threatened (Welsh et al., 1975).

Astragalus desperatus* Jones var. *desperatus

Arizona: Coconino Co., between Page and Glen Canyon Dam, SLW & NDA 9775. **Utah:** Kane Co., Willow Tank, Harrison 9034; do, SLW 1693; Hole-in-the-Rock, Harrison 12145; do, White 120; Lake Powell, Warm Creek Bay, NDA 3704. Locally common.

***Astragalus emoryanus* (Rydb.) Cory**

Utah: Kane Co., Cockscomb, NDA 4629 (first Utah record). Rare and endangered (Welsh et al., 1975).

***Astragalus episcopus* Wats.**

Utah: Kane Co., Nipple Bench, NDA & RA 2817. Rare.

***Astragalus eremiticus* Sheld.**

Arizona: Coconino Co., Buckskin Mt., NDA 4927. **Utah:** Kane Co., Cockscomb, NDA 4630. Rare.

***Astragalus flavus* Nutt. var. *candicans* Gray**

Utah: Kane Co., Nipple Bench, NDA 3477; Cottonwood Wash road, NDA 3576; Cockscomb, NDA 4662; do, NDA 3630; do, Reveal et al. 835; Paria Townsite, Cronquist 10138; do, SLW & NDA 9738. Restricted to seleniferous mud or siltstone.

***Astragalus hallii* Gray var. *fallax* Barneby**

Utah: Kane Co., Buckskin Gulch, SLW 5309; Riggs Creek Canyon, NDA 6130. Rare and local; possibly threatened (Welsh et al., 1975).

***Astragalus humistratus* Gray var. *humivagans* (Rydb.) Barneby**

Utah: Garfield Co., Bryce Canyon, Weight B31/63. Kane Co., east of Grosvenor Arch, NDA 3176; Four Mile Bench, SLW & JRM 12392. Rare.

***Astragalus kentrophyta* Gray var. *coloradoensis* Barneby**

Utah: Kane Co., Wahweap Creek, Harrison 12086; 2 miles west of Glen Canyon City, Cronquist 10164; Paria River, NDA & LCH 3969; Last Chance Bay, Lake Powell,

SLW & NDA 11609. Rare and restricted, possibly threatened (Welsh et al., 1975).

***Astragalus kentrophyta* Gray var. *implexus* (Canby) Barneby**

Utah: Garfield Co., Bryce Canyon, Weight s.n. Rare.

***Astragalus lancearius* Gray**

Arizona: Coconino Co., Cockscomb, NDA 4927. **Utah:** Kane Co., Buckskin Gulch, SLW 5305; Smoky Mt., NDA 5202; Tibbet Bench, NDA & DT 5068; Cockscomb, NDA s.n.; East Clark Bench, NDA & RA 2674. Rare and local, possibly threatened (Welsh et al., 1975).

***Astragalus lentiginosus* Dougl. var. *albiflorus* (Gray) Schoener**

Utah: Kane Co., east of Glen Canyon City, Webb 63; Cockscomb, SLW 5326; Paria Townsite, Olson 23; Smoky Mt., RWA 131; 6 miles east of Glen Canyon City, SLW & NDA 9808; 31 miles east of Glen Canyon City, NDA et al. 2695; Warm Creek, NDA 3437; Brigham Plains, NDA et al. 3491; 4 miles south of Cannonville, Reveal et al. 783. Common; middle elevations.

***Astragalus lentiginosus* Dougl. var. *palans* (Jones) Jones**

Arizona: Coconino Co., 9.3 miles south of Page, NDA et al. 3341; between Page and Glen Canyon Dam, SLW & NDA 9784. **Utah:** Kane Co., 2 miles east of Glen Canyon City, NDA & DT 3433; Little Valley; NDA 3334; Willow Tank, SLW & NDA 11650; Wahweap Bay, NDA 3695; Paria Townsite, SLW & NDA 9727; Nipple Canyon, RWA 252. San Juan Co., east of confluence of San Juan, NDA & RA 3158; Three Garden, SLW & NDA 11665; Navajo Mt., NDA & DT 5334; Trail Canyon, SLW 11909. Common; lower elevations.

***Astragalus lentiginosus* Dougl. var. *vitreus* Barneby**

Utah: Kane Co., Four Mile Bench, NDA 4073; do, NDA 4064; do, SLW 12413; do, SLW 12426; do, SLW 12446; do, SLW & JRM 12394; Cathy Flat, SLW & NDA s.n.; Nipple Bench, NDA & RA 2820; Brigham Plains, NDA & RA 2791A; Smoky Mt., Cronquist 10022. Locally common, abundant.

***Astragalus lonchocarpus* Torr.**

Utah: Garfield Co., Death Ridge vicinity,

NDA 5180. Kane Co., 10 miles southeast of Cannonville, SLW 5363; Sheep Creek, Reveal et al. 778; Little Valley, SLW & NDA 116172. Saline sites; common.

***Astragalus malacoides* Barneby**

Utah: Kane Co., Smoky Mt., NDA 5203; Tibbet Spring, NDA 4554; Harris Wash Road, NDA & DT 5300; east of Grosvenor Arch, NDA 5171; Tibbet Bench, NDA & DT 5064; Nipple Bench, NDA 3465; Grand Bench, NDA 3532; Brigham Plains, NDA et al. 3492; Nipple Creek, NDA 3476; Kaiparowits Plateau, JRM 394; do, NDA & DT 5243; Four Mile Bench, SLW 12749. This plant is endemic to the Kaiparowits Region; it is considered as threatened (Welsh et al., 1975).

***Astragalus megacarpus* (Nutt.) Gray**

Utah: Garfield Co., Bryce Canyon, SLW 1707; do, Weight B-31/12. Kane Co., Kaiparowits Plateau, Harrison 9065; Cockscomb, NDA 4637. Rare.

***Astragalus miser* Dougl. var. *oblongifolius* (Rydb.) Cronq.**

Utah: Garfield Co., Canaan Peak, NDA & DT s.n.; do, SLW 12871. Rare.

***Astragalus moencoppensis* Jones**

Utah: Kane Co., Brigham Plains, NDA & RA 2787; Nipple Bench, NDA & RA 2819; between Last Chance and Collett Wash, NDA 5208; Left hand fork of Last Chance Creek, SLW 12748. Uncommon.

***Astragalus mollissimus* Torr. var. *thompsonae* (Wats.) Barneby**

Arizona: Coconino Co., 3 miles south of Wahweap Marina, SLW & NDA 9761. **Utah:** Garfield Co., Escalante, Cottam 4405; 5 miles west of Escalante, SLW 1701; 8 miles southeast of Escalante, Holmgren et al. 2041; 1 mile east of Cannonville, Isely et al. 8739. Kane Co., Willow Tank, Harrison 9108; do, SLW 1691; 10 miles southeast of Cannonville, NDA et al. 3505a; Cottonwood Wash road, SLW 5361; Little Valley Canyon, NDA 3430; Last Chance Bay, SLW & NDA 11603. Abundant.

***Astragalus musiniensis* Jones**

Utah: Garfield Co., vicinity 6 miles south-east of Escalante, SLW 1699; do, Holmgren et al. 22231 do, NDA 5219. Kane Co., Harris Wash road, NDA & DT 5301. Rare.

***Astragalus newberryi* Gray**

Utah: Kane Co., 51 miles south of Escalante, NDA 520; Paria Townsite, SLW 5324; Last Chance Creek, Cronquist 10028; Kaiparowits Plateau, JRM 393a; do, NDA & DT 5248; Wahweap Creek, NDA 3480. Common.

***Astragalus nuttallianus* DC. var. *micranthiformis* Barneby**

Utah: Kane Co., Cockscomb, NDA 3619; Tibbet Canyon, NDA 3443; 6 miles east of Glen Canyon City, SLW & NDA 9804; Paria River, Cronquist 10197. San Juan Co., Three Garden, SLW 11902; confluence of San Juan and Colorado canyons, SLW 11908. Common.

***Astragalus oophorus* Wats. var. *caulescens* Jones**

Arizona: Coconino Co., Buckskin Mt., NDA 4940. **Utah:** Garfield Co., Death Ridge vicinity, NDA 5178. Kane Co., Kaiparowits Plateau, Harrison 9073; do, JRM 395; do, NDA & DT 5237; Four Mile Bench, SLW 12762. Rare.

Astragalus praelongus* Sheld. var. *praelongus

Utah: Garfield Co., 10 miles northeast of Henrieville, Harrison 12104; Pet Hollow, NDA 4327, 4329; 1.5 miles south of Cannonville, Reveal et al. 763; 1 mile east of Cannonville, Isely et al. 8731. Kane Co., Willow Tank, Beck s.n.; do, SLW 1694; Paria Townsite, SLW & NDA 9737; 34 miles southeast of Escalante, Cronquist 10033; Cottonwood Wash, G. Moore 401; 5 miles east of Paria River, JRM 114; Four Mile Bench, SLW & JRM 12393; do, NDA 4074; Wahweap Creek, east of Glen Canyon City, NDA 3464. Common; seleniferous soils.

Astragalus preussii* Gray var. *preussii

Arizona: Coconino Co., Lee's Ferry, LCH 8323. **Utah:** Kane Co., 6 miles east of Glen Canyon City, SLW & NDA 9792; 30 miles east of Glen Canyon City, NDA 4546. Uncommon; seleniferous soils.

***Astragalus sabulonum* Gray**

Arizona: Coconino Co., 4 miles south of Page, NDA 2627a; between Page and Glen Canyon Dam, SLW & NDA 9776; 9 miles south of Page, RWA 216. **Utah:** Kane Co., Labyrinth Canyon, Lake Powell, NDA 3733.

***Astragalus sesquiflorus* Wats.**

Utah: Kane Co., Kaiparowits Plateau, Harrison 9035; do, JRM 391; do, NDA 539; Paria Townsite, Webb 64; Buckskin Gulch, SLW 5307; Wahweap Canyon, NDA 3472; Hackberry Canyon, NDA 3683; Last Chance Creek, NDA 3753. San Juan Co., Navajo Mt., NDA 4192; do, NDA et al. 2975.

***Astragalus striatiflorus* Jones**

Arizona: Coconino Co., Paria River, NDA 4016, NDA 4016; Kane Co., Hackberry Canyon, NDA 3682; Paria River, NDA & LCH 3946. Rare and endangered (Welsh et al., 1975).

***Astragalus subcinereus* Gray**

Utah: Garfield Co., Weight B031/42; do, Cottam & Hutchings 2759; do, Cottam 4366.

***Astragalus wardii* Gray**

Utah: Kane Co., 4 miles south of Cannonville, Reveal et al. 780; do, Cronquist 10215. Endemic to Utah; rare.

***Astragalus zionis* Jones**

Arizona: Coconino Co., Glen Canyon bridge. Moore & Tanner 16. **Utah:** Kane Co., Hackberry Canyon, NDA 3679, 3681; Cedar Mt., NDA 3445; Cockscomb, NDA 3618; Cottonwood Wash road, SLW 5359; do., NDA 3585. San Juan Co., Navajo Mt., NDA 4136, 4167; do, east of confluence of San Juan, NDA & RA 3168. Common on sandstone at lower elevations.

***Caragana arborescens* Lam.**

Arizona: Coconino Co., Wahweap campground, cultivated, NDA 3453.

***Cercis canadensis* L.**

Arizona: Coconino Co., Wahweap, cultivated, NDA 3454.

***Cercis occidentalis* Torr.**

Arizona: Coconino Co., Colorado Canyon, between Lee's Ferry and Glen Canyon dam, NDA 4597. **Utah:** San Juan Co., Rainbow Bridge, NDA & NW 3298; east of confluence of San Juan, NDA & RA 3171, 3193, 3222; Three Garden, SLW & NDA 11683; do, SLW 12423. Unique plants of drainages in sandstone and hanging gardens; uncommon.

***Dalea fremontii* Torr.**

Utah: Kane Co., Gunsight Bay, Lake Powell, SLW & NDA 11591; Cottonwood

Wash road, Moore 409; Labyrinth Canyon, Lake Powell, NDA 3730; Halls Creek Bay, Lake Powell, SLW & GM 11791; 50 miles south of Escalante, JRM 377; do, Beck & Tanner s.n.; Kaiparowits Plateau, NDA & DT 5296; Hole-in-the-Rock, Harrison 12127; Willow Tank, Harrison 9099. San Juan Co., Three Garden, SLW of San Juan, NDA & RA 3169. Locally common; widespread at lower elevations.

***Dalea lanata* Spreng.**

Arizona: Coconino Co., Kaibito-Tonolea highway, NDA et al. 2913. **Utah:** Kane Co., Cedar Mt., NDA 3123; do, Shaw 1612. Uncommon.

***Glycyrrhiza lepidota* Pursh**

Utah: Garfield Co., Escalante Canyon, Beck 107. Kane Co., Willow Tank, SLW 1690; Paria River, NDA & LCH 4017; Wahweap Cabin, Four Mile Bench, NDA 4345. Local; uncommon.

Hedysarum boreale* Nutt. var. *boreale

Utah: Garfield Co., Bryce Canyon, Cottam 2758; Escalante, Cottam 4420; Death Ridge vicinity, NDA 5188. Kane Co., Smoky Mt., NDA 5205; Kaiparowits Plateau, NDA & DT 5290. Uncommon.

***Lathyrus brachycalyx* Rydb. ssp. *zionis* (C.L. Hitchc.) Welsh**

Utah: Garfield Co., Bryce Canyon, Harrison 12318. Kane Co., Kaiparowits Plateau, Harrison 9066; do, JRM 379; dom NDA & DT 5283; Cockscomb, NDA 3620; East Clark bench, NDA & RA 2686. Uncommon.

***Lathyrus lanzwertii* Kellogg sens. lat.**

Utah: Garfield Co., Death Ridge vicinity, NDA 5187; Escalante Canyon, Cottam 4424. Uncommon.

***Lotus longebracteatus* Rydb.**

Utah: Kane Co., Cottonwood Wash, Cronquist 10211; Cockscomb, Harrison 12050; do, SLW 5328; Paria River, NDA & LCH 3958. Uncommon; southwestern portion.

***Lotus utahensis* Ottery**

Utah: Garfield Co., Bryce Canyon, Weight B31/66; do, Burkey 166; 15 miles southwest of Escalante, Hall 105. Uncommon.

***Lupinus x alpestris* A. Nels.**

Utah: Garfield Co., Bryce Canyon, Weight B32/302. Uncommon.

Lupinus caudatus* Kell. var. *caudatus

Utah: Kane Co., Four Mile Bench, SLW & NDA 12375; San Juan Co., Navajo Mt., NDA et al. 2971. Local, in drainages.

***Lupinus kingii* Wats.**

Utah: Garfield Co., Bryce Canyon, Weight s.n., June-July 1934. Rare.

***Lupinus pusillus* Pursh ssp. *intermontanus* (Heller) Dunn**

Arizona: Coconino Co., Paria Plateau, NDA & LCH 3775, 3786. Utah: Kane Co., East Clark Bench, Harrison 12069; Hole-in-the-Rock, White 116; 50 miles south of Escalante, JRM 346, 373; Cockscomb, SLW 5322; Warm Creek, NDA & RA 2845; Cedar Mt., RWA 173. Common.

***Lupinus pusillus* Pursh ssp. *rubens* (Rydb.) Dunn**

Arizona: Coconino Co., 3 miles south of Wahweap Marina, SLW & NDA 9763.

Utah: Kane Co., Paria River, Cronquist 10176; 48 miles southeast of Escalante, Cronquist 10026; Dry Rock Creek, Lake Powell, SLW & NDA 11627. Common.

***Lupinus wyethii* Kellogg**

Utah: Kane Co., Escalante Canyon, SLW & GM 11821. Introduced weed.

***Medicago lupulina* L.**

Utah: Kane Co., Escalante Canyon, SLW & GM 11821. Introduced weed.

***Medicago sativa* L.**

Utah: Garfield Co., Bryce Canyon, Rowe 178, 1931. Introduced forage plant.

***Melilotus alba* Descr.**

Arizona: Coconino Co., Colorado Canyon, between Lee's Ferry and Glen Canyon Dam, NDA & LCH 4033. Utah: Kane Co., Four Mile Bench, SLW 12569. Introduced forage plant.

***Melilotus officinalis* (L.) Lam.**

Utah: Kane Co., Paria River, NDA & LCH 3961; Escalante River, NDA 4212. Introduced forage plant.

***Oxytropis jonesii* Barneby**

Utah: Garfield Co., Bryce Canyon, Cottam 2745; Alvey Wash, 8 miles southeast of Escalante, Holmgren et al. 2022. Edaphically restricted, rare, and threatened (Welsh et al., 1975).

***Oxytropis lambertii* Pursh**

Utah: Kane Co., 1 mile east of Paria River, SLW 5353; Cockscomb, NDA 3548; Cottonwood Wash road, NDA & RA 2782;

East Clark Bench, NDA & RA 2688. Locally abundant.

***Oxytropis oreophila* Gray**

Utah: Garfield Co., Death Ridge, NDA 5186; do, NDA 5215. Rare.

***Parryella filifolia* Gray**

Arizona: Coconino Co., Lee's Ferry, Cottam & Hutchings 2600. Rare and possibly threatened.

***Petalostemon flavescens* Wats.**

Utah: Kane Co., East Clark Bench, NDA & RA 2675; Cedar Mt., NDA et al. 2735; Little Valley Canyon, NDA et al. 2711; Driftwood Canyon, Lake Powell, SLW & NDA 11646. Common.

***Petalostemon occidentale* Torr.**

Utah: Kane Co., Reflection Canyon, Lake Powell, SLW & CAT 11858. San Juan Co., east of confluence of San Juan, NDA 4098; Rainbow Bridge, NDA & NW 3299. Common.

***Petalostemon searlsiae* Gray**

Utah: Kane Co., Canaan Peak vicinity, NDA & DT 5312. Local; uncommon.

***Peteria thompsonae* Wats.**

Utah: Kane Co., Nipple Bench, NDA & RA 2822; Warm Creek, NDA & RA 2856; Smoky Mt., NDA 5206; Little Valley Canyon, NDA et al. 2723. Locally abundant, especially at middle elevations.

***Psoralea epipsila* Barneby**

Utah: Kane Co., west of the Cockscomb, NDA 2668. Rare and endangered (Welsh et al., 1975).

***Psoralea juncea* Eastw.**

Utah: Kane Co., Last Chance Bay, Lake Powell, SLW & NDA 11605, East Clark Bench, Harrison 12298; Paria River, NDA & LCH 3943; Cottonwood Wash road, NDA & RA 2775; Cockscomb, SLW 5340. Local; common.

Psoralea lanceolata* Pursh var. *lanceolata

Arizona: Coconino Co., NDA & RA 2884. Utah: Garfield Co., Kane Co., 19 miles southeast of Escalante, Holmgren et al. 2044; East Clark Bench, NDA & RA 2691; Cockscomb, CAT 136; Fifty Mile Spring, SLW 1696; between Kodachrome Flat and Cannonville, CAT 143; Brigham Plains, NDA & RA 2788. Common.

***Psoralea lanceolata* Pursh var. *stenophylla* (Rydb.) Toft & Welsh**

Utah: Kane Co., Fifty Mile Spring, HRM

371; Escalante Canyon, SLW & GM 11830; Willow Tank, SLW 1689; 50 miles south of Escalante, Beck & Tanner s.n.; Hole-in-the-Rock, Harrison 12114. Common.

***Psorothamnus polyadenius* (Torr.) Rydb.**

Utah: San Juan Co., east of Navajo Mt., NDA & DT 5350. Rare.

***Sophora stenophylla* Gray**

Arizona: Coconino Co., Navajo Canyon, NDA 3726. **Utah:** Kane Co., Hole-in-the-Rock, SLW 1695; Harris Wash road, NDA & DT 5205. Uncommon.

***Trifolium andinum* Nutt.**

Utah: San Juan Co., Navajo Mt., NDA 4160. Rare.

LILIACEAE (Lily Family)

***Agave utahensis* Engelm.**

Arizona: Coconino Co., Paria Canyon, observed but not collected.

***Allium acuminatum* Hook.**

Utah: Kane Co., Kaiparowits Plateau, NDA & DT 5246. Rare.

***Allium nevadense* Wats.**

Arizona: Coconino Co., Buckskin Mt., NDA 4944; Paria River, Cronquist 10133; 22.5 miles southeast of Cannonville, Reveal & Gentry 812; Five Mile Mt., NDA 4650. Uncommon.

***Androstephium breviflorum* Wats.**

Utah: Kane Co., Paria, JRM M110; 14 miles east of Glen Canyon City, RWA 322; Willow Tank, Karren 97; 30 miles east of Glen Canyon City, NDA 4548; East Clark Bench, NDA et al. 3495; Cedar Mt., RWA 172. Widespread; uncommon.

***Calochortus aureus* Wats.**

Utah: Kane Co., 28 miles southeast of Escalante, Harrison 9118; Cottonwood Wash road, Moore 408; between Nipple Bench and Lake Powell, Cronquist 10010; Last Chance Creek, NDA 3744; Nipple Bench, NDA & DT 5066; 6 miles east of Glen Canyon City, SLW & NDA 9793. Edaphically restricted; locally abundant.

***Calochortus flexuosus* Wats.**

Utah: Kane Co., 40 miles east of Kanab, Cronquist 10140, do, SLW 5343; 16 miles east of Glen Canyon City, NDA 3665; Labyrinth Canyon, Lake Powell, NDA 3729. Low elevations; common.

***Calochortus nuttallii* T. & G.**

Utah: Garfield Co., Bryce Canyon, Weight s.n. Kane Co., Paria River, Cronquist 10137; Kaiparowits Plateau, Holmgren et al. 2071; Nipple Bench, NDA & DT 5061; Last Chance Creek, ca 3 miles west of jct. with Escalante Road, NDA 3744. Middle elevations; uncommon.

***Eremocrinum albomarginatum* Jones**

Utah: Kane Co., Hole-in-the-Rock, Buss 95. Rare.

***Fritillaria atropurpurea* Nutt.**

Utah: Garfield Co., Death Ridge, NDA 5182; Kane Co., Kaiparowits Plateau, Harrison 9043; do, NDA & DT 5232; Hackberry Canyon, NDA 3692. Rare.

***Lauococrinum montanum* Nutt.**

Utah: Garfield Co., Bryce Canyon, Weight s.n. Rare.

***Smilacina stellata* (L.) Desf.**

Utah: Kane Co., Brigham Plains, NDA & RA 2800. Local; rare.

***Yucca angustissima* Engelm.**

Utah: Garfield Co., ca 5 miles southeast of Escalante, NDA 5220. Kane Co., Willow Tank, Harrison 9111; Little Valley Canyon, NDA et al., 2731. Uncommon.

***Yucca baccata* Torr.**

Utah: Kane Co., Four Mile Bench, NDA 5175. Middle elevations; uncommon.

***Yucca baileyi* W. & S.**

Utah: Kane Co., ¼ mile north of Arizona state line, along U.S. 89, NDA et al. 2733; east of Cockscomb, SLW 5347; southeast of Glen Canyon City, RWA 226; 14 miles east of Glen Canyon City, RWA 312; between Glen Canyon City and Paria River, LCH 4254. Common; sandy sites south central basin.

***Yucca harrimaniae* Trel.**

Utah: Garfield Co., Escalante, Cottam 4406. Rare.

***Yucca kanabensis* McKelvey**

Utah: Kane Co., Kanab vicinity, SLW 11065. Rare.

***Yucca toftiae* Welsh**

Utah: Kane Co., Dry Rock Creek, Lake Powell, SLW & GM 11779. San Juan Co., Ribbon Garden, NDA 4112; Three Garden, SLW 11935a. Endemic, local, and possibly threatened (Welsh et al. 1975).

***Zigadenus paniculatus* Nutt.**

Utah: Kane Co., Buckskin Gulch, SLW 5322; Kaiparowits Plateau, NDA & DT 5275. Rare.

Zigadenus vaginatus (Rydb.) Macbr.

Utah: Kane Co., Reflection Canyon, SL & SLW 11878. San Juan Co., east of confluence of San Juan, NDA & RA 3180; do, NDA et al. 3229. Endemic, local, and possibly endangered (Welsh et al. 1975).

LINACEAE (Flax Family)

Linum aristatum Engelm.

Utah: Kane Co., Willow Tank, Harrison 9097; Paria River, NDA & LCH 3954. Widespread; uncommon.

Linum kingii Wats.

Utah: Garfield Co., Bryce Canyon, Cottam 2749. Uncommon.

Linum perenne L.

Utah: Garfield Co., Bryce Canyon, Weight s.n. Kane Co., Cottonwood Wash road, NDA & LCH 3834; Kaiparowits Plateau, NDA & DT 5280. Widespread; uncommon.

Linum puberulum (Engelm.) Heller

Utah: Garfield Co., 1.5 miles south of Cannonville, Reveal et al. 764. Rare.

Linum subteres (Trel.) Winkler

Utah: Kane Co., Kodachrome Flat, Holmgren & Holmgren 4711; 15 miles west of Glen Canyon City, NDA & RA 2871; East Clark Bench, NDA & RA 2690; Four Mile Bench, SLW & JRM 12410. Rare.

LOASACEAE (Loasa Family)

Mentzelia albicaulis (Dougl.) T. & G.

Utah: Garfield Co., 1.3 miles south of Cannonville, Revel et al. 759. Kane Co., Kaiparowits Plateau, Harrison 9074, do, NDA & DT 5289; Little Valley, NDA 3516; 6 miles east of Glen Canyon City, SLW & NDA 9805; Warm Creek, NDA 3718; Cockscomb, SLW 5339; Cedar Mt., RWA 188. Common.

Mentzelia integra (Jones) Tidestr.

Utah: San Juan Co., Three Garden, SLW 12418. Rare.

Mentzelia multiflora (Nutt.) Gray

Arizona: Coconino Co., Colorado Canyon, between Glen Canyon Dam and Lee's Fer-

ry, NDA & LCH 4036. 9 miles south of Page, NDA et al. 338. **Utah:** Kane Co., 31.5 miles east of Glen Canyon City, NDA et al. 2706, 20 miles southeast of Escalante, Buss 85; Nipple Canyon, NDA & RA 2834; 15 miles west of Glen Canyon City, NDA & RA 2877; Smoky Mt., NDA & NW 3292; Gunsight Bay, Lake Powell, SLW & NDA 11580; Hole-in-the-Rock, Harrison 12147; Willow Tank, Harrison 9027; Cottonwood Wash road, Reveal et al. 829. San Juan Co., east of confluence of San Juan, NDA & RA 3166. Common.

LOBELIACEAE (Lobelia Family)

Lobelia cardinalis L.

Utah: Kane Co., Reflection Canyon, SL & SLW 11879; Escalante Canyon, NDA & RA 3204. San Juan Co., Rainbow Bridge, NDA & NW 3301; east from confluence of San Juan, NDA & RA 3170A, 3192; do, NDA et al. 3228. Hanging gardens; uncommon.

MALVACEAE (Mallow Family)

Sphaeralcea coccinea (Pursh) Rydb.

Arizona: Coconino Co., Colorado Canyon, between Glen Canyon Dam and Lee's Ferry, NDA & LCH 4037. **Utah:** Garfield Co., Bryce Canyon, Bosworth 24; Escalante Canyon, Cottam 4372. Kane Co., Last Chance Creek, NDA 3751. Common.

Sphaeralcea grossulariaefolia (H. & A.) Rydb.

Arizona: Coconino Co., NDA 3727; Page vicinity, SLW & NDA 9785; 9.3 miles south of Page, NDA et al. 3344. **Utah:** Kane Co., Nipple Canyon, RWA 250; Cedar Mt., RWA 347; Hole-in-the-Rock, Harrison 12112; Little Valley Canyon, NDA et al. 2725; Willow Tank, Harrison 9032; Cottonwood Wash road, NDA & RA 2764; Grand Bench, NDA 4256, 2 June 1972; Paria River, NDA & LCH 3956; Last Chance Bay, Lake Powell, SLW & NDA 11597; Escalante Canyon, NDA & RA 3211; do, SLW & GM, 11827; 1 mile west of Glen Canyon City, Toft & Jefferies 123; mouth of Escalante Canyon, Lake Powell, SLW & GM 11810. San Juan Co., canyon bottom 1 mile east of Hole-in-the-Rock, SLW & CAT

11869; Three Garden, SLW 12420. Abundant.

Sphaeralcea leptophylla (Gray) Rydb.

Arizona: Coconino Co., Cottam 2624; 2 miles north of Glen Canyon Dam, LCH 1005. Rare.

Sphaeralcea parvifolia A. Nels.

Arizona: Coconino Co., Colorado Canyon, between Glen Canyon Dam and Lee's Ferry, NDA & LCH 4038. **Utah:** Garfield Co., Escalante, Cottam 4371; do, Beck & Tanner 8240; do, Jefferies 38; Fifty Mile Spring, JRM 354; Cedar Mt., RWA 189; Gunsight Bay, Lake Powell, SLW & NDA 11593; Dry Rock Creek, Lake Powell, SLW & NDA 11625; Cockscomb, NDA 4605; Glen Canyon City vicinity, Cronquist 10149; Four Mile Bench, SLW & JRM 12396; Grosvenor Arch, Jefferies 44. Abundant.

NYCTAGINACEAE (Four-O'Clock Family)

Abronia fragrans Nutt.

Arizona: Coconino Co., Page vicinity, SLW & NDA 9783. **Utah:** Kane Co., Beck s.n.; Kaiparowits Plateau, NDA & DT 5229; Cedar Mt., RWA 186; Cockscomb, NDA 3582, Cottonwood Wash road, Reveal et al. 811; Willow Tank, White 90; Hole-in-the-Rock; White 126; Glen Canyon City vicinity, Cronquist 10160; 34 miles southeast of Escalante, Cronquist 10032; 8 miles south of Paria Townsite, Harrison 12058; East Clark Bench, Harrison 12065; Warm Creek, NDA & RA 2844; Gunsight Bay, Lake Powell, SLW & NDA 11601. Abundant.

Abronia nana Wats.

Utah: Garfield Co., Bryce Canyon, Cottam 4359. Kane Co., Cathy Flat, SLW & NDA 11716; Five Mile Mt., NDA 4643; Cockscomb, NDA 3623; Alvey Wash, NDA 5213; 4 miles south of Cannonville, Reveal et al. 784; Four Mile Bench, NDA 5174; Last Chance Creek, NDA 3750; Buckskin Gulch, SLW 5308. Local; uncommon.

Allionia choisyi Standl.

Arizona: Coconino Co., 8 miles southeast of Page, NDA et al. 3244. Rare.

Allionia incarnata L.

Arizona: Coconino Co., Lee's Ferry, Cottam 2621. **Utah:** Kane Co., east of Twilight Canyon, Lake Powell, NDA & RA 3147. Uncommon.

Boerhaavia torreyana (Wats.) Standl.

Utah: Kane Co., Cedar Mt., NDA & DK 3389. Rare.

Hermidium alipes Wats.

Utah: Kane Co., 6 miles east of Warm Creek, SLW & NDA 9788; Cottonwood Wash road, SLW 5355; between Nipple Bench and Lake Powell, Cronquist 10014; 30 miles east of Glen Canyon City, NDA 4550. Edaphically restricted; uncommon.

Mirabilis multiflora (Torr.) Gray

Utah: Kane Co., Kaiparowits Plateau, NDA & DT 5295; Nipple Bench, NDA & RA 2818A; Warm Creek, NDA & RA 2855; Escalante Canyon, NDA 4114; Four Mile Bench, SLW 12831. Widespread; locally common.

Oxybaphus glaber Wats.

Utah: San Juan Co., NDA & RA 3153. Rare.

Oxybaphus linearis (Pursh) Robins.

Utah: Kane Co., Cottonwood Wash road, NDA & RA 2763; Cockscomb, NDA 2923. Uncommon.

Tripterocalyx micranthus (Torr.) Hook.

Arizona: Coconino Co., Lee's Ferry, Cottam 2606. **Utah:** Kane Co., Willow Tank, Beck & Tanner s.n.; Cedar Mt., RWA 329; Warm Creek, NDA & RA 2848; Paria River, NDA & LCH 3973; East Clark Bench, NDA & RA 2680. San Juan Co., Three Garden, SLW & NDA 11676. Uncommon.

Tripterocalyx wootonii Standl.

Arizona: Coconino Co., Cedar Mt., NDA et al. 2751. **Utah:** Kane Co., Willow Tank, Harrison 9026; Hole-in-the-Rock, Harrison 12105; 50 miles south of Escalante, Beck & Tanner s.n.; Cedar Mt., NDA & LCH 3818; Lake Powell east of Wahweap Marina, NDA 3697; Glen Canyon City vicinity Cronquist 10143; Paria River, Cronquist 10178. Locally common.

OLEACEAE (Olive Family)

Fraxinus anomala Torr.

Arizona: Coconino Co., Colorado River between Glen Canyon Dam and Lee's Ferry, NDA 4598. **Utah:** Garfield Co., Escalante, Cottam 4401; 1.3 miles south of Cannonville, Reveal 758. Kane Co., Wahweap Creek, NDA 3458; Cedar Mt., RWA 185;

Fifty Mile Spring, JRM 376; Paria Townsite, SLW & NDA 9741; 20 miles south of Cannonville, Christensen s.n.; Smoky Mt., Cronquist 10024; Hole-in-the-Rock, White 131, Cockscomb, SLW 5335. Widespread; uncommon.

***Menodora scabra* Gray**

Utah: Garfield Co., Holmgren et al. 2033. Rare and possibly threatened (Welsh et al. 1975).

ONAGRACEAE (Evening-Primrose Family)

***Epilobium angustifolium* L.**

Utah: San Juan Co., Navajo Mt., NDA et al. 2976. Rare.

***Epilobium hornemannii* Reichenb.**

Utah: Kane Co., Warm Creek, NDA & RA 2824. Uncommon; wet sites.

***Gaura parviflora* Dougl.**

Utah: Kane Co., east of Kanab, NDA 3278. Rare.

***Gayophytum nuttallii* T. & G.**

Utah: San Juan Co., Navajo Mt., NDA 4178; do, NDA & DT 5341. Uncommon.

***Oenothera albicaulis* Pursh**

Arizona: Coconino Co., Paria Plateau, NDA & LCH 3762. Utah: Garfield Co., 1.5 miles south of Cannonville, Reveal 765; Kane Co., Smoky Mt., NDA 3746; 6.6 miles southeast of Cannonville, Reveal et al. 799; Hole-in-the-Rock, White 93; 6 miles east of Paria, Harrison 12317; East Clark Bench, Harrison 12081; Paria, JRM 116. Common.

***Oenothera caespitosa* Nutt. var. *jonesii* Munz**

Utah: Kane Co., Kaiparowits Plateau, NDA & DT 5269; 6.6 miles south of Cannonville, Reveal 798, no date. Uncommon.

***Oenothera caespitosa* Nutt. var. *marginata* (Nutt.) Munz**

Utah: Kane Co., Fifty Mile Spring, JRM 360; Dry Rock Creek, SLW & NDA 11619; 15 miles west of Glen Canyon City, NDA & RA 2868; between Nipple Bench and Lake Powell, Cronquist 10011; Paria Townsite, SLW & NDA 9739; 6 miles east of Glen Canyon City, SLW & NDA 9797; Warm Creek, NDA & RA 2841; Cottonwood Wash road, LCH & NDA 5251; Cedar Mt., NDA 3107. San Juan Co., Navajo Mt., NDA 4193. Common.

***Oenothera brachycarpa* Gray**

Utah: Garfield Co., 8 miles southeast of Escalante, Holmgren 2027; Bryce Canyon, Cottam 2747. Rare.

***Oenothera chamaenerioides* Gray**

Utah: Kane Co., Paria River, Cronquist 10198; Cockscomb, NDA 4622. Rare.

***Oenothera contorta* Dougl. ex Hook.**

Utah: Kane Co., Cedar Mt., NDA 4666; Butler Valley, NDA 5166; Kaiparowits Plateau, NDA & DT 5226. Uncommon.

***Oenothera coronopifolia* T. & G.**

Utah: Garfield Co., Bryce Canyon, Boyle 1162. Rare.

***Oenothera decorticans* (H. & A.) Greene**

Utah: Kane Co., Labyrinth Canyon, Lake Powell, NDA 3734; Grand Bench, NDA 3525; 6 miles east of Warm Creek, SLW & NDA 9796; Dry Rock Creek, Lake Powell, SLW & NDA 11632. Local; uncommon.

***Oenothera eastwoodiae* (Munz) Raven**

Utah: Kane Co., Little Valley Canyon, NDA et al. 2761A; 6 miles east of Glen Canyon City, SLW & NDA 9787; 17 miles east northeast of Glen Canyon City, RWA 204; Warm Creek, RWA 115; Cottonwood Wash road, NDA & RA 2760; Sit Down Bench, Patton 126. Local; common to abundant.

***Oenothera flava* (A. Nels.) Garrett**

Utah: Kane Co., Paria, JRM 117. Rare.

***Oenothera lavandulaefolia* T. & G.**

Utah: Garfield Co., Bryce Canyon, Cottam 2748. Kane Co., Drip Point, NDA 4066; Four Mile Bench, SLW & JRM 12408a. Local; common.

***Oenothera longissima* Rydb.**

Utah: Kane Co., Wahweap seep, west of Four-Mile Bench, NDA 4343, Escalante Canyon, SLW & GM 11809. San Juan Co., east of confluence of San Juan, NDA & RA 3156; Navajo Mt., NDA et al. 2986. Common; drainages.

***Oenothera megalantha* Munz**

Utah: Kane Co., Smoky Mt., NDA 5952, 6008. New Utah record; rare and possibly endangered (Welsh et al. 1975).

***Oenothera multijuga* Wats.**

Utah: Kane Co., Paria River, Woodruff 1121; 14 miles east of Glen Canyon City, NDA & RA 2895A. Uncommon.

***Oenothera pallida* Lindl.**

Arizona: Coconino Co., east side Glen Canyon Dam, NDA 3448; Colorado River between Glen Canyon Dam and Lee's Ferry, NDA & LCH 4022. **Utah:** Garfield Co., Bryce Canyon, Cottam 4355. Kane Co., Fifty Mile Spring, JRM 344; 25 miles south of Cannonville, SLW 5360; Church Wells, JRM 331; Harris Wash road, NDA & DT 5307; Paria River bridge, SLW & NDA 9751; Warm Creek, NDA & RA 2840; 14 miles east of Glen Canyon City, RWA 315; 2 miles west of Glen Canyon City, Nebeker & Skougard 181; East Clark Bench, Harrison 12084; Willow Tank, Harrison 9093; Cockscomb, JRM 333. San Juan Co., Three Garden, SLW 12421. Abundant.

***Oenothera pterosperma* Wats.**

Arizona: Coconino Co., Buckskin Mt., NDA 4430. **Utah:** Kane Co., Cockscomb, NDA 4622a. Uncommon.

Oenothera scapoidea* T. & G. var. *scapoidea

Utah: Kane Co., Cottonwood Wash road, NDA 5161. Rare.

***Oenothera walkeri* (A. Nels.) Raven**

Arizona: Coconino Co., Lee's Ferry, Cottam 2631. **Utah:** Kane Co., Labyrinth Canyon, Lake Powell, NDA 3741; Nipple Bench, NDA & DT 5058; Gunsight Bay, Lake Powell, SLW & NDA 11578; Little Valley Canyon, NDA et al. 2726; Warm Creek, NDA & RA 2905; Colorado Canyon between Glen Canyon Dam and Lee's Ferry, NDA & LCH 4025; Paria River LCH & NDA 5386; Dry Rock Creek, Lake Powell, SLW & NDA 11639. Local; common.

ORCHIDACEAE (Orchid Family)

***Corallorhiza maculata* Raf.?**

Utah: San Juan Co., Navajo Mt., NDA 4170. Rare.

***Epipactis gigantea* Dougl.**

Arizona: Coconino Co., Navajo Creek, NDA & RA 3220; Paria Canyon, Woodruff 1128. **Utah:** Kane Co., Brigham Plains, ND & RA 2792; Four Mile Bench, SLW & BW 12445; do, SLW 12573; Escalante Canyon, NDA & RA 3218; Little Valley Canyon, NDA et al. 2713; Hole-in-the-Rock, Harrison 12117; Dry Rock Creek, Lake Powell,

SLW & NDA 11640. San Juan Co., Three Garden, SLW 12424. Hanging gardens; common.

***Habenaria sparsiflora* Wats. var. *laxiflora* (Rydb.) Correll**

Utah: Kane Co., Four Mile Bench, SLW 12577; do, SLW & BW 12444. Rare.

OROBANCHACEAE (Broomrape Family)

Orobanche fasciculata* Nutt. var. *fasciculata

Arizona: Coconino Co., 9.3 miles south of Page, NDA & LCH 4018; 4 miles south of Page, NDA 2627. Rare.

***Orobanche fasciculata* Nutt. var. *lutea* (Parry) Achey**

Utah: San Juan Co., Gardens Cove, confluence of the San Juan, SLW 11932. Rare.

***Orobanche multiflora* Nutt.**

Utah: Kane Co., Pool Garden, CAT 168. San Juan Co., Gardens Cove, confluence of the San Juan, SLW 11931. Rare.

PAPAVERACEAE (Poppy Family)

***Argemone corymbosa* Greene ssp. *arenicola* G. B. Ownbey**

Utah: Kane Co., 16 miles east of Glen Canyon City, NDA 3664. Common.

***Argemone munita* Dur. & Hilg. ssp. *rotundata* (Rydb.) Ownbey**

Arizona: Coconino Co., Cockscomb, NDA & RA 2886; Kaiparowits Plateau, NDA & DT 5268. Uncommon.

PINACEAE (Pine Family)

***Abies concolor* (Gard. & Glend.) Hoopes**

Utah: Garfield Co., Canaan Peak, abundant, not collected. Locally abundant.

***Abies lasiocarpa* (Hook.) Nutt.**

Utah: San Juan Co., Navajo Mt., NDA et al. 2987; do, NDA & SK 3404. Locally abundant.

***Picea engelmannii* Parry**

Utah: San Juan Co., NDA & DK 3406. Locally abundant.

***Picea pungens* Engelm.**

Utah: Bryce Canyon, Buchanan 133 (Bryce). Uncommon.

***Pinus edulis* Engelm.**

Utah: Garfield Co., Bryce Canyon, Cottam 4364. Kane Co., Four Mile Bench, SL & ERW 12369. San Juan Co., Navajo Mt., NDA et al. 3005. Middle elevations; abundant.

***Pinus flexilis* James**

Utah: Garfield Co., Bryce Canyon, Harrison. San Juan Co., NDA & DK 3405. High elevations; uncommon.

***Pinus longaeva* D. K. Bailey**

Utah: Garfield Co., Bryce Canyon, Cottam 4365. Restricted, and possibly threatened (Welsh et al. 1975).

***Pinus ponderosa* Laws.**

Utah: Kane Co., Hackberry Canyon, NDA 3691. San Juan Co., Navajo Mt., NDA et al. 2992. Widespread; only locally common to abundant.

***Pseudotsuga menziesii* (Mirb.) Franco**

Utah: Garfield Co., 10 miles northeast of Henrieville, Harrison 12103. Kane Co., Death Ridge vicinity, SLW 12764. Middle and higher elevations; locally abundant.

PLANTAGINACEAE (Plantain Family)

***Plantago purshii* R. & S.**

Arizona: Coconino Co., 4 miles southeast of Page, RWA 348. **Utah:** Garfield Co., southeast of Escalante, Holmgren et al. 2039. Kane Co., Cedar Mt., NDA & LCH 3823; Fifty Mile Spring, JRM 352; East Clark Bench, Harrison 12082; Paria River, NDA & LCH 3987; Labyrinth Canyon, NDA 3739. San Juan Co., Ribbon Garden, NDA 4108. Abundant.

POLEMONIACEAE (Phlox Family)

***Eriastrum diffusum* (Gray) Mason**

Utah: Kane Co., Kaiparowits Plateau, Harrison 9075; Cedar Mt., NDA & LCH 3819. Uncommon.

***Gilia aggregata* (Pursh) Spreng.**

Utah: Garfield Co., Bryce Canyon, Boyle 1115; Escalante, Cottam 4393. Kane Co., Four Mile Bench, NDA 4079; do, SLW et al. 12573; Hole-in-the-Rock, Karren 106; 25 miles southeast of Escalante, Holmgren et al. 2069; Buckskin Gulch, SLW 5311; Escalante Canyon, NDA & RA 3207; Collett

Canyon, Woodruff 1157. San Juan Co., Rainbow Bridge, SLW & NDA 11663. Common.

***Gilia congesta* Hook.**

Arizona: Coconino Co., Cockscomb, NDA 3059. **Utah:** Garfield Co., Pet Hollow, NDA 4331; Hackberry Canyon, NDA & RA 2806. Uncommon.

***Gilia gunnisonii* T. & G.**

Arizona: Coconino Co., Lee's Ferry, Cottam 2601; do, NDA 4580; 4 miles southeast of Page, RWA 239; 8 miles south of Page, RWA 225. **Utah:** Kane Co., East Clark Bench, Harrison 12076; Fifty Mile Spring, JRM 355; Willow Tank, Harrison 9102; Hole-in-the-Rock, White 114; Cedar Mt., NDA 3124; Paria River, NDA & LCH 4006; Warm Creek, NDA 3713; Wahweap Bay, NDA 3550; Tibbet Canyon, NDA 3604; Nipple Bench, NDA & RA 2814; 14 miles east of Glen Canyon City, RWA 319. Common.

***Gilia hutchinsifolia* Rydb.**

Arizona: Coconino Co., Lee's Ferry, Cottam 2605; Page vicinity, SLW & NDA 9775. **Utah:** Kane Co., Gunsight Bay, SLW & NDA 11577. Uncommon.

***Gilia latifolia* Wats.**

Utah: Kane Co., Warm Creek, NDA & RA 2854; do, NDA & RA 2901; Nipple Creek, NDA & RA 2829; Tibbet Canyon, NDA 5959. Rare and local; possibly threatened (Welsh et al. 1975).

***Gilia leptomeria* Gray**

Arizona: Coconino Co., Lee's Ferry, NDA 4575, Paria Plateau, NDA & LCH 3782. **Utah:** Kane Co., Kaiparowits Plateau, Harrison 9076A; do, NDA & DT 5244; 30 miles east of Glen Canyon City, NDA 4547; Cedar Mt., NDA et al. 2744; Willow Tank, Harrison 9109; 25 miles southeast of Escalante, Holmgren 2066; 6 miles east of Glen Canyon City, SLW & NDA 9794; Cockscomb, NDA 3595; Nipple Bench, NDA & DT 5065; Paria River, Cronquist 10135; Warm Creek, NDA & RA 2902; 8 miles southeast of Cannonville, Reveal 803; west of Glen Canyon City, Cronquist 10154. Common.

***Gilia longiflora* (Torr.) G. Don**

Arizona: Coconino Co., Cockscomb, NDA 3053; Paria Plateau, NDA & GM 4291.

Utah: Kane Co., Cedar Mt., RWA 174; East Clark Bench, Harrison 12073. Uncommon.

***Gilia micromeria* Gray**

Arizona: Coconino Co., Buckskin Mt., NDA 4931. **Utah:** Kane Co., NDA & DT 5062. Rare.

***Gilia ophthalmoides* Brand**

Utah: Kane Co., Fifty Mile Spring, JRM 356; Kaiparowits Plateau, Harrison 9076; Nipple Canyon NDA & RA 2830; 25 miles southeast of Escalante, Holmgren et al. 2067. San Juan Co., SLW & NDA 11704. Uncommon.

***Gilia polycladon* Torr.**

Arizona: Coconino Co., Lee's Ferry, Snow 2; do, NDA 4579. **Utah:** Kane Co., 22 miles southeast of Escalante, Holmgren et al. 2056; Sit Down Bench, Olson 39; Fifty Mile Spring, JRM 357; Nipple Canyon, NDA & RA 2834A; Paria River NDA & LCH 3986; Little Valley, NDA 3519; Tibbet Canyon, NDA 3607. Low elevations; common.

***Gilia subnuda* Torr.**

Arizona: Coconino Co., Paria Canyon, Woodruff 1125. **Utah:** Garfield Co., Escalante, Cottam 4389; 20 miles southeast of Escalante, Holmgren et al. 2047; 1.3 miles south of Cannonville, Reveal et al. 753. Kane Co., Harris Wash road, NDA & DT 5306; Cottonwood Wash Road, SLW 5356; Buckskin Gulch, SLW 5321; Four Mile Bench, SLW 12428; Hackberry Canyon, NDA 3680. Common; widespread.

***Langloisia setosissima* (T. & G.) Greene**

Utah: Kane Co., 20 miles east of Glen Canyon City, NDA & DT 5072. Low elevations; uncommon.

***Leptodactylon pungens* (Torr.) Nutt.**

Arizona: Coconino Co., Paria Plateau, NDA & LCH 3789. Rare.

***Leptodactylon watsonii* (Gray) Rydb.**

Utah: Kane Co., Flat Top, NDA et al. 2961. Rare.

***Linanthus bigelovii* (Gray) Greene**

Utah: Kane Co., Cockscomb, NDA 4616. Rare.

***Linanthastrum nuttallii* (Gray) Ewan**

Utah: Bryce Canyon, Coltam 4399. Rare.

***Microsteris gracilis* (Dougl.) Greene**

Arizona: Coconino Co., Buckskin Mt., NDA 4935. **Utah:** San Juan Co., Navajo Mt., NDA & DT 5342. Uncommon.

***Navarretia breweri* (Gray) Greene**

Utah: San Juan Co., Navajo Mt., NDA 4175; do, NDA & DT 5336. Uncommon.

***Phlox austromontana* Coville**

Utah: Kane Co., Cockscomb, NDA 4610. Rare.

***Phlox cluteana* A. Nels.**

Utah: San Juan Co., Navajo Mt., NDA 4148. Rare and possibly threatened (Welsh et al. 1975).

***Phlox hoodii* Richards.**

Utah: Garfield Co., Bryce Canyon, Weight s.n.; Escalante, Cottam 4423. Kane Co., Four Mile Bench, NDA 3487; 20 miles south of Cannonville, Christensen s.n.; Round Valley, NDA 3467; Kaiparowits Plateau, Harrison 9071; 4 miles south of Cannonville, Cronquist 10083; Fifty Mile Spring, JRM 370. Widespread; common.

***Phlox longifolia* Nutt.**

Utah: Kane Co., Buckskin Gulch, SLW 5316; Cockscomb, NDA 3616; Four Mile Bench, NDA 3758. Widespread; uncommon.

***Phlox stansburyi* (Torr.) Heller.**

Utah: Kane Co., Kaiparowits Plateau, Harrison 9048; do, NDA & DT 5285; 8 miles south of Paria, Harrison 12054; Paria Townsite, SLW & NDA 9735; 29 miles south of Cannonville, Christensen s.n. San Juan Co., Navajo Mt., NDA et al. 2996. Widespread; uncommon.

***Polemonium delicatum* Rydb.**

Utah: San Juan Co., Navajo Mt., NDA 4154. Rare.

***Polemonium viscosum* Nutt.**

Utah: Garfield Co., Bryce Canyon, Cottam 2783. Rare.

POLYGALACEAE (Milkwort Family)

***Polygala subspinosa* Wats.**

Utah: Kane Co., Four Mile Bench, SLW 12788. Widespread; uncommon.

POLYGONACEAE (Buckwheat Family)

***Chorizanthe brevicornu* Torr.**

Utah: Kane Co., Escalante Canyon, SLW & GM 11804. Rare.

***Chorizanthe thurberi* (Gray) Wats.**

Utah: Kane Co., left hand fork of Last Chance Canyon, ca 10 miles east of Four Mile Bench, SL & ERW 12721. Rare.

Eriogonum alatum Torr. var. *alatum*

Arizona: Coconino Co., Paria Plateau, NDA & GM 4294; do, NDA 3060. **Utah:** Garfield Co., Escalante, Cottam 4398. Kane Co., 25 miles southeast of Escalante, Holmgren et al. 2070; Four Mile Bench, SLW 12431. Widespread; uncommon.

Eriogonum cernuum Nutt.

Arizona: Coconino Co., Cockscomb, NDA & DK 3388; do, NDA 3069; Colorado Canyon between Lee's Ferry and Glen Canyon Dam, NDA 4582. **Utah:** Garfield Co., Pet Hollow, NDA 4341; Cedar Mt., NDA 4057; Nipple Bench, NDA & RA 2813. Common.

Eriogonum corymbosum Benth. var. *corymbosum*

Utah: Garfield Co., Pet Hollow, NDA 4336; Kane Co., Smoky Mt., NDA & NW 3294; 15 miles southeast of Cannonville, SL & SLW 9414; Buckskin Gulch, SL & SLW 9422; Four Mile Bench, NDA 4301. Common.

Eriogonum corymbosum Benth. var. *glutinosum* Jones

Arizona: Coconino Co., Lee's Ferry, NDA 4353. **Utah:** Garfield Co., 20 miles southwest of Escalante, Holmgren et al. 2413; 12 miles northeast of Henrieville, Reveal & Reveal 2887; 4 miles east of Henrieville, NDA 4347; Tibbet Canyon, NDA & DK 3325; 6 miles east of Glen Canyon City, NDA & DK 3353. Low elevations; common.

Eriogonum corymbosum Benth. var. *orbiculatum* (Stokes) Reveal & Brotherson

Utah: Garfield Co., 50 miles southeast of Escalante, Beck s.n. Sandstone basins, Canyon of the Colorado; uncommon.

Eriogonum deflexum Torr. var. *deflexum*

Utah: Garfield Co., 7.5 miles southeast of Escalante, Holmgren et al. 2414. Kane Co., Tibbet Canyon, NDA & DK 3333; Nipple Canyon, NDA & RA 2832; Warm Creek, NDA & RA 2900; Buckskin Wash, SC & SLW 9420; Paria River, SLW 5354. Common.

Eriogonum flexum Jones

Utah: Garfield Co., 20 miles southeast of Escalante, Holmgren et al. 2045; Kane Co., Cottonwood Wash road, Reveal et al. 825; Paria River, Cronquist 10130; Nipple Canyon, NDA & RA 2828; Nipple Bench, NDA & DT 5069. Common.

Eriogonum gordonii Benth.

Utah: Cottonwood Wash road, NDA & RA 2755; do, Reveal et al. 824. Common.

Eriogonum heermannii Dur. & Hilg. var. *subracemosum* (Stokes) Reveal

Arizona: Coconino Co., Navajo Mt. road, NDA & DK 3391. Uncommon.

Eriogonum hookeri Wats.

Utah: Kane Co., head of Alvey Wash, NDA 5209. Uncommon.

Eriogonum inflatum Torr. & Frem. var. *inflatum*

Arizona: Coconino Co., Colorado Canyon, between Glen Canyon Dam and Lee's Ferry, NDA & LCH 4026. **Utah:** Kane Co., Willow Tank, Beck & Tanner s.n.; Paria River, NDA & LCH 3951; Warm Creek, NDA 3716; Cedar Mt., NDA 3106. San Juan Co., Three Garden, SLW 12416. Uncommon.

Eriogonum inflatum Torr. & Frem. var. *fusiforme* (Small) Reveal

Utah: Kane Co., Cottonwood Wash road, Reveal et al. 823; 15 miles west of Glen Canyon City, NDA & RA 2869; 7 miles east of Glen Canyon City, NDA 2631; 10 miles east of Glen Canyon City, Olson 35. Abundant.

Eriogonum leptocladon T. & G. var. *papiliunculum* Reveal

Arizona: Coconino Co., between Page and Kaibito, Shaw 2646; Cockscomb, NDA & DK 3386; Paria Plateau, NDA 6412. **Utah:** Kane Co., Cedar Mt., NDA 3132; Church Wells, NDA & DK 3367. Endemic to sandy lower portion of Kaiparowits Basin; locally common.

Eriogonum microthecum Nutt. var. *foliosum* (T. & G.) Reveal

Arizona: Coconino Co., Paria Plateau, NDA 6408. **Utah:** Garfield Co., 1 mile south of Cannonville, NDA & DK 3316. Kane Co., Four Mile Bench, NDA 4302; 8 miles south of Cannonville, NDA & DK 3318; northwest of Cedar Mt., NDA et al. 2960; Smoky Mt., NDA & NW 3295; Nipple Bench, NDA & DK 3329; Cockscomb, NDA & DK 3378; Ahlstrom Point road, NDA & RA 2892. Widespread; common.

Eriogonum microthecum Nutt. var. *laxiflorum* Hook.

Utah: Kane Co., Fifty Mile Spring, JRM 359; Cockscomb, NDA 4614; Four Mile Bench, SLW & JRM 12398. Common.

***Eriogonum palmerianum* Reveal**

Arizona: Coconino Co., Colorado Canyon, between Glen Canyon Dam and Lee's Ferry, NDA & LCH 4024; Paria Plateau, NDA 6402. **Utah:** Kane Co., NDA 4259; Cedar Mt., NDA 3105; Little Valley Canyon, NDA et al. 2730; 25 miles southeast of Escalante, Holmgren et al. 2061; Willow Tank, Harrison 9103. San Juan Co., east of Navajo Mt., NDA & DT 5347. Common.

Eriogonum panguicense* (Jones) Reveal var. *panguicense

Utah: Garfield Co., Bryce Canyon, Cottam & Hutchings 2762. Rare and local; possibly threatened (Welsh et al. 1975).

***Eriogonum racemosum* Nutt.**

Utah: Garfield Co., Bryce Canyon, Cottam 2755; Pet Hollow, NDA 4340. San Juan Co., Navajo Mt., NDA et al. 3000. Common.

***Eriogonum salsuginosum* (Nutt.) Hook.**

Utah: San Juan Co., east of Navajo Mt., NDA & DT 5351. Rare.

***Eriogonum scabrellum* Reveal**

Utah: Kane Co., Warm Creek, NDA & DK 3334; Smoky Mt., NDA 5958; Rock Creek, NDA & DK 3390. Edaphically restricted; uncommon (Utah endemic).

***Eriogonum shockleyi* Wats. var. *longilobum* (Jones) Reveal**

Utah: Garfield Co., Escalante, Stanton 1047. Kane Co., Willow Tank, Beck & Tanner 2086; Harris Wash road, NDA & DT 5302; Ahlstrom Point road, NDA & RA 2892. Uncommon.

***Eriogonum subreniforme* Wats.**

Arizona: Coconino Co., Cockscomb, NDA & RA 2879. **Utah:** Garfield Co., Tropic Valley, Holmgren et al. 2412; 1 mile east of Henrieville, NDA 1876. Uncommon.

***Eriogonum umbellatum* Torr. var. *subaridum* Stokes**

Arizona: Coconino Co., Cockscomb, NDA et al. 3007; do, NDA 3071. **Utah:** Garfield Co., Pet Hollow, NDA 4332. San Juan Co., Iceberg Canyon, Lake Powell, NDA 4133; Navajo Mt., Gentry & Davidse 1777; do, NDA et al. 2966. Uncommon.

***Eriogonum wetherillii* Eastw.**

Arizona: Coconino Co., Page vicinity, SLW & NDA 9772; do, Reveal 2911. **Utah:** Garfield Co., 45 miles south of Escalante, Beck & Tanner 8236. Kane Co., Warm Creek, NDA 3717; Paria River, NDA & LCH 3984; Little Valley Canyon, NDA et al. 2729. San Juan Co., east of Navajo Mt., 5348. Common.

***Polygonum aviculare* L.**

Utah: Garfield Co., 45 miles south of Escalante, Beck & Tanner s.n. Rare.

***Polygonum douglasii* Greene**

Utah: Garfield Co., Bryce Canyon, Buchanan 232 (Bryce). Rare.

***Polygonum sawatchense* Small**

Utah: San Juan Co., Navajo Mt., NDA & DK 3400. Rare.

***Rumex fueginus* Phil.**

Utah: Garfield Co., Escalante Canyon, Beck s.n., without date. Rare.

***Rumex hymenosepalus* Torr.**

Arizona: Coconino Co., 3 miles south of Wahweap Marina, SLW & NDA 9766; Glen Canyon Dam vicinity, NDA & DT 3426. **Utah:** Kane Co., Willow Tank, Harrison 9094; 14 miles east of Glen Canyon City, RWA 323. Common.

***Rumex venosus* Pursh.**

Utah: Kane Co., 15 miles west of Glen Canyon City, NDA & RA 2867. Rare.

POLYPODIACEAE (Fern Family)

***Adiantum capillus-veneris* L.**

Arizona: Coconino Co., Paria Canyon, Woodruff 1127. **Utah:** Kane Co., Hole-in-the-Rock, Harrison 12137; Paria River, LCH & NDA 5388; 31.5 miles east of Glen Canyon City, NDA et al. 2705; Reflection Canyon, SLW & CAT 11859; mile 47, Lake Powell, NDA et al. 3236; Brigham Plains, NDA & RA 2801. San Juan Co., Three Garden, SLW & NDA 11673. Hanging gardens; abundant.

***Cheilanthes feei* Moore**

Utah: Kane Co., Cockscomb, NDA 4628. Rare.

***Pellaea longimucronata* Hook.**

Utah: San Juan Co., Trail Canyon, Lake Powell, SLW 11910. Rare.

PORTULACACEAE (Purslane Family)

Lewisia pygmaea (Gray) Robins.

Utah: San Juan Co., Navajo Mt., NDA 4182. Rare.

Portulaca mundula Johnst.

Arizona: Coconino Co., Paria Plateau, NDA & GM 4281. Utah: Kane Co., Cedar Mt., NDA et al. 3255, do, NDA 3104A. Rare.

Portulaca oleracea L.

Utah: Kane Co., Cockscomb, NDA & DK 3376. Rare.

Talinum breviflorum Torr.

Arizona: Coconino Co., north of Shouts, NDA & DT 5330. Rare.

Talinum parviflorum Nutt.

Arizona: Coconino Co., Cockscomb, NDA 3061. Utah: Kane Co., Cedar Mt., NDA et al. 3253. Rare.

PRIMULACEAE (Primrose Family)

Androsace septentrionalis L.

Utah: Garfield Co., Escalante Canyon, Beck s.n. Kane Co., Cockscomb, NDA 4618. San Juan Co., Navajo Mt., Gentry & Davidse 1771. Uncommon.

Dodecatheon pulchellum (Raf.) Merrill

Utah: Kane Co., Little Valley Canyon, SLW & NDA 11611. Rare.

Primula specuicola Rydb.

Utah: Kane Co., Hole-in-the-Rock, Karren 102. San Juan Co., Three Garden, SLW & NDA 11668; do, SLW 11905; east of confluence of San Juan, NDA & RA 3157; do, NDA 4092. Restricted, local, and threatened (Welsh et al. 1975).

POTAMOGETONACEAE (Pondweed Family)

Potamogeton pusillus L.

Utah: Kane Co., Escalante Canyon, NDA 4208. Rare.

PYROLACEAE (Wintergreen Family)

Pterospora andromedea Nutt.

Utah: Garfield Co., Bryce Canyon, Vogt s.n. (Bryce). Rare.

Pyrola secunda L.

Utah: San Juan Co., Navajo Mt., NDA 4189; do, Gentry & Davidse 1773. Rare.

RANUNCULACEAE (Buttercup Family)

Aconitum columbianum Nutt.

Utah: Garfield Co., Escalante Canyon, Beck s.n., 1936. Rare.

Anemone tuberosa Rydb.

Utah: San Juan Co., Rainbow Bridge, NDA 3561. Rare.

Aquilegia coerulea James

Utah: Garfield Co., Buchanan 161 (Bryce). Rare.

Aquilegia formosa Fisch.

Utah: Kane Co., Four Mile Bench, SLW & BW 12440; do, SLW 12573a. Rare.

Aquilegia micrantha Eastw.

Arizona: Coconino Co., Paria Canyon, Woodruff 1137. Utah: Kane Co., Four Mile Bench, SLW & BW 12440a; 31.5 miles east of Glen Canyon City, NDA et al. 2698; Last Chance Canyon, 3 miles north of Four Mile Spring, NDA 4076; Escalante River, NDA 4225; do, SLW & GM 11817; Crosby Canyon, NDA & RA 2889. San Juan Co., Three Garden, SLW & NDA 11691; Rainbow Bridge, SLW & NDA 11658. Abundant; hanging gardens.

Aquilegia scopulorum Tidestr.

Utah: Garfield Co., Bryce Canyon, Cottam 2764. Rare.

Aquilegia shockleyi Eastw.

Utah: Garfield Co., Escalante, Cottam 4383, 4390; north of Escalante, NDA 440. Rare.

Clematis ligusticifolia Nutt.

Utah: Kane Co., Willow Tank, Beck & Tanner s.n.; Wahweap Bay, NDA 3135. San Juan Co., east of confluence of San Juan, NDA & RA 3191. Abundant.

Clematis pseudoalpina (Kuntze) A. Nels.

Utah: Garfield Co., Death Ridge, NDA 5184; Canaan Peak, SLW 12829; do, SLW 12878. Rare.

Delphinium menziesii DC. ssp. *utahense* (Wats.) Sutherland

Utah: Kane Co., Kaiparowits Plateau, Harrison 9050; do, NDA 5227. Rare.

Delphinium scaposum Greene

Arizona: Coconino Co., Paria Plateau, NDA & LCH 3783. Utah: Garfield Co., 1.5 miles south of Cannonville, Reveal et al. 767. Kane Co., 40 miles east of Kanab, Cronquist 10141; Hole-in-the-Rock, White 115; Kaiparowits Plateau, NDA & DT

5261; Dry Rock Creek, Lake Powell, SLW & NDA 11614; Cedar Mt., RWA 337. Abundant.

***Myosurus minimus* Pallas**

Arizona: Coconino Co., Buckskin Mt., NDA 4933. Rare.

***Ranunculus aquatilis* L.**

Utah: Garfield Co., Escalante, Cottam 4431. Rare.

***Ranunculus cymbalaria* Pursh.**

Arizona: Coconino Co., Colorado Canyon, between Glen Canyon Dam and Lee's Ferry, NDA & LCH 4023. Rare.

***Ranunculus glaberrimus* Hook. var. *ellipticus* Greene**

Utah: San Juan Co., NDA & DT 5344. Rare.

***Ranunculus juniperinus* Jones**

Utah: Kane Co., Cockscomb, NDA 3583. Rare.

***Ranunculus orogenes* Greene**

Utah: San Juan Co., Navajo Mt., NDA 4186. Rare.

***Thalictrum fendleri* Engelm.**

Utah: San Juan Co., Navajo Mt., NDA et al. 2993. Rare.

RHAMNACEAE (Buckthorn Family)

***Ceanothus fendleri* Gray.**

Utah: San Juan Co., Navajo Mt., Gentry & Davidse 1967; do, NDA et al. 2974. Uncommon; higher elevations.

***Ceanothus martini* Jones**

Utah: Garfield Co., Bryce Canyon, Boyle 1113. Uncommon; higher elevations.

***Rhamnus betulaeifolia* Greene**

Arizona: Coconino Co., Navajo Creek, NDA 3723. **Utah:** Garfield Co., Escalante Canyon, Beck s.n. Kane Co., 31.5 miles east of Glen Canyon City, NDA et al. 2699; Escalante Canyon, SLW & GM 11813; Hole-in-the-Rock, Harrison 12107; Reflection Canyon, SLW & CAT 11848. San Juan Co., east of confluence of San Juan, NDA & RA 3167; Three Garden, SLW 12422. Canyons and hanging gardens at lower elevations; common.

ROSACEAE (Rose Family)

***Amelanchier utahensis* Koehne**

Utah: Garfield Co., Cottam 4375. Kane

Co., Tibbet Canyon, NDA 3460; 20 miles south of Cannonville, Christensen s.n.; Kaiparowits Plateau, NDA & DT 5264; Paria Townsite, SLW & NDA 9732; Four Mile Bench, NDA 3759; Cottonwood Wash, NDA 3593; Tibbet Canyon, NDA 3460; Warm Creek, NDA & RA 2853. Common.

***Cercocarpus intricatus* Wats.**

Utah: Garfield Co., Escalante, Cottam 4416; do, Beck & Tanner s.n. Kane Co., Kaiparowits Plateau, Harrison 9081; Four Mile Bench, NDA et al. 3505. Uncommon.

***Cercocarpus montanus* Raf.**

Utah: Garfield Co., Bryce Canyon, Harrison 12322. Kane Co., Kaiparowits Plateau, NDA & DT 5265. Uncommon.

***Chamaebatiaria millefolium* (Torr.) Maxim.**

Utah: Kane Co., Cockscomb, NDA 4410. Rare.

***Coleogyne ramosissima* Torr.**

Arizona: Coconino Co., Page vicinity, SLW & NDA 9786; 5 miles southeast of Page, Nebeker & Skougard 197; 8 miles south of Page, RWA 224. **Utah:** Cedar Mt., NDA et al. 2752; 35 miles southeast of Escalante, Harrison 9117; Grand Bench, NDA 3536; Hole-in-the-Rock, White 124; 14 miles east of Glen Canyon City, RWA 321; Dry Rock Creek, Lake Powell, SLW & NDA 11638. Codominant in blackbrush communities; abundant.

***Cowania mexicana* D. Don**

Arizona: Coconino Co., Cedar Mt., NDA et al. 2754. **Utah:** Kane Co., Willow Tank, Harrison 9112; 50 miles southeast of Escalante, Beck & Tanner s.n.; Dry Rock Creek, Lake Powell, SLW & NDA 11630; Cockscomb, SLW 5336; Cedar Mt., RWA 184; Four Mile Bench, SLW & JRM 12412. San Juan Co., Navajo Mt., NDA 4142; do, NDA et al. 2983. Widespread; uncommon.

***Fallugia paradoxa* (D. Don) Endl.**

Utah: Kane Co., Paria River, NDA & RA 2779; Kaiparowits Plateau, NDA & DT 5291, Cockscomb, JRM 340; Tibbet Canyon, NDA 3760; Little Valley Canyon, NDA et al. 2717; 5 miles east of Paria, Harrison 12311. Canyon bottoms; locally common.

***Holodiscus dumosus* (Nutt.) Heller**

Utah: Garfield Co., Bryce Canyon, Cottam 2780; Escalante, Cottam 4373. Kane

Co., Hackberry Canyon, NDA 3690. Rare.

***Ivesia sabulosa* (Jones) Keck**

Arizona: Coconino Co., Paria Plateau, NDA & GM 4295. Possibly threatened (Welsh et al. 1975).

***Peraphyllum ramosissimum* Nutt.**

Utah: Garfield Co., Bryce Canyon, Buchanan 219. Rare.

***Petrophytum caespitosum* (Nutt.) Rydb.**

Utah: Kane Co., Reflection Canyon, SLW & CAT 11857. San Juan Co., east of confluence of San Juan, NDA et al. 3226. Hanging gardens; locally abundant.

***Potentilla anserina* L.**

Utah: Garfield Co., Bryce Canyon, Weight s.n. Uncommon.

***Potentilla concinna* Richards.**

Utah: Garfield Co., Canaan Peak, NDA & DT 5320. San Juan Co., Navajo Mt., NDA & DT 5345; do, NDA 4172, 4173. Higher elevations; uncommon.

***Prunus virginiana* L.**

Utah: Kane Co., Kaiparowits Plateau, NDA & DT 5230. Rare.

***Purshia tridentata* (Pursh) DC.**

Utah: Garfield Co., Bryce Canyon, Harrison 12041. Kane Co., Cockscomb, NDA 3540; Kaiparowits Plateau, Harrison 9080. Uncommon.

***Rosa neomexicana* Cockerell**

Utah: San Juan Co., Navajo Mt., NDA 4135; do, NDA et al. 2999. Rare.

***Rosa woodsii* Lindl.**

Utah: Garfield Co., Escalante, Cottam 4421; do, Beck & Tanner 8235. Kane Co., Hole-in-the-Rock, Harrison 12139. San Juan Co., Ribbon Canyon, NDA 4103. Uncommon.

***Rubus neomexicanus* Gray**

Utah: San Juan Co., Ribbon Canyon, SLW & NDA 11710; do, SLW & GM 11782; do, NDA 4102. This is the first known Utah record; rare.

RUBIACEAE (Madder Family)

***Galium bifolium* Wats.**

Utah: Kane Co., Kaiparowits Plateau, NDA & DT 5222. Uncommon.

***Galium stellatum* Kellogg**

Utah: Garfield Co., Escalante, Cottam 4411. Kane Co., Driftwood Canyon, Lake Powell, SLW & NDA 11644. Rare.

RUTACEAE (Rue Family)

***Ptelea trifoliata* L. ssp. *pallida* (Greene) V.L. Bailey**

Utah: Garfield and Kane counties, Bailey (1962), possibly extinct.

***Thamnosoma montana* Torr. & Frem.**

Arizona: Coconino Co., Glen Canyon Dam, NDA & DT 3424; Navajo Canyon, NDA & RA 3145. Kane Co., Cedar Mt., NDA 4425. Rare.

SALICACEAE (Willow Family)

***Populus angustifolia* James**

Utah: Garfield Co., Bryce Canyon, Weight B-31/148. Higher elevations; uncommon.

***Populus fremontii* Wats.**

Utah: Kane Co., Little Valley Canyon, NDA 3428, 3419. Drainage bottoms; common.

***Populus tremuloides* Michx.**

Utah: San Juan Co., Navajo Mt., NDA et al. 2988. Rare to uncommon.

***Salix amygdaloides* Anderss.**

Utah: Kane Co., Escalante Canyon, NDA & RA 3214; Reflection Canyon, SLW & CAT 11856. San Juan Co., Ribbon Canyon, NDA 4106. Uncommon.

***Salix bebbiana* Sarg.**

Utah: San Juan Co., Navajo Mt., NDA 4166. Uncommon.

***Salix exigua* Nutt.**

Utah: Garfield Co., Bryce Canyon, Cottam 2779; Escalante, Cottam 4397. Kane Co., Nipple Canyon, NDA & RA 2833; Four Mile Bench, SLW et al. 12585; Paria River, NDA & LCH 4010. Common; drainages, seeps, and springs.

***Salix lutea* Nutt.**

Utah: San Juan Co., Three Garden vicinity, SLW 11894. Uncommon.

***Salix scouleriana* Barrett**

Utah: San Juan Co., Navajo Mt., NDA et al. 2989. Uncommon.

SANTALACEAE (Sandalwood Family)

***Comandra umbellata* (L.) Nutt. var. *pallida* (A. DC.) Jones**

Utah: Garfield Co., 1.3 miles south of Cannonville, Reveal et al. 747. Kane Co.,

Kaiparowits, Plateau, NDA & DT 5278; East Clark Bench, NDA & RA 2685; Fifty Mile Spring, JRM 369; Cedar Mt., RWA 187; Cockscomb, NDA 3539, 1972; Four Mile Bench, SLW 12430. Common.

SAXIFRAGACEAE (Saxifrage Family)

Heuchera rubescens Torr.

Utah: Garfield Co., Escalante, Cottam 4410. San Juan Co., Navajo Mt., Gentry & Davidse 1781; do, NDA 4188. Rare.

Lithophragma tenella Nutt.

Arizona: Coconino Co., Cockscomb, NDA 4942. Utah: Kane Co., Kaiparowits Plateau, Harrison 9049. San Juan Co., Navajo Mt., NDA & DT 5337. Uncommon.

Philadelphus microphyllus Gray

Utah: San Juan Co., Navajo Mt., Gentry & Davidse 1768; do, NDA et al. 2980. Rare.

Ribes cereum Dougl.

Utah: Garfield Co., Bryce Canyon, Buchanan 105. Uncommon.

Ribes leptanthum Gray

Utah: Kane Co., Kaiparowits Plateau, NDA 529; do, NDA & DT 5266. San Juan Co., NDA 4134. Uncommon.

Ribes montigenum McClatchie

Utah: San Juan Co., Navajo Mt., NDA 4153. Rare.

Ribes velutinum Greene

Utah: Kane Co., Buckskin Mt., NDA 4649. Rare.

SCROPHULARIACEAE (Figwort Family)

Castilleja chromosa A. Nels.

Utah: Garfield Co., Escalante, Cottam 4415; 1.5 miles south of Cannonville, Reveal et al. 766; 20 miles southeast of Cannonville, Holmgren et al. 2049. Kane Co., Kaiparowits Plateau, Harrison 9055; Bryce Canyon, NDA 6127; 14 miles east of Glen Canyon City, RWA 213; Smoky Mt., Cronquist 10020; Cottonwood Wash road, Reveal et al. 808; Paria Townsite, SLW & NDA 9724; Buckskin Gulch, SLW 5310; Nipple Canyon, NDA 3479; Four Mile Bench, SLW & NDA 12377; Brigham Plains, NDA et al. 3488. San Juan Co., Three Garden, SLW 12415; Navajo Mt., NDA 4140. Abundant.

Castilleja exilis A. Nels.

Utah: Garfield Co., Escalante Canyon, Beck 113; do, Holmgren et al. 2119. Rare.

Castilleja linariaefolia Benth.

Arizona: Coconino Co., Paria Plateau, NDA 6397. Utah: Garfield Co., 5 miles west of Escalante, Anderson 684. Kane Co., Reflection Canyon SLW 11882; Hole-in-the-Rock, Harrison 12106; Escalante Canyon, NDA & RA 3206; Four Mile Bench, SLW et al. 12579; Cottonwood Wash road, NDA & DK 3321; Hole-in-the-Rock, Karren 105; east of confluence of San Juan, NDA & RA 3174, 3186; Navajo Mt., Gentry & Davidse 1783; do, NDA et al. 2972. Abundant.

Castilleja revealii N. Holmgren

Utah: Garfield Co., Bryce Canyon, Holmgren & Reveal 2017. Rare, endemic, and possibly endangered (Welsh et al. 1975).

Castilleja scabrida Eastw.

Utah: Garfield Co., 12 miles east of Escalante, Harrison 9129; southeast of Escalante, NDA 1242. Kane Co., 16 miles east of Glen Canyon City, NDA 3666. Common.

Collinsia parviflora Dougl.

Utah: San Juan Co., NDA & DT 5340; do, NDA 4185. Rare.

Cordylanthus parviflorus (Ferris) Wiggins

Utah: Kane Co., 30 miles east of Kanab, NDA 5587. Rare.

Cordylanthus wrightii Gray

Arizona: Coconino Co., Paria Plateau, NDA 6413. Utah: Kane Co., Escalante River, NDA 4222; East Clark Bench, NDA & DK 3372; Cedar Mt., NDA 3110. Uncommon.

Mimulus eastwoodiae Rydb.

Utah: Kane Co., Escalante River, NDA & RA 3202, 3217, 3219. San Juan Co., Rainbow Bridge, NDA & NW 3303; Three Garden, SLW & NDA 11677. Hanging gardens; restricted and uncommon.

Mimulus glabratus H.B.K.

Utah: Kane Co., Cottonwood Wash, SLW 12591; do, NDA & LCH 3833. Uncommon.

Mimulus guttatus Fisch. var. *guttatus*

Arizona: Coconino Co., Paria Canyon, Woodruff 1131, 1132. Uncommon.

Mimulus guttatus DC. var. *depauperatus* (Gray) Grant

Utah: Kane Co., Escalante Canyon, NDA & RA 3205. Uncommon.

***Mimulus rubellus* Gray**

Arizona: Coconino Co., Cockscomb, NDA 4932, 4946. **Utah:** Kane Co., Cockscomb, NDA 4620; Buckskin Mt., NDA 4655. San Juan Co., Navajo Mt., NDA & DT 5343. Uncommon.

***Mimulus suksdorfii* Gray**

Utah: Kane Co., Kaiparowits Plateau, NDA & DT 5221. Uncommon.

***Orthocarpus purpureo-albus* Gray**

Utah: Garfield Co., Bryce Canyon, Weight s.n. Uncommon.

***Pedicularis centranthera* Gray**

Utah: Garfield Co., Bryce Canyon, Burkey 135; Death Ridge, NDA 5179. Kane Co., Cottonwood Wash road, LCH & NDA 5254. San Juan Co., Navajo Mt., NDA et al. 2995; do, NDA 4158. Uncommon.

***Penstemon ambiguus* Torr.**

Arizona: Coconino Co., Glen Canyon Dam vicinity, Reveal et al. 838, Paria Plateau, NDA & GM 4280. **Utah:** Garfield Co., Escalante, NDA 747. Kane Co., 50 miles south of Escalante, Beck & Tanner s.n.; East Clark Bench, NDA & RA 2683; Paria River, NDA & LCH 3942; Cedar Mt., NDA 3120A. San Juan Co., east of confluence of San Juan, NDA 4096. Low elevations; common.

***Penstemon angustifolius* Nutt. ssp. *elatus* Crosswhite**

Utah: Garfield Co., Escalante, Cottam 4385a; east of Escalante, Harrison 9136b. Uncommon.

***Penstemon barbatus* (Cav.) Roth. ssp. *torreyi* (Benth.) Keck**

Utah: Garfield Co., north of Escalante, Holmgren et al. 2423. Rare.

***Penstemon bracteatus* Keck**

Utah: Garfield Co., Bryce Canyon, Holmgren et al. 2018. Rare.

***Penstemon bridgesii* Gray**

Arizona: Coconino Co., Paria Plateau, NDA & GM 4276. **Utah:** Garfield Co., Pet Hollow, NDA 4322. Kane Co., Cockscomb, NDA 5485. San Juan Co., NDA & DK 3398; do, NDA et al. 2964; do, Gentry & Davidse 1793. Uncommon.

***Penstemon caespitosus* Nutt. ssp. *perbrevis* Pennell**

Utah: Garfield Co., Bryce Canyon, Boyle

1138; Utah endemic; restricted edaphically and uncommon.

***Penstemon comarrhenus* Gray**

Utah: Garfield Co., Bryce Canyon, Cottam 2757; Escalante, Cottam 4386; Kane Co., Four Mile Bench, NDA 5357; Collet Wash, NDA 1869; 25 miles southeast of Escalante, Holmgren et al. 2059. San Juan Co., Navajo Mt., Gentry & Davidse 1780; do, NDA et al. 2965. Middle elevations; widespread and uncommon.

***Penstemon confusus* Jones**

Utah: Garfield Co., Escalante, White 137. Kane Co., Four Mile Bench, SLW 12427. Uncommon.

***Penstemon eatonii* Gray ssp. *undosus* (Jones) Keck**

Utah: Garfield Co., Escalante, Cottam 4386a. Kane Co., Hole-in-the-Rock, Harrison 12116; Cockscomb, SLW 5344; Kaiparowits Plateau, NDA & DT 5260.

***Penstemon jamesii* Benth. ssp. *ophianthus* (Pennell) Keck**

Utah: Garfield Co., 11 miles east of Henrieville, Holmgren et al. 2019; Death Ridge, NDA 5177. Kane Co., Collet Wash, NDA s.n. Uncommon.

***Penstemon laevis* Pennell**

Utah: Garfield Co., near Bryce Canyon, Burkey 165. Kane Co., Cottonwood Wash, NDA & RA 2803; Paria River, NDA & LCH 3998; 3 miles north of Four Mile Spring, NDA 4080. Uncommon.

***Penstemon leiophyllus* Pennell**

Utah: Garfield Co., Bryce Canyon, Weight 6663. Kane Co., Bryce Canyon, Boyle 1131. Uncommon and possibly threatened (Welsh et al. 1975).

Penstemon lentus* Pennell ssp. *lentus

Utah: Garfield Co., Escalante, Cottam 4419. Rare.

***Penstemon pachyphyllus* Gray**

Utah: Garfield Co., Escalante, Cottam 4425. Kane Co., 4 miles south of Cannonville, Reveal 782. Uncommon.

***Penstemon palmeri* Gray**

Utah: Kane Co., Paria River, NDA & LCH 3999; Warm Creek, NDA & RA 2852; Last Chance Creek, 3 miles north of Four Mile Spring, NDA 4081; Collet Wash, NDA 1871. Uncommon.

***Penstemon thompsoniae* (Gray) Rydb.**

Arizona: Coconino Co., Cockscomb, NDA 4945. **Utah:** Kane Co., Four Mile Bench, RWA 439; do, NDA 5170. Rare.

***Penstemon utahensis* Eastw.**

Utah: Garfield Co., Bryce Canyon, Cottam 4354; 4 miles southwest of Cannonville, Reveal et al. 769. Kane Co., Kaiparowits Plateau, Harrison 9061, 9065; Cockscomb, NDA 3546; Buckskin Gulch, SLW 5306; Little Valley Canyon, NDA 3521; Cottonwood Wash, Moore 403; Smoky Mt., Cronquist 10021; Paria Townsite, SLW & NDA 9725; 3 miles southeast of Escalante, Buss 107; Fifty Mile Spring, JRM 353. San Juan Co., Navajo Mt., King s.n. Common.

***Penstemon venosus* (Keck) Reveal**

Utah: Garfield Co., east of Escalante, Harrison 9136a. Uncommon

***Veronica anagallis-aquatica* L.**

Arizona: between Lee's Ferry and Glen Canyon Dam, NDA & LCH 4020. **Utah:** Kane Co., Escalante Canyon, NDA 4129. Uncommon.

SOLANACEAE (Nightshade Family)

***Chamaesarcha coronopus* (Dunal) Gray**

Arizona: Coconino Co., Cockscomb, NDA & RA 2888a. Uncommon.

***Datura meteloides* DC.**

Utah: Kane Co., Willow Tank, Harrison 9092; Hole-in-the-Rock, Harrison 12109; base of Cedar Mt., NDA 2917; Escalante Canyon, NDA & RA 3199; do, SLW & GM 11808. Low elevations; common.

***Lycium andersonii* Gray**

Utah: Kane Co., Last Chance Creek, NDA et al. 3515; base of Smoky Mt., NDA 3440. Uncommon.

***Lycium pallidum* Miers**

Arizona: Coconino Co., Paria Plateau, NDA & LCH 3785; Cedar Mt., NDA et al. 2749. **Utah:** Kane Co., Cedar Mt., NDA 3559. Uncommon.

***Nicotiana attenuata* Torr.**

Utah: San Juan Co., Navajo Mt., Gentry & Davidse 1789; do, NDA et al. 2968; do, NDA & DK 3397. Uncommon.

***Nicotiana trigonophylla* Dunal**

Arizona: Coconino Co., east side of Glen Canyon Dam, NDA 3449. **Utah:** Kane Co., Wahweap Bay, Lake Powell, NDA 3701;

Escalante Canyon, SLW & GM 11807; Dry Rock Creek, Lake Powell, SLW & NDA 11631; Gunsight Bay, Lake Powell, SLW & NDA 11583. Uncommon.

***Physalis fendleri* Gray**

Arizona: Coconino Co., Paria Plateau, NDA & GM 4292. Rare.

***Solanum elaeagnifolium* Cav.**

Utah: Kane Co., 6 miles west of Glen Canyon City, NDA 2922. Rare.

***Solanum triflorum* Nutt.**

Utah: Kane Co., Willow Tank, Beck & Tanner s.n.; Escalante Canyon, SLW & GM 11806. Rare.

TAMARICACEAE (Tamarix Family)

***Tamarix parvifolia* DC.**

Utah: Kane Co., Paria River, NDA 3577. Uncommon.

***Tamarix ramosissima* Ledeb.**

Arizona: Coconino Co., between Lee's Ferry and Glen Canyon Dam, NDA & LCH 4034. **Utah:** Kane Co., Hole-in-the-Rock, Harrison 12120; Paria River, Cronquist 10200; Cottonwood Wash road, NDA & RA 2768; Halls Creek Bay, Lake Powell, SLW & GM 11794; Four Mile Bench, SLW et al. 12582. Abundant.

TYPHACEAE (Cattail Family)

***Typha domingensis* Pers.**

Utah: Kane Co., Escalante Canyon, NDA 4214; Four Mile Bench, SLW et al. 12602. Uncommon.

ULMACEAE (Elm Family)

***Celtis reticulata* Torr.**

Arizona: Coconino Co., Lee's Ferry, Cottam 2625. **Utah:** Kane Co., Hole-in-the-Rock, Harrison 12108; Escalante Canyon, SLW & GM 11818; Reflection Canyon, SLW & CAT 11860. San Juan Co., Three Garden, SLW & NDA 11689; east of confluence of San Juan, NDA & RA 3181A. Canyons; locally common.

UMBELLIFERAE (Parsley Family)

***Cymopterus fendleri* Gray**

Utah: Kane Co., Willow Tank, JRM 387a;

base of Smoky Mt., NDA 3439; East Clark Bench, NDA et al. 3493; 30 miles east of Glen Canyon City, NDA 4549; Little Valley Canyon, NDA 3530. Common.

***Cymopterus newberryi* (Wats.) Jones**

Arizona: Coconino Co., 3 miles south of Wahweap Marina, SLW & NDA 9769. **Utah:** Kane Co., 14 miles east of Glen Canyon City, RWA 119; 6 miles southeast of Glen Canyon City, RWA 133; between Nipple Bench and Lake Powell, Cronquist 10016; Paria River, NDA & LCH 3964; Warm Creek, NDA 3714; Willow Tank, JRM 387. Common.

***Cymopterus multinervatus* (C. & R.) Tidestr.**

Utah: Kane Co., Cottonwood Wash Road, SLW 5357; Paria Townsite, SLW & NDA 9726; Cockscomb, NDA 4665; East Clark Bench, NDA et al. 3494; 13 miles east of Warm Creek, NDA et al. 3511. Low elevations; common.

***Cymopterus purpurascens* (Gray) Jones**

Utah: Kane Co., Nipple Canyon, NDA 3481; Cedar Mt., RWA 171; Smoky Mt., RWA 126. Common.

***Cymopterus purpureus* Gray**

Arizona: Coconino Co., Cockscomb, NDA 4926. **Utah:** Kane Co., Kaiparowits Plateau, Harrison 9064; do, JRM 406; Buckskin Gulch, SLW 5317; Cottonwood Wash road, Christensen s.n.; Nipple Creek, NDA 3483; Cockscomb, NDA 4630A. Common.

***Lomatium foeniculaceum* (Nutt.) C. & R. var. *macdougalii* (C. & R.) Cronq.**

Arizona: Coconino Co., Cockscomb, NDA 4934. **Utah:** Kane Co., Four Mile Bench, NDA et al. 3506. Uncommon.

***Lomatium juniperinum* (Jones) C. & R.**

Utah: Garfield Co., NDA & DT 5319. Rare.

***Lomatium minimum* Mathias**

Utah: Garfield Co., Bryce Canyon, Cottam, Harrison & Stanton 4360; do, Weight s.n., Aug. 1934. Endemic, rare, and threatened (Welsh et al. 1975).

***Lomatium nevadense* (Wats.) C. & R.**

Utah: Kane Co., Kaiparowits Plateau, Harrison 9047; do, NDA & DT 5247. Rare.

***Lomatium parryi* (Wats.) Macbr.**

Arizona: Coconino Co., 9 miles south of

Page, RWA 219. **Utah:** San Juan Co., Navajo Mt., NDA 4144. Uncommon.

URTICACEAE (Nettle Family)

***Parietaria pennsylvanica* Muhl.**

Utah: Kane Co., Escalante Canyon, SLW & GM 11805; Cockscomb, NDA 4413; do, NDA 4627. Uncommon.

VIOLACEAE (Violet Family)

***Viola canadensis* L.**

Utah: San Juan Co., Navajo Mt., NDA 4155. Rare.

***Viola nephrophylla* Greene**

Utah: Garfield Co., Escalante Canyon, Harrison 9148. Rare.

VISCACEAE (Dwarf Mistletoe Family)

***Arceuthobium vaginatum* (H.B.K.) Eichler**

Utah: San Juan Co., Navajo Mt., NDA et al. 2991. Uncommon.

***Phoradendron juniperinum* Engelm.**

Utah: Kane Co., Four Mile Bench, NDA 4308; Cockscomb, NDA 3547. Common.

VITACEAE (Grape Family)

***Parthenocissus inserta* (Kerner) K. Frtsch.**

Utah: Kane Co., Hole-in-the-Rock, Harrison 12138; Escalante Canyon, SLW & GM 11816; do, SLW & CAT 11872; do, NDA 4127; Reflection Canyon, SLW & CAT 11853. San Juan Co., Rainbow Bridge, SLW & NDA s.n. Uncommon.

ZANNICHELLIACEAE
(Horned Pondweed Family)

***Zannichellia palustris* L.**

Arizona: Coconino Co., Lee's Ferry, NDA 4350. Reflection Canyon, SLW & CAT 11855. Uncommon.

ZYGOPHYLLACEAE (Caltrop Family)

***Tribulus terrestris* L.**

Arizona: Coconino Co., 8 miles southeast of Page, NDA et al. 3241; Paria Plateau, NDA & GM 4289. Uncommon.

LITERATURE CITED

(Plants)

- AL-SHEBAZ, I. A. 1973. The biosystematics of the genus *Thelypodium* (Cruciferae). Contr. Gray Herb. 204: 1-148.
- BAILEY, V. L. 1962. Revision of the genus *Ptelea* (Rutaceae). Brittonia 14:1-45.
- BARNEBY, P. C. 1964. Atlas of North American *Astragalus*. Mem. N.Y. Bot. Gard. 13:1-1188.
- BUCHANAN, H., AND G. T. NEBEKER. 1971. Checklist of higher plants of Bryce Canyon National Park, Utah. Weber State College, Ogden, Utah. 30 pp.
- . 1974. Wildflower communities of Bryce Canyon and Cedar Breaks. Bryce Canyon Natural History Association, Bryce Canyon, Utah. 25 pp.
- CLOVER, E. U., AND L. JOTTER. 1941. Cacti of the Colorado River and tributaries. Bull. Torrey Bot. Club 68:409-419.
- EASTWOOD, A. 1893. Plants collected in southeastern Utah. Zoe 4:123-125.
- FLOWERS, S. 1959. Vegetation in Glen Canyon, pp. 21-61. In: Ecological studies of the flora and fauna in Glen Canyon, Angus M. Woodbury et al. Univ. Utah Anthro. Papers No. 40, Glen Canyon Ser. No. 7:63-72.
- GAINES, X. M. 1957. Plants in Glen Canyon Plateau 30(2):31-34.
- . 1960. An annotated catalogue of Glen Canyon plants. Museum of Northern Arizona Technical Series, No. 4.
- GREGORY, H. E. 1947. Colorado drainage basin. Amer. J. Sci. 245:694-705.
- HARING, I. N. 1961. Mosses of the Glen Canyon area. Plateau 33(4):120-22.
- HARRINGTON, H. D. 1954. Manual of the plants of Colorado. Sage Books, Denver, Colorado. 666 pp.
- HASKELL, H. S. 1958. Flowering plants in Glen Canyon—late summer aspect. Plateau 31(1):1-3.
- KEARNEY, T. H., AND R. H. PEEBLES. 1964. Arizona flora. University of California Press, Berkeley. 1085 pp.
- LINDSAY, D. S. 1959. Vascular plants collected in Glen Canyon. Appendix A in Ecological studies of the flora and fauna in Glen Canyon, Angus M. Woodbury et al. Univ. Utah Anthro. Papers No. 40, Glen Canyon Ser. No. 25:176-195.
- MARTIN, P. S. 1964. Pollen analysis in the Glen Canyon. Addendum in 1962 excavation, Glen Canyon area, Floyd W. Sharrock, et al. Univ. Utah Anthro. Papers. No. 73, Glen Canyon Ser. No. 25:176-195.
- MCDUGALL, W. B. 1959. Plants of the Glen Canyon area in the herbarium of the Museum of Northern Arizona. Museum of Northern Ariz., Flagstaff. Mimeographed.
- MORGAN, D. L. 1947. The exploration of the Colorado River in 1869. Utah Hist. Quarterly 15. 270 pp.
- PLAIR, T. B. (1939). Vegetative cover of the Utah Parks. Zion and Bryce Nat. Notes 6(3):34-35.
- REVEAL, J. L. 1970. Comments on *Lesquerelia hitchcockii*. Great Basin Nat. 30:94-98.

- TIDESTROM, I. 1925. Flora of Utah and Nevada. Contr. U.S. Natl. Herb. 25:1-665.
- WEIGHT, K. E. 1932. The limber pine. Zion and Bryce Nat. Notes. 4(5):4.
- . 1933. The bristle-cone pine in Bryce Canyon Natl. Park. Zion and Bryce Nat. Notes 5(3):8.
- . 1933. Douglas fir in Bryce Canyon Zion and Bryce Nat. Notes 5(4):4-5.
- WELSH, S. L. AND G. MOORE. 1973. Utah plants tracheophyta. Brigham Young University Press, Provo, Utah. 474 pp.
- WELSH, S. L., N. D. ATWOOD, AND J. L. REVEAL. 1975. Endangered, threatened, extinct, endemic, and rare or restricted Utah vascular plants. Great Basin Nat. 35:327-376.

LITERATURE CITED

(General Biota Including Plants)

- ADAMS, E. B., AND A. CHAVEX. 1956. The missions of New Mexico, 1776, a description, with other contemporary documents. University of New Mexico Press, Albuquerque. 387 pp.
- ARRINGTON, L. J. 1958. Great Basin kingdom, an economic history of Latter-day Saints, 1830-1900. Harvard Univ. Press, Cambridge, Mass. 524 pp.
- AUERBACK, H. S. 1943. Father Escalante's journal with related documents and maps. Utah Hist. Quart. 11:1-10.
- BAKER, A. A. 1936. Geology of the Monument Valley-Navajo Mountain Region, San Juan County, Utah. U.S. Geological Bull. No. 865. Washington, D.C. 106 pp.
- BANCROFT, H. H. 1889. History of Utah, 1540-1886. San Francisco History Co., 1889. Arno Press, New York. 808 pp.
- BENSON, S. B. 1935. Biological reconnaissance of Navajo Mountain. Univ. of Calif. Publ. in Zool. 40(14):439-456.
- BERNHEIMER, C. L. 1923. Encircling Navajo Mountain with a pack train—a new route to Rainbow Natural Bridge. Natl. Geogr. Mag. 43:197-224.
- BOLTON, H. E. 1950. Pageant in the wilderness, the story of the Escalante expedition to the Interior Basin, 1776, including the diary and itinerary of Father Escalante; translated and annotated. State Historical Society. 265 pp.
- BROOKS, J. 1957. Lee's Ferry at Lonely Dell. Utah Hist. Quarterly 25:283-295.
- BRIGHAM YOUNG UNIVERSITY NAVAJO-KAIPAROWITS REFERENCE COLLECTION. 1971-1974. Brigham Young University, Provo, Utah.
- CHAMBERLIN, R. V. 1947. Francis Marion Bishop, 1843-1933. Utah Hist. Quarterly 25:155-158.
- CHIDESTER, I., AND E. BRUIN. (Daughters of Utah Pioneers). 1949. Golden nuggets of pioneer days, a history of Garfield County. Garfield County News, Panguitch, Utah.
- CLELAND, R. G. 1963. This reckless breed of men, the trappers and fur traders of the Southwest. Knopf, New York. 361 pp.
- CRAMPTON, G. C. 1959. Outline history of the Glen

- Canyon region. Univ. Utah Papers No. 42, Glen Canyon Ser. No. 9:1-137.
- CREER, L. H. 1958a. Mormon towns in the region of the Colorado. Univ. of Utah Anthro. Papers No. 32. 26 pp.
- . 1958b. The activities of Jacob Hamblin in the region of the Colorado. Univ. Utah Anthr. Papers No. 42, Glen Canyon Ser. No. 9:1-137.
- DANSON, E. B. 1958. The Glen Canyon project. Plateau 30(3):75-78.
- DARRAH, W. C. 1947. Biographical sketches and original documents of the first Powell expedition of 1869, and the second Powell expedition of 1871-72. Utah Hist. Quarterly 15:9-153.
- . 1948. Beaman, Fennemore, Hillers, Delenbough, Johnson, and Hottan (and) three letters by Andrew Hall. Utah Hist. Quarterly 16-17: 491-408.
- . 1951. Powell of the Colorado. Princeton University Press, Princeton, New Jersey. 426 pp.
- DELLENBAUGH, F. S. 1902. The romance of the Colorado River. G. P. Putnam's Sons, New York. 399 pp.
- . 1926. A canyon voyage, the narrative of the second Powell expedition down the Green-Colo- rado River from Wyoming, and the explorations on land, in the years 1871 and 1872. 2d edition. Yale Univ. Press. New Haven, Connecticut. 277 pp.
- DUTTON, C. E. 1880. Report of the geology of the high plateau of Utah, with atlas. U.S. Geographical and Geological Survey of the Rocky Mountain Region. Washington, D.C. Government Printing Office. 307 pp.
- FREEMAN, L. R. 1923. The Colorado River yesterday, today and tomorrow. Dodd, Mead and Co., New York. 307 pp.
- FREMONT, J. C. 1846. Report of exploring expedition to the Rocky Mountains in the year 1842, and to Oregon and North California in the years 1843-44. Gales and Seaton Printers, Washington. 696 pp.
- GANNETT, H. 1900. A gazetteer of Utah. U.S. Geological Survey Bull. No. 166, 43 pp.
- GREGORY, H. E. 1917. Geology of the Navajo country. U.S. Geological Survey Prof. Paper No. 93. 161 pp.
- . 1938. The San Juan country: a geographic and geologic reconnaissance of southeastern Utah: U.S. Geological Survey Prof. Paper 188. 26 pp.
- . 1939. Diary of Almon Harris Thompson. Utah Hist. Quarterly 7:3-138.
- . 1945. Scientific explorations in southern Utah. Am. Journal of Sci. 243:527-549.
- . 1948. Geology and geography of central Kane County, Utah. Bull. Geol. Soc. of America 59:211-248.
- . 1949. Stephen Vandiver Jones, 1840-1920, and Journal April 21, 1871-Dec. 24, 1872. Utah Hist. Quarterly 16-17:11-174.
- . 1951. The geology and geography of the Paunsaugunt region, Utah, a survey of parts of Garfield and Kane Counties. U.S. Geol. Survey Prof. Paper No. 226. 116 pp.
- GREGORY, H. E., AND R. C. MOORE. 1931. The Kaiparowits region. U.S. Geological Survey Prof. Paper No. 164. 161 pp.
- GREGORY, H. E., W. C. DARRAH, AND C. KELLY, eds. 1948-49. Exploration of the Colorado River and the high plateaus of Utah in 1871-72. Utah Hist. Quarterly 16-17. 540 pp.
- HALL, A. F. 1934. General report on the Rainbow Bridge-Monument Valley expedition 1933. Univ. of Calif. Press, Berkeley. 32 pp.
- HAYWARD, L. C., D. E. BECK, AND W. W. TANNER. 1958. Zoology of the upper Colorado River basin. 1. The biotic communities. Brigham Young University Biol. Surv. 1(3):1-74.
- HEALD, W. F. 1955. Who discovered Rainbow Bridge? Sierra Club Bulletin No. 40:22-28.
- HILL, J. F. 1930. Spanish and Mexican exploration and trade northwest from New Mexico into the Great Basin, 1705-1853. Utah Hist. Quarterly 3:2-23.
- HITE, C. 1939. Colorado River gold. From "Beaver Utonian," January 13, 1893. Utah Hist. Quarterly 7:139-140.
- JAMES, G. W. 1922. Utah, the land of blossoming valleys. Page Company, Boston. 371 pp.
- KELLY, C. 1947. Captain Francis Marion Bishop's journal, August 15, 1870-June 3, 1872. Utah Hist. Quarterly 15:253-490.
- . 1949. Walter Clement Powell, and journal. April 21, 1871-December 7, 1872. Utah Hist. Quarterly 16-17: 253-490.
- KIDDER, A. V. 1910. Exploration in southwestern Utah in 1908. Am. J. of Archaeology 14(3):337-359.
- LAWSON, A. C. 1913. The gold in the Shinarump at Paria. Economic Geology 8:434-438.
- LEAVITT, F. J. 1943. Steam navigation on the Colorado River. Calif. Hist. Society Quarterly. 22(1-25), 151-174.
- MILLER, D. E. 1958. Discovery of Glen Canyon. Utah Hist. Quarterly 26:220-231.
- . 1959. Hole-in-the-Rock, an epic in the colonization of the Great American West. University of Utah Press, Salt Lake City, 229 pp.
- MISER, H. D., K. W. TRIMBLE, AND S. PAIGE. The Rainbow Bridge, Utah. Geographical Review 13:518-531.
- PARKER, T. C. 1933. Game management problems of Utah national parks. Utah State Ag. College Misc. Publ. 10:32-34.
- POQUE, J. E. 1911. The great Rainbow Natural Bridge of southern Utah. Natl. Geogr. Mag. 22:1048-1056.
- POWELL, J. W. 1875. Exploration of the Colorado River of the West and its tributaries; explored in 1869 to 1872. Smithsonian Institution. Government Printing Office, Washington. 291 pp.
- PRESNALL, C. C. 1933. Along nature's highways. Zion-Bryce Nat. Notes 6(6):52-57.
- . 1934. Animals and birds of Bryce Canyon National Park. Zion-Bryce Nat. Notes 6(6):52-57.
- PRITCHETT, C. L. 1962. Vertebrate distribution in relation to certain habitats in central Kane County, Utah. Unpublished M.S. thesis, Dept. of Zoolo-



Welsh, Stanley L., Atwood, N. Duane, and Murdock, Joseph R . 1978.
"KAIPAROWITS FLORA." *The Great Basin naturalist* 38, 125–179.

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