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ECOLOGIC AND GEOGRAPHIC DISTRIBUTIONS
OF THE
VASCULAR PLANTS OF SOUTHERN NYE COUNTY,
AND ADJACENT PARTS OF CLARK, LINCOLN, AND ESMERALDA COUNTIES,
NEVADA

(Supplement to UCLA 12-705)

By

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January 1971

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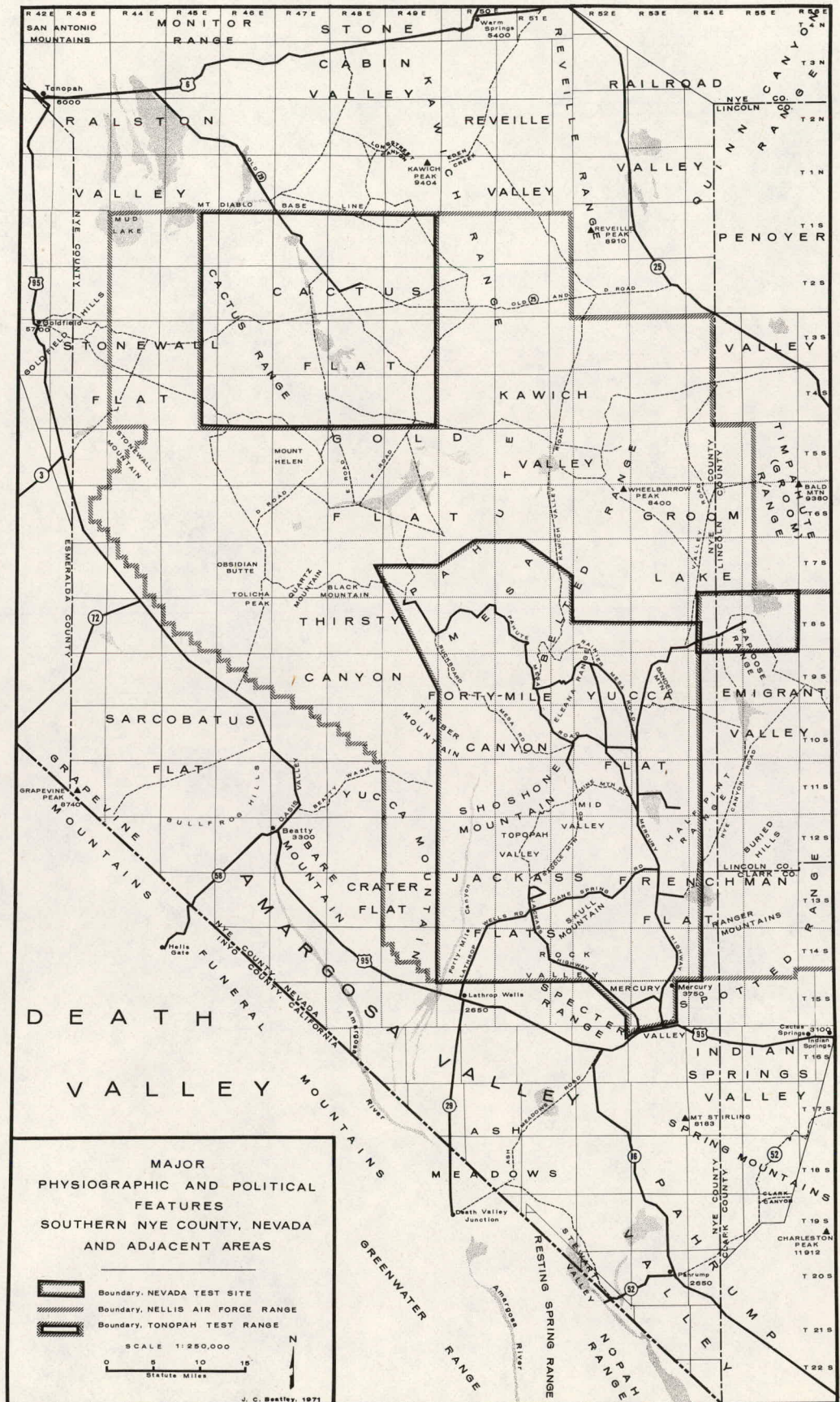
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Figure 1. Major Physiographic and Political Features, Southern
Nye County, Nevada, and Adjacent Areas.

Areas not sampled in plant collecting, 1959-70,
are those in which township boundaries are not
shown.



ECOLOGIC AND GEOGRAPHIC DISTRIBUTIONS OF THE
VASCULAR PLANTS OF SOUTHERN NYE COUNTY,
AND ADJACENT PARTS OF CLARK, LINCOLN, AND ESMERALDA COUNTIES,
NEVADA

INTRODUCTION

The compilation which follows is a supplement to UCLA Report 12-705 (Beatley, J. C. Vascular plants of the Nevada Test Site, Nellis Air Force Range, and Ash Meadows. Lab. of Nuclear Medicine and Radiation Biology, University of California, Los Angeles. March 1969), in which were recorded the geographic and ecologic distributions of all taxa collected on the author's flora project through the 1968 collecting season. The collecting continued through the 1969 season with some increase in size of the area sampled, and during the 1970 season the area was expanded to include the entire southern two-fifths of Nye County, and areas of adjacent counties closely tied physiographically or vegetationally to the Nevada Test Site or Nellis Air Force Range, or to principal routes of access to the region encompassed by southern Nye County.

It is the purpose of this report primarily to record the taxa collected for the first time in the 1969 and 1970 seasons, and their distributions as known from these collections. The major physiographic and political features of the area, as it is now defined, are indicated in Figure 1; the total area is around 9,500 square miles. The 4,000 new distribution records, for the taxa recorded in UCLA 12-705 and not included in the supplement, will be incorporated in the final treatment of the regional flora in preparation.

The expanded 1970 collecting area overlaps that of Clokey (Clokey, I. W. Flora of the Charleston Mountains, Clark County, Nevada. University of California Press. 1951), although the collections from the northwest Spring (Charleston) Mountains were largely in areas not collected by Clokey. These have increased the number of taxa now known from this large mountain range, and enable the recognition of the floristic affinities of the northwest portion of the Spring Mountains with the vegetation of the higher elevations of the nearby Test Site, and between the flora of the southerly Spring Mountains and that of the northern part of the Kawich Range, over 100 miles to the north; a number of species are now known from the canyons of these two mountain ranges, and nowhere in between.

In the 1970 season, the native annual flora was absent in nearly all areas of southern Nevada, and at all elevations. Also, the herbaceous perennials, whose behavior is closely synchronized with that of the annuals, were more or less poorly represented except in permanently moist soils. In the areas outside the Test Site and Air Force Range, therefore, which were collected for the first in 1970, except in Ash Meadows the annual and herbaceous perennial floras are as yet quite incompletely known.

In addition to the taxa collected in the region indicated in Figure 1, certain others have been collected in nearby areas, and are included here because most are to be expected within the boundaries of Figure 1; these taxa are designated by a preceding asterisk in the text. The collections from the Hot Creek Range, made by Mr. Vernon Bostick, and contributed by the herbarium of the Max C. Fleischmann School of Agriculture,

University of Nevada, are taxa that are likely to occur especially in the Kawich Range to the immediate south.

Determinations for some of the 1970 collections are subject to change with critical review of the specimens. Vouchers for all taxonomic and distribution records are on file at the Nevada Test Site, Mercury, Nevada.

ADDITIONS TO THE VASCULAR PLANTS

CALAMOPHYTA (HORSE-TAILS)

EQUISETACEAE

Equisetum hyemale L. var. affine (Engelm.) A. A. Eat.

Local on wet soils, Salix in Artemisia-Pinyon-Juniper, Willow Creek, nw. Spring Mtns (Indian Springs); 6100 ft. Fr. July.

Equisetum laevigatum A. Br.

Local on wet soils, Salix in Artemisia-Pinyon-Juniper; Willow Creek, nw. Spring Mtns (Indian Springs), and nw. Kawich Range (e. Stone Cabin); 6000-7000 ft. Fr. May-July.

LEPIDOPHYTA (CLUB-MOSSES)

SELAGINELLACEAE

Selaginella watsonii Underw.

Locally abundant, Artemisia-Pinyon-Juniper and Artemisia-Cercocarpus, n. Kawich Range (nw. Reveille, e. Stone Cabin); 7600-8400 ft. Fr. May-June.

PTEROPHYTA (FERNS)

ASPIDIACEAE

Cystopteris fragilis (L.) Bernh.

Local, Artemisia-Cercocarpus, n. Kawich Range (nw. Reveille); 7600 ft. Fr. time not known.

PTERIDACEAE

Pellaea longimucronata Hook. (replacing P. mucronata (D. C. Eat.)
D. C. Eat.)

CONIFEROPHYTA (CONE-BEARING PLANTS)

PINACEAE

Pinus ponderosa Dougl. ex P. & C. Lawson

Dominant tree, with P. monophylla and/or Abies concolor, certain cyps of both e. and w. slopes of nw. Spring Mtns, coming in at 7000-8000 ft elev. Late June-July.

ANTHOPHYTA (FLOWERING PLANTS)

Monocotyledoneae

AMARYLLIDACEAE

Allium bisceptrum Wats.

Scattered pls, moist soils, cyp bottoms and mtn meadows, Salix in Artemisia-Pinyon-Juniper, n. Kawich Range (nw. Reveille, e. Stone Cabin); 6700-7200 ft. June.

CYPERACEAE

Carex aurea Nutt.

Locally common, wet meadows in Artemisia-Pinyon-Juniper, n. Kawich Range (nw. Reveille); 7200 ft. June.

Carex douglasii Boott (replacing C. rossii Boott)

Locally abundant, moist to wet soils in mtn meadows, washes, or at bases of cliffs, Artemisia and Artemisia-Pinyon-Juniper; s. rims of Pahute and Rainier Mesas, on flatrock areas; n. and cent. Kawich Range (e. Stone Cabin, ne. Cactus); 6600-7400 ft. May-July.

Carex lanuginosa Michx.

Stream banks and mtn meadows in Artemisia-Pinyon-Juniper, n. Kawich Range (e. Stone Cabin); 6800 ft. May-June.

Carex microptera Mke. (C. festivella Mke.)

Wet soils, Salix in Artemisia-Pinyon-Juniper; Cold Creek, nw. Spring Mtns (Indian Springs), and n. Kawich Range (nw. Reveille); 6200-7200 ft. June.

Carex nebrascensis Dewey

Locally abundant, wet soils, Artemisia-Pinyon-Juniper, n. Kawich Range (nw. Reveille, e. Stone Cabin); 6800-7200 ft. June.

Carex scopulorum Holm

Locally common, wet soils, Artemisia-Pinyon-Juniper, n. Kawich Range (nw. Reveille); 7200 ft. June.

CYPERACEAE (cont'd)

Eleocharis rostellata (Torr.) Torr.

Widely distributed in wet soils of Ash Meadows, esp. in Distichlis and Baccharis communities; 2200-2300 ft. Apr.

Scirpus americanus Pers.

Local, wet soils, dist. Atriplex below Warm Springs (s. Hot Creek Range); 5400 ft. Summer.

Scirpus microcarpus Presl.

Grotto, base of n. Stonewall Mtn; 5600 ft. Fl. time not known.

GRAMINEAE

Agropyron cristatum (L.) Gaertn.

Dist. sites in Artemisia-Pinyon-Juniper and Atriplex; Wheeler Pass area, nw. Spring Mtns (Indian Springs/Pahrump), and San Antonio Mtns (Ralston); 6000-7600 ft. Intr. May-June.

Agropyron elongatum (Host) Beauv.

Dist. irrig. site, no. Ash Meadows; 2200 ft. Intr. July.

- *Agropyron spicatum (Pursh) Scribn. & Sm. (incl. var. inermis Heller)
Cent. Hot Creek Range; 2 colls: 6400 and 8700 ft. June.

Agropyron trachycaulum (Link) Malte

Occas., Artemisia-Pinyon-Juniper, n. Kawich Range (nw. Reveille); 7800 ft. June-July.

Agropyron vaseyi Scribn. & Smith

Common locally along upland mtn washes, Artemisia-Pinyon-Juniper, n. Kawich Range (nw. Reveille); 7800 ft. June.

Agrostis scabra Willd.

Local, spring area in Artemisia-Pinyon-Juniper, n. Kawich Range (nw. Reveille); 8100 ft. Annual. July.

Alopecurus aequalis Sobol.

Local, moist soils, Artemisia-Pinyon-Juniper, n. Kawich Range (nw. Reveille); 7200 ft. June-July.

- *Aristida arizonica Vasey

Slope above Warm Springs, s. end of Hot Creek Range; 5500 ft. May-June.

Aristida wrightii Nash

Dist. site, Larrea-Coleogyne, Mercury Ridge/Red Mtn (so. Frenchman); 3800 ft. June.

GRAMINEAE (cont'd)

Arundo donax L. var. versicolor (Miller) Stokes

Common near lake and spring, Indian Springs townsite; 3100 ft.
Intr. Aug-Sept.

Dactylis glomerata L.

Dist. irrig. soils, Oasis Valley (Amargosa); Cold Creek, nw.
Spring Mtns (Indian Springs); 3400-6000 ft. Intr. May-June.

*Deschampsia caespitosa (L.) Beauv.

Wet meadows, cent. Hot Creek Range; 8700 ft. June.

Eragrostis barrelieri Daveau

Dist. irrig. site, Mercury townsite; 3700 ft. Intr. annual.
June-July.

Eragrostis cilianensis (All.) Mosher

Locally abundant along irrig. ditches, no. Pahrump Valley;
2600 ft. Intr. annual. July-Sept.

Eragrostis diffusa Buckl.

Locally common, irrig. ditch, no. Pahrump Valley; 2600 ft.
Annual. July-Sept.

Hordeum brachyantherum Nevskii

Local populations, moist soils of spring areas, Artemisia-
Pinyon-Juniper, n. Kawich Range (nw. Reveille, e. Stone Cabin);
7200-8100 ft. July-Sept.

Hordeum vulgare L.

Common escape in Pahrump Valley, occas. elsewhere below 3000 ft.
Intr. annual. Apr-June.

Leptochloa fascicularis (Lam.) Gray

Common, moist soils, dist. Atriplex below Warm Springs, so. Hot
Creek Range (s. Hot Creek); 5400 ft. Annual. Aug-Sept.

Melica stricta Bol.

Local in mtn washes, Artemisia-Pinyon-Juniper; Gold Spg, nw.
Spring Mtns (Indian Springs), and n. Kawich Range (nw. Reveille);
6600-7800 ft. June.

Muhlenbergia asperifolia (Nees & May) Parodi

Locally the dominant ground cover, Atriplex-Haplopappus, n. Ash
Meadows; 2300 ft. Sept-Oct.

Paspalum distichum L.

Dense stands along irrig. ditch, Indian Springs townsite;
3100 ft. Intr. June-July.

GRAMINEAE (cont'd)

Poa pratensis L. (replacing P. palustris L.)

Common at springs above 6000 ft, Artemisia-Pinyon-Juniper; occas., spring areas at lower elevs. and irrig. sites (as low as 3700 ft). June.

Puccinellia airoides (Nutt.) Wats. & Coult.

Locally common, dist. wet soils at spring, Atriplex, s. Cactus Range (w. Cactus); 6200 ft. Sept.

Setaria glauca (L.) Beauv.

Dist. soils, Indian Springs townsite; 3100 ft. Intr. annual. July-Oct.

Stipa coronata Thurb. in Wats. var. depauperata (Jones) Hitchc.

Local around volcanic rock outcrops, Artemisia-Pinyon-Juniper, Gold Spg, nw. Spring Mtns (Indian Springs); 5900 ft. May-June.

*Stipa lemmonii (Vasey) Scribn.

Steep cyn wall, cent. Hot Creek Range; 8700 ft. June.

IRIDACEAE

Iris missouriensis Nutt.

Locally abundant, mtn meadows in Artemisia-Pinyon-Juniper, n. Kawich Range (nw. Reveille); 6600-7200 ft. May-June.

Sisyrinchium funereum Bickn.

Widely distributed in wet Distichlis and Juncus meadows of Ash Meadows, 2200-2300 ft. Perhaps not distinguishable from S. halophilum Greene, occurring at 4700-5200 ft along streams in cyns of w. slope of Spring Mtns (Pahrump), and 6000-6800 ft in cent. and n. Kawich Range (ne. Cactus, e. Stone Cabin, nw. Reveille). Apr-early May (S. halophilum, late May-June).

JUNCACEAE

Juncus bufonius L.

Locally common, moist soils of spring areas in Artemisia-Pinyon-Juniper, n. Kawich Range (nw. Reveille); 7200-8100 ft. Annual. June-July.

Juncus cooperi Engelm.

Uncommon or rare; one plant near pond, w. Ash Meadows, Distichlis-Baccharis; 2300 ft. Fl time not known.

JUNCACEAE (cont'd)

Juncus ensifolius Wikst. var. montanus (Engelm.) C. L. Hitchc. (incl. J. saximontanus A. Nels and f. brunnescens (Rydb.) F. J. Herm., and J. xiphioides E. Mey.)

Locally common, spring areas and along streams, Artemisia-Pinyon-Juniper; Crystal Spg (Pahrump) and Cold Creek (Indian Springs), nw. Spring Mtns; no. Kawich Range (nw. Reville). 5000-7200 ft. May-July.

Juncus longistylis Torr.

Occas., moist soils, Artemisia-Pinyon-Juniper; Cold Creek, nw. Spring Mtns (Indian Springs); n. Kawich Range (nw. Reville). 6200-7200 ft. June-July.

Juncus mexicanus Willd.

Occurring usually in populations of J. balticus Willd; colls. from wet meadows of Oasis Valley (Amargosa), Cactus Spgs (Clark Co.), and s. Kawich Range; 3200-6600 ft. June-July.

JUNCAGINACEAE

Triglochin concinna Davy var. debilis (Jones) J. T. Howell

Locally common, Distichlis meadows, s. Ash Meadows; 2200-2300 ft. May.

LEMNACEAE

Lemna minima Phil.

Abundant locally in mtn stream, meadow in Artemisia tridentata, n. Kawich Range (e. Stone Cabin); 7200 ft. Not fl. in June.

LILIACEAE

Asparagus officinalis L.

Occas. escapes, moist soils, Ash Meadows, n. Pahrump Valley, Oasis Valley, and Indian Springs townsite; 2200-3400 ft. Intr. Apr-June.

Fritillaria pinetorum A. Davids.

Locally common, Artemisia arbuscula subsp. nova, s. Kawich Range (nw. Kawich), 7000 ft. Fr. June. Perhaps replaces F. atro-purpurea Nutt.

LILIACEAE (cont'd)

Smilacina stellata (L.) Desf.

Local in moist soils, Salix in Artemisia-Pinyon-Juniper; Willow-Cold Creek area, nw. Spring Mtns (Indian Springs), and n. Kawich Range (nw. Reveille, e. Stone Cabin); 6000-7200 ft. May-June.

Zigadenus paniculatus (Nutt.) Wats. (replacing Z. venenosus Wats.)

PALMAE. Palm Family

Washingtonia filifera (Lindl.) Wendl.

Large trees planted spring 1970, cent. Pahrump Valley; 2600 ft. Intr.

TYPHACEAE

Typha latifolia L. (replacing T. angustifolia L.)Dicotyledoneae

AMARANTHACEAE

Amaranthus californicus (Moq.) Wats.

Occas., Larrea-Franseria, Atriplex; colls. from Forty-Mile Cyn wash (nw. Jackass), and seepage site, n. Cactus Range (w. Cactus); 3600-6300 ft. Annual. May-Sept.

BORAGINACEAE

Cryptantha jamesii (Torr.) Pays. var. abortiva (Greene) Pays.

Locally common to abundant; Yellow Pine-Fir, upper Clark Cyn, nw. Spring Mtns (Pahrump); Artemisia-Pinyon-Juniper and Artemisia-Cercocarpus, n. Kawich Range (nw. Reveille, e. Stone Cabin); 6700-7200 ft. May-June.

Cryptantha scoparia A. Nels.

Locally common, Artemisia tridentata and Artemisia-Pinyon-Juniper, s., e. and n. Pahute Mesa; 6400-7000 ft. Annual. June-July.

BORAGINACEAE (cont'd)

DELETE - Cryptantha sp., p. 41, UCLA 12-705.

Lappula redowskii (Hornem.) Greene var. redowskii.

Common, sedge meadow in Artemisia-Pinyon-Juniper, n. Kawich Range (e. Stone Cabin); 7100 ft. Annual. May-June.

Lithospermum ruderales Dougl. ex Lehm.

Locally common, esp. around boulder-cliffs, Artemisia tridentata and Artemisia-Pinyon-Juniper; nw. Spring Mtns (Pahrump), se. rim of Pahute Mesa, n. Kawich Range (nw. Reveille). 7200-8100 ft. May-June.

Plagiobothrys cusickii (Greene) Jtn.

Locally common, springs in Artemisia-Pinyon-Juniper, cent. and n. Kawich Range (ne. Cactus, nw. Reveille); 6600-8100 ft. Annual. June.

Plagiobothrys kingii (Wats.) Gray

Local around low volcanic outcrops, Artemisia tridentata, Quartz Mtn (sw. Gold Flat); 5800 ft. Annual. June.

CACTACEAE¹

Coryphantha vivipara (Nutt.) Britt. & Rose

var. deserti (Engelm.) W. T. Marshall (replacing Mammillaria deserti Engelm.)

Atriplex, Spotted Range (Mercury Ridge); 4400 ft. May

var. rosea (Clokey) L. Benson (replacing Mammillaria arizonica Engelm.)

Artemisia arbuscula subsp. nova, Artemisia-Pinyon-Juniper; sw. and e. Pahute Mesa, w. slope of Rainier Mesa (sw. Belted Range); 6100-6800 ft. June.

Echinocactus polycephalus Engelm. & Bigel.

Occas., usually small plants, in many areas; common, plants often large, in Larrea-Atriplex of cyns and bajadas of Spotted Range (Mercury Ridge, Red Mtn); colls. from below 5000 ft. May.

¹ Family revision reflecting the changes in determinations and synonymy made by Lyman Benson through the 1969 collections.

CACTACEAE (cont'd)

Echinocereus engelmannii Parry var. engelmannii

Common, Larrea-Atriplex, Atriplex, Coleogyne-Yucca, Artemisia tridentata; Spotted Range (Mercury Ridge), Specter Range, nw. Pahute Mesa, Bullfrog Hills (Amargosa), nw. Spring Mtns (Pahrump); 3500-6000 ft. Apr-May.

var. armatus L. Benson

Atriplex, Artemisia tridentata, nw. Pahute Mesa (s. Gold Flat and Thirsty Canyon); 5500-6000 ft. May.

var. chrysocentrus (Engelm. & Big.) Engelm. ex Rumpler

Occas., washes in Larrea-Atriplex-Lycium shockleyi, below Ranger Mtns (se. Frenchman); Coleogyne/Larrea, base of cliffs, w. Shoshone Mtn (nw. Jackass); Atriplex canescens, foothills of n. Belted Range (e. Kawich). 3300-5800 ft. June.

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

Coleogyne/Artemisia, s. Belted Range (n. Yucca); Artemisia, Artemisia-Pinyon-Juniper, nw. Spring Mtns (Indian Springs), n. and cent. Belted Range (sw. Penoyer and Groom), n. Timpahute Range (Desert Valley); 5500-6200 ft. June.

var. mojavensis (Engelm. & Bigel.) L. Benson (replacing E. mojavensis (Engelm. & Bigel.) Reumpl.)

Artemisia-Pinyon-Juniper, cent. and s. Belted Range (w. Groom, e. Kawich), nw. Spring Mtns (Indian Springs); 6200-6900 ft. June.

Mammillaria tetrancistra Engelm.

Atriplex confertifolia, Spotted Range (Red Mtn); 4400 ft. Apr.

Opuntia basilaris Engelm. & Bigel.

Widely distributed throughout the region, all vegetation types; extremely abundant in overgrazed vegetation, e.g., Atriplex-Grayia below ne. Stonewall Mtn (5500 ft). May-June.

Opuntia chlorotica Engelm. & Bigel.

Locally common, e. and w. slopes of nw. Spring Mtns (Indian Springs, Pahrump); 5500-6400 ft. Appar. July.

Opuntia echinocarpa Engelm. & Bigel.

Widely distributed throughout the region, esp. Larrea, Coleogyne, and Grayia-Lycium; plants with golden-yellow spines over 3 cm long, below Ranger Mtns (se. Frenchman), Specter Range (Amargosa), and south to Ash Meadows. Colls. to 5800 ft. May-June.

CACTACEAE (cont'd)

Opuntia erinacea Engelm. var. erinacea

The common cactus of Artemisia-Pinyon-Juniper appar. throughout the region; usually above 6000 ft. June-July.

var. ursina (A. Weber) Parish

Atriplex, Artemisia, Artemisia-Pinyon-Juniper; nw. Spring Mtns (Indian Springs); Spotted Range (Mercury Ridge and Red Mtn); cent. and sw. Belted Range; Shoshone Mtn (nw. Jackass), no. Pahute Mesa. 4000-7200 ft. May-June.

Opuntia mojavensis Engelm. & Bigel.

Locally common, Coleogyne/Artemisia, nw. Spring Mtns (Pahrump); 6000 ft. June.

Opuntia polyacantha Haworth var. rufispina (Engelm.) L. Benson

(replacing O. erinacea Engelm. var. xanthostemma (K. Schum.) L. Benson)

Artemisia-Pinyon-Juniper, s. face of Pahute Mesa (Forty-Mile Canyon); 6800-7000 ft. June.

Opuntia pulchella Engelm.

Common in many areas of basin floors of Kawich Valley, Gold Flat, and Cactus Flat, all in Atriplex-Eurotia; 5300-5800 ft. June.

Opuntia ramosissima Engelm.

Common in Larrea-Atriplex, bajadas and cyns of Ranger Mtns, Spotted Range (Mercury Ridge, Red Mtn); below 4000 ft. May.

Opuntia stanlyi Engelm. var. parishii (Orcutt) L. Benson (replacing O. parishii Orcutt)

Locally common, Grayia-Lycium, below cent. Belted Range (w. Groom); 5000 ft. May.

Sclerocactus polyancistrus (Engelm.) Britt. & Rose

Locally common, Atriplex, s. Bullfrog Hills (Amargosa) and s. Gold Flat (below n. face of Pahute Mesa); Artemisia-Pinyon-Juniper, nw. Pahute Mesa. 3900-6300 ft. May.

CAPPARIDACEAE

Cleome sparsifolia Wats.

Locally common, Prosopis-Baccharis, low dunes, nw. Ash Meadows; 2200 ft. July.

CARYOPHYLLACEAE

Arenaria congesta Nutt. ex T. & G.

var. charlestonensis Maguire

Locally common, Artemisia-Pinyon-Juniper; nw. Spring Mtns, Wheeler Pass and below Mt. Stirling (Indian Springs); 6200-7600 ft. May-June.

var. (to be det.)

Plants densely glandular-pubescent. Abundant, Artemisia-Cercocarpus, n. Kawich Range (nw. Reveille); 7600-9100 ft. June-July.

Sagina saginoides (L.) Karst.

Locally common, wet soils, Artemisia-Pinyon-Juniper, n. Kawich Range (nw. Reveille); 7100 ft. June.

Stellaria jamesiana Torr.

Common, Artemisia-Pinyon-Juniper and esp. Artemisia-Cercocarpus, n. Kawich Range (nw. Reveille); 7600-9100 ft. June.

CHENOPODIACEAE

Atriplex elegans (Moq.) D. Dietr.

Local populations in dist. Larrea-Atriplex and Larrea-Franseria, below Spotted Range (Indian Springs) and s. end of Yucca Mtn (Amargosa); 2600-3400 ft. Annual. Sept-Oct.

Atriplex rosea L.

Common, dist. Atriplex-Eurotia, Atriplex, Artemisia arbuscula subsp. nova, moist soils esp. near springs; n. and s. Cactus Range (w. Cactus), water impoundments of n. Kawich Valley and Goldfield Hills; 5600-6300 ft. Intr. annual. Aug-Sept.

Chenopodium album L.

Dist. sites, Indian Springs townsite; 3100 ft. Intr. annual. Sept-Oct.

Chenopodium denticatum A. Nels. var. denticatum

Larrea-Franseria, Forty-Mile Cyn wash (Amargosa); 2600 ft. June-July.

var. leptophylloides (Murr) H. A. Wahl

Common, sandy soils, Atriplex, sw. Penoyer Valley, 5200 ft; dist. site, Clark Cyn, nw. Spring Mtns (Pahrump), 6400 ft. June-Sept.

Kochia californica Wats.

Locally associated shrub sp., Atriplex hymenelytra, s. Stewart Valley; 2500 ft. July-Sept.

CHENOPODIACEAE (cont'd)

Kochia iranica Bornm. (K. scoparia (L.) Schrad. of manuals)

Locally common, dist. Artemisia, Artemisia-Pinyon-Juniper, Atriplex; Pahute Mesa (esp. near s. rim), Amargosa floodplain near Beatty, Warm Springs, Tonopah townsite; 3200-7300 ft. Intr. annual. Late Aug-Oct.

Monolepis nuttalliana (Schult.) Greene

Locally common, dist. Atriplex and Artemisia arbuscula subsp. nova, springs of n. Cactus Range (w. Cactus) and Stonewall Mtn; 5600-6300 ft. Annual. June-Sept.

Monolepis spathulata Gray

Locally common, sandy washes, Artemisia tridentata-Pinyon-Juniper, e. Pahute Mesa and s. Kawich Range; 6500-7000 ft. Annual. June.

Salsola iberica Sennen & Pau (replacing S. pestifera A. Nels., and other synonyms). Det. by V. Botschantzev, 1970.

The species is distinguishable by the following combination of field characters: (1) Plants neither rigid nor prickly from seedling to early maturity, i.e., plants are "soft" to the touch until late summer and autumn. (2) Plants blue-green in color. (3) Stems with longitudinal red-purple striations. (4) Stems slender, not rigid until time of maturity. (5) In immature plants, leaves slender, subterete, less than 1 mm wide (commonly 0.5 mm), the principal ones 2 cm long, not rigid, weakly spine-tipped and not pungent, more or less densely short- and soft-pubescent; leaves becoming more rigid at maturity, and replaced in the inflorescence by short, pungent, rigid, and broad bracts. (6) During the period of vegetative development, plants appearing taller than wide and narrowed toward the apex, i.e., the central stem longer and more prominent than the lateral branches. (7) Flowering beginning in late summer (August to early September); where the two spp. grow together, flowering begins usually at least 2-3 weeks later than in S. paulsenii. (8) Fruiting calyx-wings small (usually less than 2 mm long), deep red. (9) Seedlings and young plants with branches ascending from their bases, not appearing cruciform.

This is the Salsola of the higher elevations (above 6000 ft) in southern Nevada, occurring esp. on soils derived from the volcanic mountain ranges. From 4000-6000 ft. elevation, it frequently grows in mixed populations with S. paulsenii, with which it readily hybridizes. S. iberica characters often predominate in the phenotypes of the hybrids and hybrid derivatives where the species grow together, and hybrid derivatives exhibit many genetic re-combinations of the characters of the two spp. On sites where both occur, with hybrids or hybrid derivatives, through successive generations both maintain their genetic integrity in about the same proportions of the total population.

CHENOPODIACEAE (cont'd)

Salsola paulsenii Litv.

Det. confirmed by V. Botschantzev, 1970. The species is distinguishable by the following combination of field characters: (1) Plants rigid and prickly to the touch, from seedling through maturity. (2) Plants yellow-green in color. (3) Stems without purple striations, or pale striations only. (4) Stems thick and rigid from seedling stage through maturity, scabrid. (5) Leaves, from seedling stage through maturity, thick, terete, rigid, appearing turgid, recurved toward the apex, strongly pungent; principal leaves ca 1 cm (0.5-1.5 cm) long, 1-1.5 mm wide, more or less short-pubescent. (6) Plants appearing as wide as tall, not narrowed toward the apex, but with basal branches strongly developed, i.e., the central stem not exceeding, or shorter than, the main laterals, and plants of all ages more or less convex-topped. (7) Flowering beginning in May in some areas, and, where the two species grow together, nearly always at least 2-3 weeks earlier than in S. iberica. (8) Fruiting calyx-wings large (3-4 mm long), colorless to pale pink (usually reddish near base of wings), veins conspicuous. (9) Seedlings and young plants markedly cruciform, the 4 lateral branches nearly prostrate in seedlings and later ascending toward the tips.

This is the truly noxious "tumbleweed" in southern Nevada. It is the widely distributed and common Salsola of disturbed sites of the lower elevations (below 4000 ft) and esp. on soils derived from the limestone mountain ranges. Lower-elevation populations, as in Pahrump Valley, commonly exhibit some degree of introgression from S. iberica. In general, it occurs from 4000-6000 ft in association more or less with S. iberica, and it is mostly at these elevations that the large hybrid and hybrid derivative populations occur.

*Suaeda occidentalis Wats.

S. Ash Meadows, Inyo Co., Calif., near Nevada line; 2100 ft.
Annual. July-Aug.

Suaeda torreyana Wats.

var. ramosissima (Standl.) Munz

Local under Cottonwoods, low dunes, near Indian Springs townsite;
3100 ft. July-Sept.

COMPOSITAE

Achillea lanulosa Nutt.

Artemisia-Pinyon-Juniper; occas. pls., s. Pahute Mesa; common, mtn meadows, n. Kawich Range (nw. Reveille, e. Stone Cabin); 6800-7300 ft. June-Sept.

Arnica parryi Gray subsp. sonnei (Greene) Maguire

Locally common, moist soils, Artemisia-Pinyon-Juniper, n. Kawich Range (nw. Reveille); 6800-7100 ft. June.

Artemisia biennis Willd.

Local, mtn meadow in Artemisia-Pinyon-Juniper, n. Kawich Range (e. Stone Cabin); 7200 ft. Sept.

Artemisia ludoviciana Nutt. subsp. ludoviciana

Wet soils of mtn meadow, Salix in Artemisia-Pinyon-Juniper, n. Kawich Range (e. Stone Cabin); 7200 ft. Aug-Sept.

subsp. mexicana (Willd.) Keck (replacing subsp. incompta (Nutt.) Keck)

Widely distributed throughout the region; locally common at bases of cliffs, around boulders, and in washes; Coleogyne, Artemisia, occas. in Artemisia-Pinyon-Juniper. 4000-6000 (-7200) ft. Sept-Oct.

Aster adscendens Lindl. in Hook.

Common, mtn meadow, Salix in Artemisia-Pinyon-Juniper, n. Kawich Range (e. Stone Cabin); 7200 ft. Aug-Sept.

Aster frondosus (Nutt.) T. & G.

Common locally, moist soils, dist. Atriplex below Warm Springs (s. Hot Creek Range); 5400 ft. Annual. Sept.

Brickellia microphylla (Nutt.) Gray - ADD var. scabra GrayBrickellia multiflora Kell.

Cyn bottoms and bases of cliffs, Atriplex, Larrea; w. face of Bare Mtn (Amargosa), and along Beatty Wash below n. Yucca Mtn; occas. extremely large shrubs along irrig. channels, cent. Pahrump Valley. 2800-3800 ft. Sept-Oct.

Centaurea maculosa Lam.

Occas. plants in dist. Atriplex and Artemisia, s. San Antonio Mtns (Ralston), and n. end of Kawich Range (s. Hot Creek); 5500-5800 ft. Intr. biennial. Aug-Sept.

COMPOSITAE (cont'd)

Chrysothamnus nauseosus (Pall.) Brittonsubsp. albicaulis (Nutt.) Hall & Clem.

Artemisia tridentata and Artemisia-Pinyon-Juniper; abundant, cyn bottoms, n. Kawich Range (e. Stone Cabin); common locally, upper Clark Cyn, nw. Spring Mtns (Pahrump), common along Willow Creek (Indian Springs); 6000-7400 ft. Sept-Oct.

subsp. (to be det.)

The large Chrysothamnus of Mesquite areas of Pahrump Valley and Ash Meadows; 2200-2600 ft. Sept-Oct.

Cirsium nidulum (Jones) Petr.

Abundant, upper Clark Cyn, nw. Spring Mtns (Pahrump), Yellow Pine; 7000-7600 ft. July-Aug.

Cirsium vulgare (Savi) Ten.

Local population, mtn meadow in Artemisia-Pinyon-Juniper, n. Kawich Range (e. Stone Cabin); 7200 ft. Intr. biennial. Aug-Sept.

Crepis runcinata T. & G. subsp. hallii Babc. & Steb.

Locally common in Distichlis wet meadow, e. Ash Meadows; 2200 ft. Apr-May.

Encelia farinosa Gray

Abundant, Atriplex confertifolia-Franseria, ls. ledges on lower slope of mtns at n. end of Pahrump Valley, and scattered roadside plants in nearby Amargosa and Pahrump drainages; 2600-3500 ft. Apr.

Erigeron clokeyi Cronq.

Abundant, Artemisia-Cercocarpus, n. Kawich Range (nw. Reveille); 8000-9100 ft. June-Aug.

*Erigeron tener Gray

Pinus aristata-Cercocarpus, cent. Quinn Canyon Range (w. Garden Valley); 8600 ft. Aug.

Eriophyllum ambiguum (Gray) Gray

Common, Larrea-Franseria, washes below nw. Spring Mtns (Amargosa); 3000-4000 ft. Annual. Apr-May.

Gaillardia pulchella Foug.

Escape from cult. near Cold Creek, nw. Spring Mtns (Indian Springs); 6000 ft. Intr. June-Sept.

Glyptopleura setulosa Gray

Locally common, sandy soils, Larrea-Sarcobatus, s. Oasis Valley (Amargosa); 3400 ft. Annual (prob. winter annual). May.

COMPOSITAE (cont'd)

Gnaphalium luteo-album L.

Local populations on wet soils, dist. Atriplex; Ash Meadows, Pahrump Valley, nw. Spring Mtns. (Pahrump); 2300-5000 ft. Intr. annual. May-June.

Grindelia nana Nutt.

Common, moist soils, dist. Atriplex below Warm Springs (s. Hot Creek); 5400 ft. Sept-Oct.

Grindelia squarrosa (Pursh) Dunal var. squarrosa

Large population in pasture and abandoned field, cent. Pahrump Valley; 2700 ft. July-Oct.

*Haplopappus acaulis (Nutt.) Gray

Artemisia arbuscula subsp. nova, n. Hot Creek Range; 6800 ft. June.

Haplopappus acradenius (Greene) Blake

subsp. eremophilus (Greene) Hall

In Ash Meadows, where the species is widely distributed and often one of the dominants, subsp. acradenius and subsp. eremophilus are scarcely distinguishable, since both grow in the same populations and without appar. differing geographic distributions. Subsp. eremophilus occurs as scattered roadside plants in the Amargosa, Pahrump, and Mercury drainages. 2200-3400 ft. Sept-Oct.

Haplopappus gracilis (Nutt.) Gray

Dist. site below e. end of Specter Range (e. Amargosa); 2800 ft. Annual. Sept.

Haplopappus racemosus (Nutt.) Torr.

subsp. glomeratus (Nutt.) Hall

Locally common in Distichlis-Juncus meadow, s. Oasis Valley; 3400 ft. Aug-Oct.

Haplopappus watsonii Gray

Restricted to crevices in volcanic cliffs, Artemisia-Pinyon-Juniper, cyn below w. slope of Rainier Mesa and se. rim of Pahute Mesa; 6500 ft. Sept.

Helianthus nuttallii T. & G.

Local small population, Cladium clump in grazed Distichlis wet meadow, n. Ash Meadows; 2300 ft. Sept-Oct.

Helianthus petiolaris Nutt. subsp. fallax Heiser

Dist. Larrea-Atriplex, Mercury townsite; 3700 ft. Intr. annual. Oct-Nov.

COMPOSITAE (cont'd)

Heterotheca grandiflora Nutt.

Local, dist. Larrea-Atriplex, n. Pahrump Valley; 2800 ft. Annual.
Sept-Oct.

Hymenopappus filifolius Hook.

var. eriopodus (A. Nels.) Turner

Occas. to common, Yellow Pine, upper Clark Cyn, nw. Spring Mtns
(Pahrump); 7200 ft. June-Sept.

Hymenothrix loomisii Blake

Scattered roadside plants, dist. Larrea-Atriplex, below se.
Spotted Range (Indian Springs); 3400 ft. Annual, appar. intr. from
Arizona. Sept-Oct.

Lactuca serriola L. var. serriola

The widely distributed Lactuca of the region. Usually a weed of
townsites, dist. spring areas, and other moist dist. soils; colls.
from Indian Springs and Tonopah townsites, Whiterock Spg (no.
Yucca), s. Pahute Mesa, and from undisturbed Mesquite in w.
Pahrump Valley. Intr. annual. 2600-7000 ft. Aug-Oct.

var. integrata Gren. & Godr.

Locally common, dist. irrig. sites, no. Pahrump Valley, n.
Mercury Valley; Willow Spg, e. Goldfield Hills (n. Stonewall);
2700-5800 ft. Intr. annual. June-Sept.

Lactuca tartarica (L.) C. A. Mey. subsp. pulchella (Pursh) Steb.

Common locally, Salix in Artemisia, Willow Creek, nw. Spring Mtns
(Indian Springs); 6000 ft. Prob. biennial. Sept.

Lepidospartum latissquamum Wats.

Essen. restricted to washes, where it may be the dominant shrub
sp.; Atriplex, Artemisia-Pinyon-Juniper, Artemisia; Wheeler Wash
and Willow Creek, nw. Spring Mtns (Pahrump, Indian Springs);
Tolicha Peak area and Grapevine Mtns (Sarcobatus); s. Cactus
Range (w. Cactus); s. San Antonio Mtns (Ralston); n. end of Kawich
Range (s. Hot Creek). 6000-7000 ft. Sept-Oct.

Machaeranthera ammophila Reveal (replacing Machaeranthera sp., p. 62,
UCLA 12-705) (n. sp.)

Widely distributed in Atriplex of Ash Meadows, and adjacent Inyo
Co., Calif.; 2100-2200 ft. Annual. June-Sept.

Porophyllum gracile Benth.

Local populations in washes and roadside depressions, Larrea-
Franseria, below w. end of nw. Spring Mtns (Amargosa, Pahrump),
cent. Mercury; 2500-3500 ft. Apr-Sept.

COMPOSITAE (cont'd)

Psathyrotes ramosissima (Torr.) Gray

Wash, Larrea-Franseria, cent. Specter Range (Amargosa); 3000 ft.
Apr.

Senecio multilobatus Torr. & Gray ex Gray

Following a recent revision of S. multilobatus and its allies (Barkley, T. M. Brittonia 20: 267-284. 1968), S. multilobatus is now interpreted to include S. stygius Greene, and S. lynceus Greene (Clark Cyn, nw. Spring Mtns (Pahrump)). As now treated, the sp. occurs in most parts of the region, in Coleogyne, Artemisia, Artemisia-Pinyon-Juniper, and Yellow Pine-Fir and Fir, and from 4000-9000 ft elev. The stygius phase is mostly from (3700-) 4000-6000 ft, the lynceus phase at 7200 ft., and typical multilobatus is common from 6000-8000 ft in most areas of the region. May-July.

Solidago sparsiflora Gray

Local, Yellow Pine-Fir, upper Clark Cyn, nw. Spring Mtns (Pahrump); 7400 ft. Aug-Sept.

Sonchus arvensis L.

Occas. in wash, Pinyon-Juniper, Crystal Spg cyn, nw. Spring Mtns (Pahrump); 5000 ft. Intr. May.

Sonchus oleraceus L.

Common weed of disturbed moist soils, Indian Springs and Beatty townsites, Pahrump Valley, local in n. Kawich Range (e. Stone Cabin), and Willow Creek, nw. Spring Mtns (Indian Springs); 3100-7200 ft. Intr. annual. May-Sept.

Stephanomeria pauciflora (Torr.) Nutt.

var. parishii (Jeps.) Munz

Common, Atriplex, no. Ash Meadows, cent. Pahrump Valley; 2300-2600 ft. Aug-Sept.

Stephanomeria tenuifolia (Torr.) Hall

Local populations, moist soils in Artemisia-Pinyon-Juniper and Yellow Pine; Cold Creek, upper Clark Cyn, nw. Spring Mtns (Indian Springs, Pahrump); 6200-7400 ft. July-Sept.

*Tanacetum diversifolium D. C. Eat.

Infreq. on ls. cliffs, Pinus aristata-Cercocarpus, cent. Quinn Canyon Range (w. Garden Valley); 8600 ft. Aug.

Taraxacum officinale (Willd.) DC.

Predictable in moist soils of spring areas at higher elevs. (above 6000 ft) throughout the region, usually in Artemisia-Pinyon-Juniper; also irrig. sites as low as 3100 ft, as at Indian Springs townsite. Intr. Apr-July.

COMPOSITAE (cont'd)

Tragopogon dubius Scop.

Occas. plants, dist. Artemisia of Cold Creek area, nw. Spring Mtns (Indian Springs); 6000 ft. Intr. July-Aug.

Viguiera multiflora (Nutt.) Blake - ADD var. nevadensis (A. Nels.) BlakeViguiera reticulata Wats.

Larrea-Franseria; common in ls. gravel washes, near base of w. slope of Bare Mtn and toward n. end of nw. Spring Mtns (Amargosa, Pahrump); 3400-4600 ft. June.

CONVOLVULACEAE. Morning-glory Family

Convolvulus arvensis L.

Local populations, dist. sites in Artemisia arbuscula subsp. nova and Atriplex; Ash Meadows, Pahrump Valley farm areas, and Indian Springs townsite; s. end of Monitor Range; 2200-6100 ft. Intr. May-Sept.

Cressa truxillensis HBK. var. minima (Heller) Munz

Abundant as ground cover, fallow heavy soils, dist. Atriplex, w. Ash Meadows; 2200 ft. June.

Ipomoea purpurea (L.) Roth

Local, dist. sites, Indian Springs townsite; 3100 ft. Intr. annual. July-Oct.

CORNACEAE. Dogwood Family

*Cornus stolonifera Michx.

Stream bank, cent. Hot Creek Range; Artemisia-Pinyon-Juniper; 8700 ft. June.

CROSSOSOMATACEAE. Crossosoma Family

Crossosoma bigelovii Wats.

Locally common, ls. cliff crevices, Buddleja in Larrea/Coleogyne, no.-cent. Spotted Range (e. Frenchman); 5000-5500 ft. Apr.-May.

CRUCIFERAE

Arabis cobrensis Jones

Locally common, Artemisia-Pinyon-Juniper, n. Kawich Range (e. Stone Cabin); 6700 ft. May-June.

Arabis fendleri (Wats.) Greene

Locally common on cliffs and talus slopes vic. Trough Spg, nw. Spring Mtns (Pahrump), Yellow Pine-Pinyon; 8100 ft. Apr-May.

Arabis hirsuta (L.) Scop. var. pyncocarpa (Hopkins) Roll.

Local, moist soils, under shrubs, Artemisia-Pinyon-Juniper; Cold Creek, nw. Spring Mtns (Indian Springs); n. Kawich Range (nw. Reveille); 6200-7200 ft. June-July.

Arabis (to be det.)

Base of volcanic cliffs, Larrea-Franseria, Beatty Wash below n. end of Yucca Mtn; 3600 ft. Apr-May.

Brassica kaber (DC.) Wheeler

Scattered small populations in crop fields, n. Pahrump Valley; 2700 ft. Intr. annual. June.

Capsella bursa-pastoris (L.) Medic.

Local, moist soils, Artemisia-Pinyon-Juniper; Willow Creek, nw. Spring Mtns (Indian Springs); n. Kawich Range (nw. Reveille); 6000-7200 ft. Intr. annual. Apr-July.

Cardaria pubescens (C. A. Mey.) Jarmolenko var. elongata Roll.

Locally common, mtn meadows in Artemisia-Pinyon-Juniper, n. Kawich Range (e. Stone Cabin); 6800-7200 ft. May-June.

Chorispora tenella (Pall.) DC.

Locally common, mtn meadow in Artemisia-Pinyon-Juniper, n. Kawich Range (e. Stone Cabin); 7100 ft. Intr. annual. June.

Descurainia californica (Gray) O. E. Schulz

Common, Salix in Artemisia-Pinyon-Juniper, n. Kawich Range (nw. Reveille); 7000-7200 ft. Biennial. June.

Descurainia richardsonii (Sweet) O. E. Schulz subsp. viscosa (Rydb.)

Detling

Locally common, under shrubs, cyn bottom and mtn meadows, Salix in Artemisia-Pinyon-Juniper, n. Kawich Range (nw. Reveille, e. Stone Cabin); 7100 ft. Biennial. June.

Draba cuneifolia Nutt. ex T. & G. var. cuneifolia

Local, around flatrock outcrops, Artemisia arbuscula subsp. nova, below s. rim of Pahute Mesa (n. Forty-Mile); 6200 ft. Annual. Apr-May.

CRUCIFERAE (cont'd)

Erysimum capitatum (Dougl.) Greene

Common, Artemisia-Pinyon-Juniper and Yellow Pine-Pinyon, nw. Spring Mtns (Pahrump); 5000-8200 ft. Biennial. May-June.

Hutchinsia procumbens (L.) Desv.

Local to common, moist soils of spring seepage sites; Artemisia, Artemisia-Pinyon-Juniper, n. and cent. Kawich Range (nw. Reville, e. Cactus), and Haplopappus acradenius at head of wash, no. Ash Meadows; 2300-6800 ft. Annual. Apr-June.

Lepidium montanum Nutt.

subsp. cinereum (C. L. Hitchc.) C. L. Hitchc.

Widely distributed on uplands of Ash Meadows, Atriplex-Haplopappus; 2200-2300 ft. Apr-May.

Lesquerella wardii Wats.

Common, Artemisia-Pinyon-Juniper (burned) at Wheeler Pass, nw. Spring Mtns (Indian Springs/Pahrump); 7600 ft. May-June.

Phoenicaulis cheiranthoides Nutt. in T. & G.

Local, Artemisia tridentata, Bullfrog Hills (Amargosa); 6000 ft. Apr.

Raphanus raphanistrum L.

Irrig. pasture, s. Oasis Valley (Amargosa); 3400 ft. Intr. biennial. May.

Sibara deserti (Jones) Roll.

Occas. to locally common, banks of washes below cent. Specter Range (Amargosa); Larrea-Atriplex; 3000 ft. Annual. Apr.

Sisymbrium orientale L.

Local, dist. site, Larrea-Franseria-Atriplex, Bullfrog Hills (Amargosa); 3500 ft. Intr. biennial. May.

Thelypodium lasiophyllum (H. & A.) Greene - ADD var. utahense (Rydb.) Jeps.

GUCURBITACEAE. Gourd Family

Citrullus vulgaris Schrad. var. citroides Bailey

Dist. soils, Mercury townsite; 3700 ft. Intr. annual. Oct.

Cucurbita foetidissima HBK.

Weed of dist. sites, Indian Springs townsite; 3100 ft. Intr. June-July.

CUCURBITACEAE (cont'd)

Cucurbita palmata Wats.

Local, dist. Larrea-Franseria, below nw. end of Spring Mtns (e. Amargosa); 2700 ft. May-June.

CUSCUTACEAE

Cuscuta californica H. & A.

Local, on Hymenoclea, dist. site below nw. end of Spring Mtns (Pahrump); 3200 ft. May.

Cuscuta denticulata Engelm.

Common in 1969 in some areas on Larrea, and sporadic on Lycium andersonii, Acamptopappus, Artemisia tridentata, and Chrysothamnus viscidiflorus; putative hybrids of Salsola spp. Jackass Flats, sw. Frenchman, n. Pahrump, Amargosa Valley below Bare Mtn, e. Forty-Mile Cyn. 2800-5000 ft. June-July.

Cuscuta indecora Choisy

Abundant on alfalfa and other nearby plants, abandoned field, cent. Pahrump Valley; 2600 ft. Aug-Oct.

ELAEGNACEAE. Oleaster Family

Elaeagnus angustifolia L.

Commonly planted as windbreak and for shade around townsites and ranch areas of Pahrump Valley, Indian Springs, and Beatty; escaped, Warm Springs. 2600-5400 ft. Apr-May; fr. Sept.

ERICACEAE. Heather Family

Arctostaphylos pungens HBK.

Artemisia-Pinyon-Juniper and Yellow Pine-Fir-Pinyon, nw. Spring Mtns (Pahrump, Indian Springs); common shrub, often dominant on old "burns"; 6500-8000 ft. May-June.

EUPHORBIACEAE

Stillingia spinulosa Torr. in Emory

Common locally, Larrea-Franseria, deep sands below so. end of Striped Hills (Amargosa); 2800-3300 ft. Apr-Oct.

GARRYACEAE. Silk-tassel Family

Garrya flavescens Wats.

Locally common, Artemisia-Pinyon-Juniper and burned Yellow Pine-Fir, nw. Spring Mtns (Pahrump, Indian Springs); 6200-7400 ft. May-June.

GENTIANACEAE

Frasera pahutensis Reveal (n. sp.)

Locally common, Artemisia-Pinyon-Juniper, se. rim of Pahute Mesa; 7200 ft. May-June.

HYDROPHYLLACEAE

Emmenanthe penduliflora Benth.

Locally common, Coleogyne-Grayia-Lycium, base of low volcanic cliffs, n. Yucca/Bare Mtn; 4400 ft. Annual. May.

Eriodictyon angustifolium Nutt.

Common sp. of Artemisia and Artemisia-Pinyon-Juniper, nw. Spring Mtns (Pahrump, Indian Springs), esp. on burned sites; 4500-7000 ft. June-July.

Nama pusillum Lemmon ex Gray

Present, as small local populations, in many Mojave Desert areas in spring of 1969, and not previously known from same sites. Larrea-Franseria, Larrea-Atriplex, Larrea/Coleogyne; below Halfpint Range (no. Frenchman), e. and sw. Skull Mtn (sw. Frenchman, cent. Rock Valley), no.-cent. Spotted Range (e. Frenchman), Red Mtn of w. Spotted Range (n. Mercury), and s. Ash Meadows. 2200-4500 ft. Annual. May.

Phacelia calthifolia Brand

Locally common, sandy soils, Atriplex confertifolia, s. Ash Meadows; 2200 ft. Annual. May.

Phacelia crenulata Torr. var. funerea J. Voss ex Munz

Throughout the region, the common form of the sp. from 5000-7000 ft; Artemisia tridentata, Artemisia-Pinyon-Juniper, Atriplex-Eurotia; rarely along washes in Coleogyne and Larrea at lower elevs. (as low as 3600 ft). Annual. May-July.

Var. crenulata is associated with Larrea communities below 4000 ft (6000 ft in Eleana Range), mostly in regions of the ls. ranges. Winter annual. Mar-May.

HYDROPHYLLACEAE (cont'd)

Phacelia hastata Dougl. ex Lehm. var. compacta (Brand) Cronq.

Common along washes, Artemisia tridentata, Artemisia-Pinyon-Juniper, Yellow Pine-Pinyon; nw. Spring Mtns (Pahrump, Indian Springs) and n. Kawich Range (e. Stone Cabin, nw. Reville); 6000-9100 ft. May-June.

Phacelia lemmonii Gray

Locally common, Artemisia-Pinyon-Juniper, s. Kawich Range (nw. Kawich); 7000 ft. Annual. June.

Phacelia pedicillata Gray

Usually scattered plants only, along major washes near base of ls. ranges; Larrea-Atriplex, and Atriplex; e. Specter Range and cent. Bare Mtn (Amargosa); 3300-4000 ft. Annual. Apr-May.

Phacelia tetramera J. T. Howell

Locally common, Artemisia-Pinyon-Juniper, ne. Pahute Mesa, n. Kawich Range (w. Reville); 6800 ft. Annual. June.

JUGLANDACEAE. Walnut Family

Hicoria pecan Britt.

Common escape from cultivation, Indian Springs townsite; 3100 ft. Fr. July-Aug.

LABIATAE

Mentha arvensis L.

Common, moist mtn meadows and cyn bottoms; Artemisia-Pinyon-Juniper; Cold Creek, nw. Spring Mtns (Indian Springs), n. Kawich Range (e. Stone Cabin, nw. Reville); 6200-7200 ft. July-Sept.

Mentha piperita L.

Crop plant, n. Pahrump Valley; moist dist. soils of Cold Creek area, nw. Spring Mtns (Indian Springs); 2600-3100 ft. July.

Salvia dorrii (Kell.) Abrams subsp. dorrii

Locally common, washes in Artemisia, Tolicha Peak area (e. Sarco-batus); 5200 ft. May-June.

subsp. carnosa (Dougl. ex Jeps.) Abrams

Locally common, washes in Artemisia tridentata, below n. end of Yucca Mtn (n. Crater Flat); 4200 ft. May.

LABIATAE (cont'd)

Salvia funerea Jones

Common, along washes of ls. mtns, n. end of Pahrump Valley;
Atriplex hymenelytra-Franseria; 3500 ft. May.

*Scutellaria nana Gray

Artemisia-Pinyon-Juniper, cent. Hot Creek Range; 7400 ft. June.

LEGUMINOSAE

Astragalus aequalis Clokey

Rather widely distributed in Artemisia-Pinyon-Juniper, slopes of
 nw. Spring Mtns (Pahrump, Indian Springs); 6100-6800 ft. May-June.

Astragalus beatleyae Barneby (replacing Astragalus (n. sp.), p. 78,
 UCLA 12-705). Barneby, R. C. Aliso 7: 161-163. 1970.

Astragalus beckwithii T. & G. var. purpureus Jones

Locally common along washes in Coleogyne/Artemisia, Artemisia tri-
dentata, Artemisia-Pinyon-Juniper; nw. Spring Mtns (Pahrump,
 Indian Springs), foothills of n. Belted Range (e. Kawich), n.
 Kawich Range (nw. Reveille); 5000-7000 ft. May-June.

Astragalus didymocarpus H. & A. var. didymocarpus

Cent. Bullfrog Hills (Amargosa), Artemisia tridentata; 5200 ft.
 Annual. Apr-May.

Astragalus inyoensis Sheld.

Occas., Artemisia arbuscula subsp. nova-Pinyon-Juniper, n. end
 of Timpahute Range (nw. Desert Valley); 6500 ft. May.

Astragalus minthorniae (Rydb.) Jeps. - ADD var. villosus Barneby

Astragalus newberryi Gray - ADD var. newberryi

Astragalus nuttallianus DC. var. imperfectus (Rydb.) Barneby

Common locally along washes of e. slope of nw. Spring Mtns (Indian
 Springs, Artemisia-Pinyon-Juniper; 6000 ft. Annual. Apr.

Astragalus oophorus Wats. (var. to be det.)

Artemisia-Pinyon-Juniper, nw. Spring Mtns (Pahrump); 6800 ft.
 May-June.

Astragalus purshii Dougl. var. purshii

Occas., Artemisia arbuscula subsp. nova, Artemisia-Pinyon-
 Juniper; s. Monitor Range (Stone Cabin), Grapevine Mtns (w.
 Sarcobatus), Bullfrog Hills (Amargosa); 6100-7500 ft. May.

LEGUMINOSAE (cont'd)

Astragalus preussii Gray var. preussii

Locally common, Atriplex confertifolia, appar. assoc. with soils derived from ls.; n. Pahrump Valley, n. Ash Meadows, se. and n. Amargosa Valley, Indian Springs townsite; 2200-3100 ft. Apr-May.

Caesalpinia gilliesii (Hook.) Wall

Persisting large shrubs near old homestead, nw. Spring Mtns (Pahrump); 5300 ft. Intr. July.

Glycyrrhiza lepidota Pursh

Moist soils near ranch, se. Ash Meadows; 2200 ft. May.

Lotus corniculatus L.

Local in irrig. pasture, s. Oasis Valley; 3400 ft. Intr. May.

Lotus oblongifolius (Benth.) Greene

Local, Salix in Artemisia-Pinyon-Juniper, Cold Creek Spg, nw. Spring Mtns (Indian Springs); 6200 ft. June.

Lotus rigidus (Benth.) Greene

Common to scattered in washes below w. slope of nw. Spring Mtns (Pahrump); Larrea-Franseria, Coleogyne, Artemisia; 3500-5000 ft. Apr-May.

Lupinus argenteus Pursh - ADD var. tenellus (Dougl. ex G. Don) DunnLupinus alpestris A. Nels.

Common locally, w. slope of nw. Spring Mtns (Pahrump); 6400 ft. June.

Lupinus caudatus Kell.

Artemisia-Pinyon-Juniper; the common lupine of washes of s. Kawich Range (nw. Kawich, e. Cactus), occas. cent. belted Range (e. Kawich), n. end of Timpahute Range (Penoyer); 5400-7000 ft. May-July.

Lupinus excubitus Jones var. excubitus

Artemisia-Pinyon-Juniper, Grapevine Mtns (sw. Sarcobatus); 7500 ft. Prob. fl. in June.

Lupinus holmgrenanus C. P. Sm.

Common along washes in Artemisia tridentata and Artemisia-Pinyon-Juniper, Tolicha Peak area (e. Sarcobatus) and Grapevine Mtns (sw. Sarcobatus); 4800-7500 ft. May.

Lupinus pusillus Pursh var. intermontanus (Heller) C. P. Sm.

Abundant, loose sands, sw. Penoyer Valley, Atriplex canescens; 5100 ft. Annual. May-June.

LEGUMINOSAE (cont'd)

Lupinus uncialis Wats.

One plant, Artemisia arbuscula subsp. nova, nw. Pahute Mesa; 5600 ft. Annual. May.

Medicago lupulina L.

Commonly present to some extent in dist. wet soils near springs of the region above 5500 ft; where it is perennial; also irrig. soils at lower elevs., as at Indian Springs townsite, 3100 ft. May-June.

Trifolium longipes Nutt.

Locally common in wet soils, Salix in Artemisia-Pinyon-Juniper, n. Kawich Range (nw. Reveille); 6900 ft. June.

Trifolium repens L.

Sedge meadow in Artemisia-Pinyon-Juniper, n. Kawich Range (e. Stone Cabin); seepage area, nw. Spring Mtns (Indian Springs); dist. irrig. site, Indian Springs townsite. 3100-7100 ft. May-July.

Trifolium wormskioldii Lehm.

Locally common to abundant, Juncus and other wet meadow and swamp sites, Oasis Valley (Amargosa); Artemisia-Pinyon-Juniper, n. and cent. Kawich Range (e. Stone Cabin, e. Cactus Flat, nw. Reveille). 3500-7200 ft. June-July.

LOASACEAE

Mentzelia laevicaulis (Dougl.) T. & G.

Freq. in major washes, both slopes of nw. Spring Mtns (Indian Springs, Pahrump), Artemisia-Pinyon-Juniper; small population, wash in Atriplex, s. San Antonio Mtns (Ralston). 5000-6000 ft. Biennial. July-Sept.

Mentzelia reflexa Cov.

Common, Larrea-Franseria-Atriplex, banks and ledges of major washes, Specter Range and Bare Mtn (Amargosa); 3000-4000 ft. Annual. Apr-May.

LORANTHACEAE

Phoradendron californicum Nutt.

Occas. to common on Mesquite trees, Ash Meadows, Cactus and Indian Springs (Clark Co.); 2300-3200 ft. Fr. July-Nov.

MALVACEAE

Althaea rosea (L.) Cav.

Common escape from cult., Beatty and Indian Springs townsites;
3100-3300 ft. Intr. June-July.

Gossypium herbaceum L.

Crop plant, Pahrump Valley; 2500-2700 ft. Intr. annual. Fl.
July, mature fr., Sept. Not appar. escaping from cult.

Malva rotundifolia L.

Local, seepage area near Cold Creek, nw. Spring Mtns (Indian
Springs), Artemisia; 6000 ft. Intr. annual. July-Sept.

Sphaeralcea emoryi Torr. var. emoryi

Common with Mesquite, n. Pahrump Valley; 2600 ft. May-July.

var. nevadensis Kearney

Common, dist. sites, esp. along fencerows, Indian Springs
townsite; 3100 ft. June-Oct.

var. emoryi X var. nevadensis

Putative hybrids, Indian Springs townsite, dist. soils; 3100 ft.

MORACEAE. Mulberry Family

Ficus carica L.

Persistent and appar. escapes from cultivation, Crystal Spg
Cyn, nw. Spring Mtns (Pahrump); 5300 ft. Intr. Fr. July.

NYCTAGINACEAE

Hermidium alipes Wats.

Occas. populations, Atriplex and Atriplex-Eurotia, n. Cactus
and s. Stonewall Flats, below ne. slope of Cactus Range, and
sw. slope of Kawich Range; 4800-5600 ft. May-June.

Mirabilis bigelovii Grayvar. aspera (Greene) Munz

Common along washes, Larrea-Franseria, below w. Spotted Range
(n. Mercury) and nw. end of Spring Mtns (Amargosa/Pahrump);
3000-3500 ft. Apr-May.

ONAGRACEAE

Epilobium adenocaulon Haussk. var. adenocaulon

Common, Artemisia-Pinyon-Juniper, vic. Cold Creek, nw. Spring Mtns (Indian Springs); 6200 ft. July-Sept.

Epilobium glandulosum Lehm. var. tenue (Trel.) C. L. Hitchc.

Salix in Artemisia-Pinyon-Juniper; common, cys of n. Kawich Range (e. Stone Cabin, nw. Reveille); 7200-8100 ft. June-July.

Gayophytum diffusum T. & G. subsp. parviflorum Lewis & Szweykowski

Flatrock outcrops, w. rim of Rainier Mesa (sw. Belted Range), Artemisia arbuscula subsp. nova; 7400 ft. Annual. June.

Oenothera caespitosa Nutt.

subsp. crinita (Rydb.) Munz

Scattered populations, Atriplex-Eurotia, below Cactus Range (w. and s. Cactus Flat); 5500 ft. May-July.

Oenothera chamaenerioides Gray

Locally common, washes below nw. Spring Mtns (Pahrump, Amargosa), e. Specter Range (Mercury, Amargosa), Buried Hills (n. Frenchman), cent. Spotted Range (e. Frenchman), Ranger Mtns (se. Frenchman), n. Bare Mtn (Amargosa); Larrea-Franseria, Atriplex, Larrea-Atriplex, Coleogyne; 3300-5200 ft. Annual. Apr-May.

Oenothera claviformis Torr. & Frem.

subsp. funerea Raven

Locally common, sandy soils, s. Ash Meadows, Atriplex-Haplopappus; 2200 ft. May.

Oenothera parvula Nutt. ex Torr. & Gray

Occas., Artemisia, Artemisia-Pinyon-Juniper, nw. Pahute Mesa (s. Gold Flat), and below s. rim (n. Forty-Mile Cyn); 5600-6500 ft. Annual. May-June.

Oenothera pterosperma Wats.

In the occas. years when present, widely distributed in Coleogyne and Artemisia arbuscula subsp. nova, less common in Artemisia-Pinyon-Juniper, rarely washes at lower elevs. Colls. from below cent. and w. Spotted Range, e. Skull Mtn, CP Hills, Eleana Range, e. Shoshone Mtn, n. Timpahute Range, cent. and s. Belted Range, w. slope of Rainier Mesa, nw. Pahute Mesa, s. Kawich Range. 3700-7000 ft. Annual. Apr-May.

PAPAVERACEAE

Eschscholzia minutiflora Wats. var. minutiflora

Common in washes of Shoshone-Yucca Mtn region; occas. below n. and s. rims of Pahute Mesa (Gold Flat, Forty-Mile Cyn), se. Bullfrog Hills and nw. Spring Mtns (Amargosa); Larrea-Franseria, Coleogyne, Artemisia tridentata; 3500-6000 ft. Annual. Apr-May.

var. darwinensis Jones

Common in washes, e. Skull-Mine Mtn region; below nw. Yucca Mtn, se. Bullfrog Hills, and nw. Spring Mtns (Amargosa), all as var. minutiflora; Larrea-Franseria, Coleogyne; 3200-4800 ft. Annual. Apr-May.

The two vars. are not known to occur on the same site, but both occur in the same geographic area.

PLANTAGINACEAE

Plantago lanceolata L.

Locally common, irrig. pasture, s. Oasis Valley; 3400 ft. Intr. May-June.

Plantago major L.

Freq. present, but rarely common, dist. irrig. soils or near springs, throughout the region, esp. at middle to higher elevs.; only in shade at lowest elevs. (Ash Meadows, 2200 ft); 2200-6000 ft. Intr. May-Sept.

POLEMONIACEAE

Ipomopsis aggregata (Pursh) V. Grant

Common on slopes of nw. Spring Mtns (Pahrump); Artemisia-Pinyon-Juniper and Yellow Pine-Fir-Pinyon; 6000-7600 ft. Biennial. May.

Langloisia punctata (Cov.) Goodd.

Abundant and characteristic of Atriplex-Eurotia vegetation of sw. Gold Flat, below n. slope of Pahute Mesa; 5200 ft. Annual. June-July.

Microsteris gracilis (Dougl. ex Hook.) Greene subsp. gracilis

So. Bullfrog Hills (Amargosa), Artemisia tridentata; 6000 ft. Annual. May.

Phlox pulvinata (Wherry) Cronq.

Locally common, Artemisia-Cercocarpus, n. Kawich Range (nw. Reveille); 9000 ft. June-July.

POLYGONACEAE

Eriogonum glandulosum (Nutt.) Nutt. ex Benth.

Local, Coleogyne, near summit of Mine Mtn (sw. Yucca); 5100-5300 ft. Annual. July.

Eriogonum heermannii Dur. & Hilg.

var. humilius (S. Stokes) Reveal

Locally common, Larrea-Franseria, Grayia; major wash betw. Tolicha Peak and Obsidian Butte (s. Sarcobatus), and Beatty Wash below nw. Yucca Mtn (Amargosa); 3500-5100 ft. Sept.

Eriogonum microthecum Nutt.

var. foliosum (Torr.) Reveal (replacing var. laxiflorum Hook.)

var. laxiflorum Hook.

Artemisia tridentata, Bald Mtn (cent. Timpahute Range), and Artemisia-Cercocarpus, n. Kawich Range (nw. Reveille); 7600-9100 ft. July-Aug.

Eriogonum panamintense Morton var. panamintense

Locally common, washes and talus slopes, Artemisia, Artemisia-Pinyon, Yellow Pine-Pinyon; nw. Spring Mtns (Pahrump, Indian Springs), Bullfrog Hills (Amargosa), Grapevine Mtns (sw. Sarcobatus); 6000-8100 ft. Sept.

Eriogonum rupinum Reveal

Reveal, J. L. Aliso 7: 217-230. 1970.

Common, lower cyn below Rose Spg, s. Kawich Range (e. Cactus Flat), Artemisia-Pinyon-Juniper; 7200 ft. Type locality. Aug-Sept.

Eriogonum (n. sp. or n. var.)

Affin. E. rupinum and E. panamintense. Abundant, with E. shockleyi, lower, largely bare, slopes of Goldfield Hills e. of Goldfield (Esmeralda Co.); 5600-5800 ft. Sept.

Eriogonum (n. sp.)

Atriplex canescens, w. Pahrump Valley, and adj. Inyo Co., Calif.; 2500-2600 ft. Annual. Beginning June.

Eriogonum umbellatum Torr.

*var. subnudum S. Stokes

Cercocarpus, cent. Quinn Cyn Range; 8600 ft. Aug.

*Oxytheca dendroidea Nutt.

Sw. Hot Creek Valley, ca 5800 ft. Annual. Sept-Oct.

Polygonum argyrocoleon Steud. ex Kunze

Common weed of irrig. soils, Mercury and Indian Springs townsites, Ash Meadows, Pahrump Valley; 2200-3700 ft. Intr. annual. May-Oct.

PORTULACACEAE

Calyptridium monandrum Nutt. in T. & G.

Occas., usually under shrubs, Larrea (with no other shrub sp.), s. end of Yucca Mtn (Amargosa); 2600 ft. Annual. Apr.

Montia chamissoi (Ledeb.) Dur. & Jacks.

Locally abundant on wet stream bank, Artemisia-Pinyon-Juniper, n. Kawich Range (nw. Reveille); 7100 ft. June.

Portulaca oleracea L.

Uncommon weed of dist. irrig. sites, Mercury townsite and n. Pahrump Valley; 2700-3700 ft. Intr. annual. June-Sept.

PRIMULACEAE

Androsace septentrionalis L. var. puberulenta (Rydb.) Knuth

Local, Artemisia-Cercocarpus, esp. in Cercocarpus thickets; n. Kawich Range (nw. Reveille); 8800-9100 ft. June-Aug.

Dodecatheon radiculatum Greene

Common along wash of shallow cyn, no. Ash Meadows; Atriplex-Haplopappus; 2300 ft. Apr.

RANUNCULACEAE

Clematis ligusticifolia Nutt.

Occas. to common, Salix in Artemisia-Pinyon-Juniper; Cold Creek-Willow Creek area, nw. Spring Mtns (Indian Springs), n. Kawich Range (e. Stone Cabin, nw. Reveille); 6000-7200 ft. July.

Thalictrum fendleri Engelm.

Common, Cold Creek Spg, Trough Spg, and slopes of upper Clark Cyn, nw. Spring Mtns (Indian Springs, Pahrump); Artemisia-Pinyon-Juniper, Yellow Pine-Pinyon; 6200-8200 ft. July.

RESEDACEAE. Mignonette Family

Oligomeris linifolia (Vahl) Macbr.

Common, Atriplex types, Ash Meadows, sand dunes of e. Amargosa, and spring area of e. Bullfrog Hills; 2200-4000 ft. Apr-May.

RHAMNACEAE

Ceanothus cordulatus Kell.

Common locally in mtn wash, Artemisia-Pinyon-Juniper, nw. Spring Mtns below Mt. Stirling (Indian Springs); 6800 ft. June.

ROSACEAE

Amelanchier pallida Greene

Common, Artemisia-Cercocarpus, n. Kawich Range (nw. Reveille); 8000-9100 ft. June.

Geum macrophyllum Willd.

Common locally, moist-wet areas in Artemisia-Pinyon-Juniper, n. Kawich Range (nw. Reveille, e. Stone Cabin); 7100-7200 ft. June.

Ivesia eremica Rydb. (replacing I. kingii Wats.)

Fl. Sept.

Potentilla gracilis Dougl. ex Hook. var. glabratum (Lehm.) C. L. Hitchc.

Occas., wet soils of cyn bottoms, Artemisia-Pinyon-Juniper, n. Kawich Range (nw. Reveille, e. Stone Cabin); 6800-8100 ft. June-Aug.

Prunus andersonii Gray

Locally common, around volcanic boulders and cliff bases, Artemisia arbuscula subsp. nova, Artemisia-Pinyon-Juniper; Grapevine Mtns (sw. Sarcobatus), s. end of Monitor Range (Ralston); 6000-7000 ft. May.

Prunus virginiana L. var. melanocarpa (A. Nels.) Sarg.

Freq. in certain areas of cyns of n. Kawich Range (nw. Reveille, e. Stone Cabin), Artemisia-Pinyon-Juniper; 7100-8000 ft. June, fr. July.

Rubus procerus P. J. Muell.

Common around margin of lake, Indian Springs townsite; 3100 ft. Intr. June.

RUBIACEAE

Cephalanthus occidentalis L.

Local on seepage site, Atriplex confertifolia, e. Goldfield Hills; 5800 ft. Fl. time not known.

RUBIACEAE (cont'd)

Galium bifolium Wats.

Common, base of boulder-cliffs, Artemisia-Pinyon-Juniper, s. rim of Pahute Mesa; 7300 ft. Annual. May-June.

Galium multiflorum Kell.

Locally common, Artemisia-Pinyon-Juniper; above Wheeler Wash, nw. Spring Mtns (Pahrump); 6600 ft. June.

Galium munzii Hilend & Howell

Local, Artemisia-Pinyon-Juniper; upper Clark Cyn, nw. Spring Mtns (Pahrump); 6800 ft. June-July

Galium parishii Hilend & Howell

Abundant locally, Yellow Pine-Pinyon, Artemisia-Pinyon-Juniper; upper Clark Cyn, Trough Spg, nw. Spring Mtns (Pahrump), and below Mt. Stirling (Indian Springs); 7200-8200 ft. June-Sept.

Galium proliferum Gray

Base of ls. ledges, n.-cent. Spotted Range (e. Frenchman), Larrea/Coleogyne; 5400 ft. Annual. Apr-May.

SALICACEAE

Populus trichocarpa T. & G.

Locally common with Salix (in Artemisia-Pinyon-Juniper), cyns of n. Kawich Range (nw. Reveille, e. Stone Cabin); 6600-7000 ft. Spring; fr. June.

*Populus tremuloides Michx.

Cyn bottom, cent. Hot Creek Range; 8700 ft.

Salix babylonica L.

Planted, Indian Springs townsite; 3100 ft. Intr. May.

Salix lasiolepis Benth.

The abundant Salix of the Willow-Cold Creek area (6000-6200 ft), local in Crystal Spg Cyn (5400 ft), nw. Spring Mtns (Indian Springs, Pahrump); Artemisia-Pinyon-Juniper. Fr. early June.

Salix rigida Muhl. var. watsonii (Bebb) Cronq.

The Salix (with S. exigua) of cyns of Kawich Range, Artemisia-Pinyon-Juniper; 6400-8000 ft. Fr. June.

SANTALACEAE. Sandalwood Family

Comandra umbellata (L.) Nutt. var. pallida (DC.) Jones

Freq., Artemisia-Pinyon-Juniper, both slopes of nw. Spring Mtns (Indian Springs, Pahrump); 6000-8000 ft. June.

SAXIFRAGACEAE

Ribes aureum Pursh

Common, Salix in Artemisia-Pinyon-Juniper; Willow-Cold Creek area, nw. Spring Mtns (Indian Springs); n. Kawich Range (nw. Reville, e. Stone Cabin); 6000-8000 ft. May-June.

Ribes niveum Dougl.

Cyn bottom, Artemisia-Pinyon-Juniper, n. Kawich Range (nw. Reville); 7200 ft. Fr. July.

SCROPHULARIACEAE

*Castilleja barnebyana Eastw.

Pinus aristata-Cercocarpus, cent. Quinn Canyon Range (w. Garden Valley); 8600 ft. Aug.

Castilleja (n. sp.)

Common, n. Kawich Range, Artemisia-Cercocarpus (nw. Reville) and local in Artemisia-Pinyon-Juniper (e. Stone Cabin); 7600-9100 ft. June-July.

Mimulus bigelovii (Gray) Gray

Locally common, Larrea-Franseria-Atriplex, loose talus, e. Specter Range (e. Amargosa); 3300 ft. Annual. Apr.

Mimulus montioides Gray

Abundant, Larrea-Franseria-Atriplex, lower slopes of foothills of w. Spotted Range (e. Mercury); 4000 ft. Annual. Apr.

Mimulus parryi Gray

Locally abundant, Larrea-Atriplex, Coleogyne, on numerous sites on bajadas below and in no.-cent. Spotted Range (e. Frenchman); 3800-5200 ft. Annual. Apr-May.

Mimulus (to be det.)

Occas., Atriplex confertifolia, w. end of Spotted Range (e. Mercury); 4000 ft. Annual. Apr.

SCROPHULARIACEAE (cont'd)

Penstemon albomarginatus Jones

Abundant in sands below w. end of Specter Range (Amargosa),
Larrea-Franseria; 2700 ft. May.

Penstemon angustifolius Nutt. subsp. venosus Keck

Common throughout sands of s. Groom, below se. Belted Range,
Atriplex confertifolia, and e. Kawich Valley below no.-cent.
Belted Range, Atriplex canescens; 4500-5400 ft. May-early June.

Penstemon arenarius Greene

Common in sands below Tolicha Peak (s. Sarcobatus), Atriplex-
Tetradymia; 4100 ft. May.

*Penstemon laetus Gray subsp. roezlii (Regel) Keck

Open Pinyon-Juniper, along bank of wash, cent. Hot Creek Range;
6300 ft. June.

*Penstemon miser Gray

Artemisia-Pinyon-Juniper, cent. Hot Creek Range; 7000 ft. May-
June.

Penstemon pudicus Reveal (n. sp.)

Common, Artemisia-Cercocarpus, n. Kawich Range (nw. Reveille);
7600-9200 ft. Late June-early July.

Penstemon thompsoniae (Gray) Rydb. subsp. thompsoniae

Local, Artemisia-Pinyon-Juniper, Clark Cyn area, nw. Spring Mtns
(Pahrump); 6000 ft. May-June.

Penstemon utahensis Eastw.

The common Penstemon of Coleogyne and lower Artemisia-Pinyon-
Juniper, below Mt. Stirling, nw. Spring Mtns (Indian Springs);
6000 ft. Late Apr-early June.

Verbascum thapsus L.

Common in seepage area below spring, nw. Spring Mtns (Indian
Springs), Artemisia; 6000 ft. Intr. biennial. June-Sept.

SOLANACEAE

Physalis fendleri Gray

Locally common, moist soils of Willow-Cold Creek area and Gold Spg,
Artemisia-Pinyon-Juniper, nw. Spring Mtns (Indian Springs);
5900-6000 ft. June-July.

SOLANACEAE (cont'd)

Solanum sarrachoides Sendt. ex Mart.

Local, meadow in Artemisia-Pinyon-Juniper, n. Kawich Range
(e. Stone Cabin); 7200 ft. Intr. annual. Aug-Sept.

TAMARICACEAE

Tamarix ramosissima Ledeb. (replacing T. pentandra Pall.)

Tamarix africana Poir.

Indian Springs townsite; 3100 ft. Intr. May.

Tamarix parviflora DC.

Indian Springs and Beatty townsites; 3100-3300 ft. Intr. May.

UMBELLIFERAE

Angelica kingii (Wats.) Coult. & Rose

Occas. large clumps in stream below Cold Creek Spg, nw. Spring
Mtns (Indian Springs), Artemisia-Pinyon-Juniper; 6200 ft. June.

Apium graveolens L.

Common along washes, Crystal Spg Cyn, nw. Spring Mtns (Pahrump);
5000-5300 ft. ^{Intr.} June-July.

Cymopterus aboriginum M. E. Jones (replacing Pteryxia hendersonii
(Coult. & Rose) Math. & Const. subsp. hendersonii)

Daucus carota L.

Uncommon, dist. irrigated soils, Indian Springs townsite; 3100 ft.
Intr. biennial. June-Aug.

Hydrocotyle verticillata Thunb.

Locally abundant, wet soils in Ash thicket, n. Ash Meadows;
2300 ft. July-Sept.

Lomatium scabrum (C. & R.) Mathias (replacing L. nuttallii (Gray)
Macbr.)

Osmorhiza occidentalis (Nutt.) Torr.

Locally common, Salix in Artemisia-Pinyon-Juniper, n. Kawich
Range (nw. Reveille); 6700 ft. June.

URTICACEAE. Nettle Family

Urtica holosericea Nutt.

Locally common, Salix in Artemisia-Pinyon-Juniper, or other moist soils in shade; Willow-Cold Creek area, nw. Spring Mtns (Indian Springs); n. Kawich Range (nw. Reveille, e. Stone Cabin), Stonewall Mtn spring (Stonewall); 5600-7100 ft. June-July.

VERBENACEAE

Verbena gooddingii Briq.

Freq. along major washes below and in nw. Spring Mtns (Pahrump, Amargosa, Indian Springs); 2500-5200 ft. Apr-Sept.

Lippia nodiflora Michx. var. reptans (HBK.) Kuntze

Local on bank above lake, Indian Springs townsite; 3100 ft. Intr. June-July.

VIOLACEAE. Violet Family

Viola nephrophylla Greene

Local, Carex and Salix in Artemisia-Pinyon-Juniper; Willow Creek, nw. Spring Mtns (Indian Springs), n. Kawich Range (nw. Reveille, e. Stone Cabin); 6000-7200 ft. May-June.

VITACEAE

Parthenocissus inserta (Kerner) Fritsch

Widely planted, Indian Springs and Beatty townsites; 3100-3300 ft. Intr. May.

ZYGOPHYLLACEAE

Larrea tridentata Ses. & Moc. (replacing L. divaricata Cav.)

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