Vascular Plants of Hog Lake Plateau

Bureau of Land Management
VASCULAR PLANTS OF
HOG LAKE PLATEAU

Vernon H. Oswald
Department of Biological Sciences
California State University, Chico
Chico, CA 95929-0515

Lowell Ahart
9771 Ahart Road
Oroville, CA 95966

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FIGURE 1. Location of Hog Lake Plateau.
INTRODUCTION

Hog Lake Plateau is a 5300 acre (approximately 8 square mile) parcel located in the Cascade Range foothills of Tehama County about 7 miles northeast of Red Bluff, California (figure 1). It is bordered on the east by Hwy. 36, on the north by Paynes Creek, on the west by the Sacramento River, and on the south by a fence crossing the Sevenmile Creek watershed (figure 2). Hog Lake, a large vernal pool, is easily visible to travelers on Hwy. 36 during winter and spring. Hog Lake Plateau is public land owned by the United States Department of the Interior and administered by the Redding Resource Area of the Bureau of Land Management. Formerly known as Hog Lake Ranch and used as winter range for livestock, the parcel was acquired in 1994 by land exchange. It is contiguous with Paynes Creek Recreation Area, another large BLM holding on the northwest side of Paynes Creek, and the recently acquired Bald Hill Parcel on the west side of the Sacramento River (figure 2). Hog Lake Plateau is open to the public, and a parking lot is provided near Hog Lake. A gravel road, not open to vehicles, extends from the parking lot to Paynes Creek. During the construction of Bend Bridge on the Sacramento River, this road was the only outside access for the community of Bend. A temporary bridge on this road at Paynes Creek has since been removed.

The topography of the area is a gently sloping plateau, upon which Hog Lake is located, that is deeply dissected by Paynes Creek and its tributaries on the northwest, the Sacramento River on the west, and Sevenmile Creek on the south. Elevation ranges between 255 ft at the Sacramento River to 866 ft at Hog Lake. The land consists of pyroclastic rocks of the Tuscan Formation, which was formed by volcanic mudflows during the Pliocene. Soils are mostly thin and consist of stony Tuscan loams. Because of an underlying hardpan of cemented mudflow, water tends to accumulate in depressions during the rainy season, forming pools and shallow wetlands. The deepest and largest of these is Hog Lake. A more shallow unnamed pool lies to the west of Hog Lake. Sevenmile Vernal Pool is located on a BLM parcel east of Hwy. 36, but it was not included in this survey.

The climate of the area is "Mediterranean, warm summer," which applies to all of the Sacramento Valley and the adjacent foothills. Dry hot summers are followed by cool, wet winters. Rainfall (based upon records at Red Bluff) averages 22 inches per year, the rainy season usually running from October to April.

Vegetation is correlated to topography, soils, and climate. Gently sloping flats tend to be open grassland, while ridges and canyon slopes are covered with blue oak woodland, interspersed with patches of brush. Narrow bands of riparian woodland occur along the edges of Paynes Creek and the Sacramento River.

The survey forming the basis for this report was conducted from early March to early September, 1996 (eleven visits). During the study, 506 species and varieties of vascular plants distributed among 285 genera in 77 families were documented (Table 1). No study of this type is ever complete—additional plants are still to be found on the property.

TABLE 1. Numerical analysis of the vascular flora of Hog Lake Plateau.

<table>
<thead>
<tr>
<th>FAMILIES</th>
<th>GENERA</th>
<th>SPECIES</th>
<th>VARIETIES</th>
<th>TOTAL TAXA</th>
<th>NON-NATIVE</th>
<th>CNPS LISTED</th>
</tr>
</thead>
<tbody>
<tr>
<td>77</td>
<td>285</td>
<td>491</td>
<td>15</td>
<td>506</td>
<td>134 (26%)</td>
<td>11</td>
</tr>
</tbody>
</table>

Non-native species (indicated by a non-serif typeface in the plant list) make up 26 percent of the flora. These aliens are typically weedy and many are restricted to disturbed sites along roads and on the flood plain of Paynes Creek. Non-native grasses, however, are generally distributed throughout the area and account for more than one-quarter of the alien species.

Eleven species of plants at Hog Lake Plateau are listed in the CNPS Inventory of Rare and Endangered Vascular Plants of California (Table 2). Boggs Lake hedge-hyssop (Gratiola heterosepala), legenere (Legenere limosa), slender orcuttia (Orcuttia tenuis), Ahart's nailwort (Paronychia ahartii), and Sanford's arrowhead (Sagittaria sanfordii) are in CNPS List 1B, plants that are rare, threatened, or endangered in California and elsewhere. Boggs Lake hedges-hyssop and slender orcuttia are also State listed endangered, while slender orcuttia is federally proposed threatened. With the exception of Ahart's nailwort, all are restricted to Hog Lake. However, recent data indicate that Boggs Lake hedge-hyssop and Sanford's arrowhead are more common than originally thought, and both are being considered for down-grading to List 4 in the 6th edition of the CNPS Inventory. Hog Lake Plateau is ideal habitat for Ahart's nailwort, which occurs in scattered populations of sometimes thousands of plants (see figure 2). Large-flowered bluecup (Githopsis pulchella ssp. campestris), an attractive annual in the Campanulaceae, is tentatively being considered for inclusion in the 6th edition of the CNPS Inventory.

The flowering interval is indicated for most plants. Each month is divided into three parts: early (day 1 through 10), mid (day 11 through 20) and late (day 21 onward), and the onset of flowering is indicated accordingly. The end of the flowering period is indicated only by the last month in which flowers were noted. In a few groups, e.g., grasses,
FIGURE 2. Topography of Hog Lake Plateau, with the distribution of CNPS-listed plants. The grid consists of sections
Astragalus pauperculus
Gratiola heterosepala
Legenere limosa
Limnanthes floccosa var. floccosa
Mimulus glaucescens
Navarretia heterandra
Orcuttia temuvi
Paronychia akartii
Polygonum bidwelliae
Sagittaria sanfordii

Hog Lake Plateau
(northeast portion, with adjacent BLM parcels)

(each one mile square = 640 acres).
sedges, and rushes where anthesis is not always obvious, the date indicates the presence of a well-developed inflorescence. Flowering intervals are based upon limited observations and should be considered to be positive but not necessarily inclusive statements, i.e., additional field work would certainly show that some plants bloom earlier or later than indicated. Variations can also be expected from year to year, depending upon the amount and distribution of rainfall during the growing season. Many of the plants flowering in September on our last visit will probably continue to bloom into autumn (indicated Sep... in the annotated plant list).

TABLE 2. Rare plants growing at Hog Lake Plateau.

<table>
<thead>
<tr>
<th>Common Name</th>
<th>CNPS Lists</th>
<th>State and Federal Lists</th>
</tr>
</thead>
<tbody>
<tr>
<td>Agrostis hendersonii Hitchc., List 3</td>
<td>1B Rare, threatened, or endangered in California and elsewhere.</td>
<td>CE State listed, endangered.</td>
</tr>
<tr>
<td>Astragalus pauperculus Greene, List 4</td>
<td>2 Rare, threatened, or endangered in California, but more common elsewhere.</td>
<td>PT Federally proposed, threatened.</td>
</tr>
<tr>
<td>Gratiola limosa (Greene) McVaugh, List 1B.</td>
<td>3 Plants about which we need more information—a review list.</td>
<td></td>
</tr>
<tr>
<td>Limnanthes flaccosa Howell ssp. flaccosa, List 2.</td>
<td>4 Plants of limited distribution—a watch list.</td>
<td></td>
</tr>
<tr>
<td>Mimulus glaucescens Greene, List 4.</td>
<td>1B Rare, threatened, or endangered in California and elsewhere.</td>
<td></td>
</tr>
<tr>
<td>Navarretia heterandra H.Mason, List 4.</td>
<td>2 Rare, threatened, or endangered in California, but more common elsewhere.</td>
<td></td>
</tr>
<tr>
<td>Orcuttia tenuis Hitchc., List 1B, CE, PT</td>
<td>3 Plants about which we need more information—a review list.</td>
<td></td>
</tr>
<tr>
<td>Paronychia ahatii Ertter, List 1B.</td>
<td>4 Plants of limited distribution—a watch list.</td>
<td></td>
</tr>
<tr>
<td>Polygonum bidwelliae S.Watson, List 4.</td>
<td>1B Rare, threatened, or endangered in California and elsewhere.</td>
<td></td>
</tr>
<tr>
<td>Sagittaria sanfordii Greene, List 1B.</td>
<td>2 Rare, threatened, or endangered in California, but more common elsewhere.</td>
<td></td>
</tr>
<tr>
<td>Stratiotes aloides (L.) K.D.usch.</td>
<td>1B Rare, threatened, or endangered in California and elsewhere.</td>
<td></td>
</tr>
</tbody>
</table>

Nomenclature is based upon The Jepson Manual (Hickman 1993). Some synonyms used in older floras are indicated in brackets. Author abbreviations follow Brummit and Powell (1992) and may deviate from those in The Jepson Manual. There are no accepted standards for common plant names. When available, common names correspond to those in The Jepson Manual and in the 5th edition of the CNPS Inventory (Skinner and Pavlik 1994). The remaining common names are mostly those of Abrams (1923-60). Words describing the abundance of a plant such as rare, common, abundant, etc. are entirely subjective.

Voucher specimens of many of the plants found during this study are deposited in the herbarium of California State University, Chico (CHSC) and are indicated by collector(s) and collection number (e.g., Oswald & Ahart 8272) in the annotated plant list.

**Principal References**


**Acknowledgments**

We wish to thank Joe Molter, Natural Resource Specialist, Bureau of Land Management, Redding Resource Area, for maps and other information dealing with Hog Lake Plateau. He also provided us with a key so that we could access the area by vehicle along the gravel road. Hog Lake Plateau is such a large area that we would otherwise not have been able to survey the remote areas of the parcel.
**ANNOTATED PLANT LIST**

**Ferns and Fern Allies**

**Isoetaceae – Quillwort Family**

*Isoetes howelli* Engelm. – *Howell’s Quillwort.* Common along the margins of Hog Lake and in the vernal pool to the west. Winter and spring. *Oswald & Ahart 7412: SW¼ NW¼ Sekt 17. Hog Lake. 23 Apr 96.*

*Isoetes nuttallii* A.Braun ex Engelm. – *Nuttall’s Quillwort.* Open grassland. Winter and spring.

**Selaginellaceae – Spike-moss Family**

*Selaginella hansenii* Heron. – *Hansen’s Spike-moss.* Eroded mudflow in grassland; outcrops on ridges. Active during the wet season and after late spring and summer rains. [S. rupestris (L.) Spring var. hansenii (Hieron.) Jeps.]

**Marsileaceae – Marsilea Family**


*Pilularia americana* A.Braun – *American Pillwort.* Growing in shallow water and later on mud along the margins of Hog Lake. Active during the wet season.

**Polypodiaceae – Fern Family**

*Cystopteris fragilis* (L.) Bernh. – *Fragile Fern.* Moist and shaded places on outcrops. Active during the wet season.


*Pentagramma triangularis* (Kaulf.) Yatsk., Windham, & E.Wollenw. ssp. triangularis – *Gold-backed Fern.* Outcrops and rocky places. Active late winter and spring. [Gymnogramma triangularis Kaulf., Pityrogramma triangularis (Kaulf.) Maxon] *Oswald & Ahart 7517: SW¼ NE¼ Sekt. 15. Common along the bank of Paynes Creek. 06 May 96.*


**Conifers**

**Pinaceae – Pine Family**

*Pinus sabiniana* Douglas ex D.Don – *Gray Pine.* Along Sevenmile Creek downstream from Hwy. 36, along Paynes Creek near the Sacramento River.

**Dicot Flowering Plants**

**Amaranthaceae – Amaranth Family**

*Amaranthus albus* L. – *Tumbleweed.* Beds of intermittent streams, gravel bars along Paynes Creek. Native to tropical Amer. Early Jun–Sep... *Oswald & Ahart 7692.4: SE¼ SE¼ Sekt. 15. Paynes Creek at the bridge site. 03 Jun 96.*


**Anacardiaceae – Sumac Family**


**Apiaceae – Carrot Family**

[Umbelliferae]


*Coriandrum maculatum* L. – *Poison-Hemlock.* Sandy flood plain of Paynes Creek. Native to Eur. Late May–Jun. *Oswald & Ahart 7710: SE¼ NE¼ Sekt. 22. Paynes Creek ca. 0.5 mi downstream from the bridge site. 03 Jun 96.*


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1 Non-native plants are indicated by an italic, non-serif typeface (*Bromus tectorum*); plant names that appear in non-italic boldface (*Oreocallis tenella*) are listed in the 5th edition of the CNPS Inventory (Skinner and Pavlik, 1994). Underlined names are plants being considered for updating in the 6th edition of the CNPS Inventory.
early Jun.

**Eryngium articulatum** Hook. – BEE-THISTLE. Rocky flood channels along Paynes Creek. In bud early Jun.


**Lomatium caruifolium** (Hook. & Arn.) J.M.Coult. & Rose var. denticulatum Jeps. – FOOTHILL LOMATIUM. Widespread in grassland and open savanna. Late Feb–Apr. [L. humile (J.M.Coult. & Rose) Hoover ex Mathias & Constance]

**Lomatium dasycarpum** ssp. tomentosum (Benth.) W.L.Theob. – WOOLLY-FRUITED LOMATIUM. Rocky margins of Sevenmile and Paynes creeks. Mid Mar–Apr. [L. tomentosum (Benth.) J.M.Coult. & Rose]

**Lomatium marginatum** var. purpureum (Jeps.) Jeps. – PURPLE-FLOWERED LOMATIUM. Locally common on north-facing slopes of Paynes Creek Canyon. Mid Mar–Apr. Oswald & Ahart 7595.1: NW¼ NE¼ Sect. 8. Paynes Creek in the NE end of the parcel. 20 May 96.


**Lomatium urticulatum** (Nutt. ex Torr. & A.Gray) J.M.Coult. & Rose – BLADDER LOMATIUM. Locally common on the upper banks and margins of streams, on rocky slopes. Mid Mar–May. Oswald & Ahart 7563: NE¼ NW¼ Sects. 5 & 12. Paynes Creek at the Sacramento River. 08 Apr 96.


**Sanicula bipinnata** Hook. & Arn. – POISON SANICLE. Common and widespread under or near blue oak. Mid Mar–Apr. Oswald & Ahart 7336: SE¼ NE¼ Sect. 22. NE side of the grassy plateau on the E side of Paynes Creek at the Sacramento River. 08 Apr 96.

**Sanicula bipinnatifida** Douglas ex Hook. – PURPLE SANICLE. Riparian woodland, blue oak savan­na. Late Mar–Apr. Oswald & Ahart 7321: NE¼ SE¼ Sect. 22. Upper flood plain of Paynes Creek ca. midway between the bridge site and the Sacramento River. 08 Apr 96.

**Sanicula crassicaulis** Poepp. ex DC. – PACIFIC SANICLE. Brushy places along Paynes Creek. Late Mar–May.

**Scandix pecten-veneris** L. – SHEPHERD’S-NEEDLE. Common and locally abundant along Paynes Creek and its tributaries. Native to the Medit. Late Apr–May. Oswald & Ahart 7436: NE¼ SW¼ Sect 7, 485 ft. Grassy bank of Paynes Creek just downstream from the powerline at this location. 23 Apr 96.

**Tauschia hartwegii** (A.Gray) J.F.Macbr. – HARTWEG’S TAUSCHIA. Brushy slopes near rim rock. Late Apr. (flowers and fruits). Oswald & Ahart 7453: NE¼ NW¼ Sect 18. Localized population in thick brush on the north-facing slope above the Jeep Trail at the powerline. 23 Apr 96.


**APOCYNAEACEAE – DOGBANE FAMILY**

**Apocynum cannabinum** L. – INDIAN-HEMP. Brushy and grassy flats along Paynes Creek. Late May–Jun. [Includes vars. glaberrimum A. DC. & pubescens (Mitchell) A. DC., A. sibiricum Jacq. var. salignum (Greene) Fern., A. suksdorfii Greene, A. cannabinum var. suksdorfii (Greene) Bég. & Belos­erky] Oswald & Ahart 7708: SE¼ NE¼ Sect. 22. Paynes Creek ca. 0.4 mi S of the bridge site. 03 Jun 96.

**ARISTOLOCHIACEAE – PIPEVINE FAMILY**


**ASCLEPIADACEAE – MILKWEED FAMILY**

**Asclepias eriocarpa** Benth. – INDIAN MILKWEED. Along the banks of Paynes Creek. Mid Jun.

**Asclepias fascicularis** Decne. – NARROW-LEAVED MILKWEED. Flood plain of Paynes Creek. Post flower in early Sep.

**ASTERACEAE – SUNFLOWER FAMILY**

[Compositae]

**Achillea millefolium** L. – YARROW. Scattered populations on grassy and brushy slopes in blue oak.
woodland. Late Apr–May. [Achillea lanulosa Nutt., A. millefolium var. lanulosa (Nutt.) Piper] Oswald & Ahart 7580: SW¼ NE¼ Sect. 8. Slope bordering the intermittent stream in the NE corner of the parcel. 20 May 96.


_Agoseria heterophylla_ (Nutt.) Greene – ANNUAL AGoseris. Scattered plants on grassy slopes and flats. Early Apr–May. Oswald & Ahart 7533; SE¼ NW¼ Sect. 13. Robust plant growing on a gopher mound on an open grassy flat N of the gravel road and W of the Jeep Trail. 06 May 96.

_Artemisia douglasiana_ Besser – MUGWORT. Common on the flood plain of Paynes Creek. Late Aug–Sep... Oswald & Ahart 8259: SE NE¼ Sect. 14. Paynes Creek ca. 1 mi upstream from the bridge site. 04 Sep 96.

_Baccharis salicifolia_ (Ruiz & Pav.) Pers. – MULE’S-FAT. Moist gravelly edge of Paynes Creek. Early Apr. [B. viminea DC., B. glutinosa Pers.]

_Bidens frondosa_ L. – STICKTIGHT. Gravel bars. Late Aug-Sep... Oswald & Ahart 8260; SE NE¼ Sect. 14. Scattered plants on the flood plain of Paynes Creek ca. 1 mi upstream from the bridge site. 04 Sep 96.

_Blenosperma nanum_ (Hook.) S.F.Blake var. _nanum_ – YELLOW-CARPET. Widespread in grassland and open savanna. Late Feb–Apr.

_Brickellia californica_ (Torr. & A. Gray) A. Gray – CALIFORNIA BRICKELLBUSH. Shrubby perennial on sand and gravel bars. Late Jul-Sep... Oswald & Ahart 8254; SE NE¼ Sect. 14. Paynes Creek ca. 1 mi upstream from the bridge site. 04 Sep 96.

_Calycadenia ciliosa_ Greene – KLAMATH CALYCADENIA. Localized populations in dry grassy upland. Late May–Sep... [Included in _C. fremontii_ (see next) in the Jepson Manual.] Oswald & Ahart 7686: NW¼ NE¼ Sect. 24. N side of the gravel road ca. 0.1 mi E of the Jeep Trail.


_Centaurea solstitialis_ L. – YELLOW STAR-THISTLE. Roadsides, deeper soils of slopes and flats. Native to S Eur. Late May–Sep... Oswald & Ahart 7974; SE¼ NE¼ Sect. 8. Hwy. 36 at the NE end of the parcel. 08 Jul 96.


_Conyza canadensis_ (L.) Cronquist – CANADIAN HORSEWEED. Roadsides, stream margins. Late Aug-Sep... Oswald & Ahart 8255; SE NE¼ Sect. 14. Paynes Creek ca. 1 mi upstream from the bridge site. 04 Sep 96.


_Euthamia occidentalis_ Nutt. – WESTERN GOLDENROD. Scattered to common in moist places along Paynes Creek. Mid Aug–Sep... [Solidago _occidentalis_ (Nutt.) Torr. & A. Gray] Oswald & Ahart 8256; SE NE¼ Sect. 14. Paynes Creek ca. 1 mi upstream from the bridge site. 04 Sep 96.


_Gnaphalium luteo-album_ L. – WEEDY CUDWEED. Moist places along Paynes Creek. Native to Eurasia. Late May–Sep... Oswald & Ahart 7707; SE¼ NE¼ Sect. 22. Paynes Creek ca. 0.4 mi SW of the bridge site. 03 Jun 96.


_Gnaphalium stramineum_ Humb., Bonpl. & Kunth – COTTON-BATTING CUDWEED. Seeps on mudflow. Early May. [G. _chilense_ Spreng.] Oswald & Ahart
porum flood plain along Paynes E of the mouth of the intermittent stream at this location. 06 May 96.

Grindelia hirsutula Hook. & Arn. var. davyi (Jeps.) M.A.Lane – FOOTHILL GUMPLANT. Rocky creek beds, road-sides. Late May–Jui. [Included in G. camporum Greene, G. robusta Nutt. var. davyi Jeps.] Oswald & Ahart 7936: SW¼ NE¼ Sect. 8. Edge of intermittent stream in the NE end of the parcel. 08 Jul 96.

Hemizonia fitchii A.Gray – FITCH’S SPIKEWEED. Grassy slopes and flats, gravel bars. Mid May–Sep... Oswald & Ahart 7934.1: NW¼ NE¼ Sect. 22. Patch of bare soil bordering brush on a high bank of Paynes Creek ca. 2/3 of the way between the bridge site and the Sacramento River. 08 Apr 96.

Hesperax acaulis (Kellogg) Greene var. acaulis – DWARF HESPERAX. Thin soils of grassy upland. Late Mar. [Evaex acaulis (Kellogg) Greene]

Hesperax acaulis var. robustior Morefield – ROBUST HESPERAX. Bare soil on brushy banks. Early Apr. Oswald & Ahart 7923: NE¼ SE¼ Sect. 22. Patch of bare soil bordering brush on a high bank of Paynes Creek ca. 2/3 of the way between the bridge site and the Sacramento River. 08 Apr 96.


Lactuca serriola L. – PRICKLY LETTUCE. Road-sides, grassy slopes and flats. Plants with strap-shaped rather than pinnately-lobed leaves are sometimes referred to the var. integra Gren. & Godr. (= forma integrifolia Bogenh.). Native to Eur. Early Jul–Sep... Lagophylla glandulosa A.Gray – GLANDULAR HARELEAF. Dry grassland and oak savanna. Early May–Sep... [Includes the spring-flowering ecotype, ssp. serrata (Greene) D.D.Keck] Oswald & Ahart 7954: SW¼ NE¼ Sect. 8. Rocky banks of the intermittent stream in the NE end of the parcel. 08 Jul 96.

Lasthenia californica DC. ex Lindl. – CALIFORNIA GOLDFIELDS. Grassland and open savanna. Early Mar–May. [Baeria chrysostoma Fisch. & C.A.Mey., including ssp. gracilis (DC.) Ferris]

Lasthenia fremontii (Torr. ex A.Gray) Greene – FREMONTS GOLDFIELDS. Margins of vernal wet ditches and pools. Early Apr–May. [Baeria fremontii (Torr. ex A.Gray) A.Gray]


Lasthenia platycarpha (A.Gray) Greene – ALKALI GOLDFIELDS. Thin soils of grassy upland. Mid Mar–May. [Baeria platycarpha (A. Gray) A.Gray]

Layia fremontii (Torr. & A.Gray) A.Gray – FREMONTS TIDYTIPS. Grassy slopes and flats, grassy opening in blue oak savanna. Late Mar–May.


Lessingia virgata A.Gray – WAND LESSINGIA. Locally abundant in thin, summer-dry soils of grassland and blue oak savanna. Early Jul–Sep... Oswald & Ahart 7951: SW½ NE¼ Sect. 8. Near the intermittent stream in the NE corner of the parcel. 20 May 96.

Madia exigua (Sm.) A.Gray – THREAD-STEMMED MADIA. Scattered populations on grassy and rocky slopes in blue oak savanna. Mid May. Oswald & Ahart 7581: SW¼ NE¼ Sect. 8. Near the intermittent stream in the NE corner of the parcel. 20 May 96.


Microseris acuminata Greene – SIERRA FOOTHILL MICROSERIS. Thin soils on grassy slopes in blue oak savanna. Late Mar–Apr. Oswald & Ahart 7422: NW¼ NW¼ Sect 17. Locally abundant in upland along the W shore of Hog Lake. 23 Apr 96.

Psilocarphus brevissimus Nutt. var. brevissimus – DWARF WOOLLY-MARBLES. Drying beds of pools and ditches. Early Apr–May.

Psilocarphus oregonus Nutt. – OREGON WOOLLY-MARBLES. Drying beds of vernal wetlands. Late Apr.


Solidago californica Nutt. – CALIFORNIA GOLDENROD. Rocky margins of drainages, sandy banks along Paynes Creek. Early May–Sep... [Includes var. nevad-


Taraxacum officinale Weber – COMMON DANDELION. Wet places along streams. Native to Eur. Early May. [T. vulgare (Lam.) Schrank, T. laevigatum (Willd.) DC.]


Xanthium strumarium L. – COCKLEBUR. Ditches, gravel bars, pond margins. Early Jul-Sep. [Includes var. canadense (Mill.) Torr. & A.Gray & var. glabra­tum (DC.) Cronquist]

Betulaceae – BIRCH FAMILY

Alnus rhombifolia Nutt. – WHITE ALDER. Riparian zone of Paynes Creek. Early spring.

Bignoniaceae – BIGNONIA FAMILY

Catalpa speciosa (Warder ex Barney) Engelm. – NORTHERN CATALPA. Uncommon small tree on the bank of Paynes Creek. Although not listed in the Jepson Manual, this tree of the eastern United States is naturalized along rivers and streams in the North Valley. In bud mid May.

Boraginaceae – BORAGE FAMILY

Amsinckia lycopsis Heuh. – BUGLOSS FIDDLENECK. Oak savanna, roadsides. Similar to A. menziesii var. intermedia. Mid Mar–May.


Cynoglossum grande Douglas ex Lehm. – PACIFIC HOUND’S-TONGUE. Brushly north-facing slopes along Paynes Creek. Late Apr (in fruit).

Heliotropium europaeum L. – EUROPEAN HELIOTROPE. Roadsides, sandy and gravelly flood channels along Paynes Creek, other disturbed places. Native to southern and eastern Eur., N. Afr. Mid May–Jul. Oswald & Ahart 7701: NE¼ NE¼ Sect. 22. Gravel bar along Paynes Creek ca. 0.3 mi S of the bridge site. 03 Jun 96.

Pectocarya pusilla (A.DC.) A.Gray – LITTLE PECTOCARYA. Thin, gravelly soils of eroded mudflow. Late Mar (in fruit)–Apr. Oswald, Ahart, & Molter 7270: center NE¼ Sect. 8. Localized population on a rocky slope in blue oak savanna in the NE corner of the parcel. 25 Mar 96.

Plagiobothrys austinae (Greene) I.M.Johnst. – AUSTIN’S POPCORN-FLOWER. Common in grassland, open oak woodland. Early Mar. [Allocarya austinae Greene]


Plagiobothrys canescens Benth. – VALLEY POPCORN-FLOWER. Grassy and brushy slopes and banks along Paynes Creek. Early Apr.

Plagiobothrys fulvis (Hook. & Arn.) I.M.Johnst. – FULVOUS POPCORN-FLOWER. Grassy flats. Early Apr. [P. fulvis var. campestris (Greene) I.M.Johnst.; P. campestris Greene]


Plagiobothrys scriptus (Greene) I.M.Johnst. – Scribe’s popcorn-flower. Grassland; the first popcorn-flower to bloom in the spring. Late Feb.–Mar. [Allocarya scripta Greene]


Plagiobothrys stipitatus (Greene) I.M.Johnst. var. stipitatus – Large-flowered stalked popcorn-flower. Growing with var. micranthus along Hog Lake and the unnamed vernal pool to the west. Mid Apr.–May. [Allocarya stipitata Greene]

Lepidium nitidum Nutt. var. nitidum – Shining pepper-grass. Widespread in grassland and open blue oak savanna. Late Feb.–May.


Thysanocarpus curvipes Hook. var. curvipes – Clasping-leaved fringe-pod. Oak woodland, rocky ridges, brushy slopes and banks. Mid Mar.–Apr. Oswald & Ahart 7319: SW 1/4 NW 1/4 Sect. 23. Loam soil on the shaded bank of Paynes Creek downstream from the bridge site. 08 Apr 96.


Thysanocarpus radians Benth. – Spokepod. Open grassland in blue oak woodland. Mid Mar.

Callitrichaceae – Water-starwort Family


Callitriche heterophylla Pursh var. bolanderi (Hegelm.) Fassett – Variable-leaved water-starwort. Growing in pools and later on wet sand on flood plain of Paynes Creek. Late Apr (flowers and fruits). [C. bolanderi Hegelm., C. heterophylla ssp. bolanderi (Hegelm.) Calder & RoyTaylor, C. palustris L.] Oswald & Ahart 7443: NE 1/4 SW 1/4 Sect 7. Pools along Paynes Creek just downstream from the power line at this location. 23 Apr 96.
Callitriche marginata Torr. – Winged water-starwort. Widespread in water of pools and ditches in open grassland. Late Feb–Mar. [C. longipedunculata Morong, C. marginata var. longipedunculata (Morong) Jeps.]

Campanulaceae – Bellflower Family


Downingia cuspidata (Greene) ex Jeps. – Toothed Downingia. Wet drainages, drying margins of vernal pools. Late Apr–May.


Heterocodon rariflorus Nutt. – Heterocodon. Uncommon along Paynes Creek. Late May–Jun. Oswald & Ahart 7715: SE¼ NE¼ Sect. 22. Near Paynes Creek ca. 0.5 mi S of the bridge site. 03 Jun 96.

Legenera limosa (Greene) McVaugh – Legenera. In shallow water and on wet mud along the margin of Hog Lake according the Witham (pers. com. 1995) and Molter (pers. com. 1996). We were not able to locate this inconspicuous plant during our survey. CNPS List 1B.

Caprifoliaceae – Honeysuckle Family


Caryophyllaceae – Pink Family


Minuartia californica (A. Gray) Mattf. – California Sandwort. Widespread in thinner soils in grassland and open blue oak savanna. Late Feb–Apr. [Arenaria californica (A. Gray) W.H. Brewer, A. pusilla S. Watson, including var. diffusa Maguire]

Paronychia arhartii Erter – Ahart’s Nailwort. Common, widespread, and locally abundant on vernally wet flats (see figure 2). There is also a small transplant population near the gravel road at Hog Lake. Late Mar–Apr. CNPS List 1B. Oswald & Ahart 7326: NW¼ SE¼ Sect. 22. Plateau on the E side of Paynes Creek at the Sacramento River. 08 Apr 96.


Sagina apetala Ard. – Dwarf Pearlwort. Vernally moist flats. Early Apr. [Includes var. barbata Fenzl] Oswald & Ahart 7322: NE¼ SE¼ Sect. 22. Exposed sheet of mudflow on the upper flood plain of Paynes Creek ca. midway between the bridge site and the Sacramento River. 08 Apr 96.


Stellaria media (L.) Vill. – Common Chickweed. Grassland, open blue oak savanna, rocky places, disturbed places. Native to coastal Eur. Late Feb–May.

Stellaria nitens Nutt. – Shiny Starwort. Uncommon on outcrops and in other rocky places. Mid Mar.

Chenopodiaceae – Goosefoot Family

Chenopodium ambrosioides L. – MEXICAN-TEA. Flood channels along Paynes Creek. Native to tropical Amer. Late May-Sep... Oswald & Ahart 8261: SE NE ¼ Sect. 14. On gravel bars along Paynes Creek ca. 1 mi upstream from the bridge site. 04 Sep 96.


Chenopodium pumilio R.Br. – TASMANIAN GOOSEFOOT. Growing in sandy soil on the flood plain of Paynes Creek. Native to Australia. Late Apr-Jun. Oswald & Ahart 7692.1: SE SE ¼ Sect. 15. Paynes Creek at the bridge site. 03 Jun 96.


Goosefoot. Growing in sandy soil on the flood plain of Paynes Creek. Native to Eurasia. Late Jun-Jul...

Erasod & Ahart 7975: CE CE ¼ Sect. 17. NE strand of Hog Lake. 08 Jul 96.


Eriogonum pulchellum (Maxim.) M.Beyr. Misapplied, C. campesris Yunck., C. pentagona var. calycina Engelm.] Oswald & Ahart 7981: SE SE ¼ Sect. 15. Gravel bar at the bridge site. 08 Jul 96.

Euphorbiaceae – SPURGE FAMILY

Chamaesyce maculata (L.) Small – SPOTTED SPURGE. Roadsides, gravel bars, other disturbed places. Native to eastern US. Mid May-Sep... [Euphorbia maculata L.; C. supina Raf.] Oswald & Ahart 7720: NW NW NW ¼ Sect. 22. Gravel bar on the E side of Paynes Creek just upstream from the Sacramento River. 03 Jun 96.


Euphorbia ocellata (Durand & Hilg.) Millsp. sspp. ocellata – VALLEY SPURGE. Common and widespread on summer-dry slopes and flats. Early Jun-Sep... [Euphorbia ocellata Durand & Hilg.] Oswald & Ahart 8238: SE NE ¼ Sect. 14. Paynes Creek ca. 1 mi upstream from the bridge site. 04 Sep 96.

Euphorbia serpyllifolia (Persh.) Small sspp. serpyllifolia – THYME-LEAVED SPURGE. Gravel and sand bars along Paynes Creek. Early Jul. [Euphorbia serpyllifolia Pers.]

Eremocarpus setigerus (Hook.) Benth. – TURKEY-MULLEIN. Dry grassy slopes and flats, dry gravelly stream beds. Mid May-Sep... Oswald & Ahart 7955: SW NW NE ¼ Sect. 8. Rocky bed of the intermittent stream in the NE end of the parcel. 08 Jul 96.

Euphorbia spathulata Lam. – WARTY SPURGE. Grassy slopes in blue oak savanna. Mid May. [E. dic-
tyosperma Fisch. & C.A.Mey.] Oswald & Ahart 7591: SE¼ NW¼ Sect. 8. N-facing slope in blue oak woodland above Paynes Creek in the NE corner of the parcel. 20 May 96.

**Fabaceae — Legume Family**

*Astragalus gambelianus* E.Sheld. — *Gambel’s Milk-Vetch*. Rocky and eroded patches of mudflow. Early Apr. Oswald & Ahart 7324: NE¼ SE¼ Sect. 22. High bank of Paynes Creek ca. 2/3 of the way between the bridge site and the Sacramento River. 08 Apr 96.


*Medicago arabica* (L.) Huds. — *Spotted Medick*. Shaded cut banks and rocky flood channels in riparian zones along Paynes Creek. Probably native to Medit. Late Apr–Jun. Oswald & Ahart 7524: NW¼ SW¼ Sect. 13. Paynes Creek ca. 1 mi upstream from the bridge site. 06 May 96.


Trifolium ciliolatum Benth. – FOOTHILL CLOVER. Grassy slopes and flats. Late Apr–May.


Trifolium microcephalum Pursh – SMALL-HEADED CLOVER. Grassy and rocky flats. Early Apr–May.

Trifolium microdon Hook. & Arn. – SQUARE-HEADED CLOVER. Localized populations in grassy and brushy slopes in blue oak woodland. Late Apr. Oswald & Ahart 7453: NE¼ SW¼ Sect 7. S slope of Paynes Creek Canyon ca. 0.4 mi N of the Jeep Trail and 0.2 mi W of the power line at this location. 23 Apr 96.


Trifolium variegatum Nutt. – WHITE-TIPPED CLOVER. Moist soil of vernal wetlands, margins of drainages and streams, seeps on mudflow. Early Apr–May.

Trifolium willdenovii Spreng. – TOMCAT CLOVER. Rocky slopes in blue oak savanna, rocky edges of Paynes Creek. Late Mar–Apr. [T. tridentatum Lindl. including var. aciculare (Nutt.) McDermott] Oswald & Ahart 7316.1: NW¼ NW¼ Sect. 23. Grassy slope in blue oak woodland S of the bridge site. 08 Apr 96.

Oswald & Ahart 7444: NE¼ SW¼ Sect 7. Flood channels along Paynes Creek just downstream from the power line at this location. 23 Apr 96.

Vicia sativa L. ssp. sativa – GARDEN VETCH. Common along Paynes Creek. Native to Eur. Late Apr.


FAGACEAE – BEECH FAMILY

Quercus douglasii Hook. & Arn. – BLUE OAK. Widespread on slopes and ridges; indicator of blue oak woodland. Flowering interval not determined.

Quercus lobata Née – VALLEY OAK. Common along Paynes Creek. Flowering interval not determined.

Quercus wislizenii A.DC. var. wislizenii – INTERIOR LIVE OAK. Rocky ridges. Early Apr.

GENTIANACEAE – GENTIAN FAMILY

Centaurium muehlenbergii (Griseb.) W.Wight ex Piper – JUNE CENTAURY. Grassy flats, margins of streams. Early May-Sep. [C. floribundum (Benth.) B.L.Rob.]

Centaurium venustum (A.Gray) B.L.Rob. – CAN-CHALAGUA. Moist places along intermittent streams and Paynes Creek. Late May-Sep. [Includes var. abramsii Munz] Oswald & Ahart 7714: SE¼ NE¼ Sect. 22. Paynes Creek ca. 0.5 mi S of the bridge site. 03 Jun 96.

Cicendia quadrangularis (Lam.) Griseb. – TIM-WORT. Gravelly banks. Early Apr. [Microcalia quadrangularis (Lam.) Griseb.]

GERANIACEAE – GERANIUM FAMILY


Geranium carolinianum L. – CAROLINA GERAN-NUM. Grassy banks and blue oak woodland bordering Paynes Creek. Mid Apr-May. Oswald & Ahart 7437: NE¼ SW¼ Sect 7. Paynes Creek just downstream from the power line at this location. 23 Apr 96.
Geranium dissectum L. – CUT-LEAVED GERANIUM. Moist, sandy flats along Paynes Creek. Early Apr–May. Oswald & Ahart 7438: NE¼ SW¼ Sect 7. Paynes Creek just downstream from the power line at this location. 03 Apr 96.


Hippocastanaceae – Buckeye Family


Hydrophyllaceae – Waterleaf Family


Nemophila heterophylla Fisch. & C.A.Mey. – VARIABLE-LEAVED NEMOPHILA. Rocky ridges, shaded slopes in blue oak woodland, banks along Paynes Creek. Late Feb–May. Oswald & Ahart 7518: NW¼ SW¼ Sect 13. Paynes Creek ca. 1 mi upstream from the bridge site. 06 May 96.

Nemophila pedunculata Douglas ex Bentl. – MEADOW NEMOPHILA. Wet places in grassland, open savanna. Late Feb–Apr.

Phacelia egena (Greene ex Brand) J.T.Howell – ROCK PHACELIA. Rocky ridges and bluffs. Early Apr. [P. californica Cham. in part] Oswald & Ahart 7340: SE¼ SE¼ Sect 13. Rocky ridge on the N side of the gravel road 1.3 mi W of the parking lot. 08 Apr 96.

Hypericaceae – St. John’s-wort Family

Hypericum anagalloides Cham. & Schltdl. – TINKER’S-PENNY. Seeps on mudflow along intermittent streams. Collected in flower and fruit early Sep... Oswald & Ahart 8249: SW¼ Sect 13. Rocky edge of an intermittent stream at this location. 04 Sep 96.


Juglandaceae – Walnut Family

Juglans californica S.Watson var. hindsii Jeps. – NORTHERN CALIFORNIA BLACK WALNUT. Seedling tree noted on the flood plain of Paynes Creek.

Lamiaceae – Mint Family

[Labiatae]


Oswald & Ahart 7330: SW¼ SE¼ Sect 22. E edge of Paynes near its mouth. 08 Apr 96.

Lamium purpureum L. – RED HENBIT. Locally common on sandy gravel bars along Paynes Creek. Native to Eur. Early Apr. Oswald & Ahart 7330; SW¼ SE¼ Sect 22. E edge of Paynes near its mouth. 08 Apr 96. Oswald & Ahart 7448: NE¼ SW¼ Sect 7. Flood channels of Paynes Creek just downstream from the power line at this location. 23 Apr 96.

Lycopus americanus Muhl. ex W.P.C.Bart. – CUT-LEAVED BUGLEWEED. Moist places along Paynes Creek. Early Jul–Sep... Oswald & Ahart 7985; SE¼ SE¼ Sect 15. Growing in moist sand on the edge of Paynes Creek at the bridge site. 08 Jul 96.


Menendra arvensis L. – AMERICAN WILD MINT. Moist places along Paynes Creek. Early Jul–Sep... [Includes var. villosa (Benth.) S.R.Stewart, var. lanata Piper, var. glabrata (Benth.) Fernald, & various formae of S.R.Stewart] Oswald & Ahart 7980; SE¼ SE¼ Sect 15. Paynes Creek at the bridge site. 08 Jul 96.


Monardella shetoni Torr. – SHELTON’S COYOTE-MINT. Rocky places along creeks. Late May–Jul. [M. villosa Benth. var. shetoni (Torr.) Jeps.; M. villosa ssp. shetoni (Torr.) Epling] Oswald & Ahart 7703: NE¼ NE¼ Sect 22. Paynes Creek ca. 0.3 mi S of the bridge site. 03 Jun 96.

Pogogyne zizyphoroides Bentl. – SACRAMENTO VALLEY POGOGYNE. Vernally moist flats, margins of pools and drainages. Early Apr–May.

Scutellaria californica A.Gray – CALIFORNIA SKULLCAP. Rocky and brushy slopes in blue oak woodland. Mid May–Jul. Oswald & Ahart 7583: SW¼ NE¼ Sect 8. Bank of intermittent stream in the NE corner of the parcel. 20 May 96. Oswald & Ahart 7709: SE¼ NE¼ Sect 22. Growing on a grassy flat along Paynes Creek ca. 0.4 mi S of the bridge site. Flowers vary from typical white to pink or purplish in this population. 03 Jun 96.


Scutellaria tuberosa Bentl. – DANNY’S SKULLCAP. Rocky and brushy canyon slopes. Late Apr. [Includes var. similis Jeps. & ssp. australis Epling] Oswald & Ahart 7450: NE¼ SW¼ Sect 7. Locally abundant on a
brushy north-facing slope of Paynes Creek Canyon ca. 0.2 mi W of the power line at this location. 23 Apr 96.

Stachys stricta Greene – SONOMA HEDGE-NETTLE. Growing in moist to wet places along the margin of Paynes Creek. Late May–Sep... [S. ajugoides Benth. var. stricta (Greene) Jeps.]

Trichostema lanceolatum Benth. – VINEGARWEEED. Widespread on grassy slopes and flats, rocky flood channels. Early Jul–Sep... [Oswald & Ahart 7962: NW¼ NE¼ Sect. 8. Paynes near the mouth of the intermittent stream in the NE end of the parcel. 08 Jul 96.

Trichostema simulatum Jeps. – SISKIYOU BLUECURLS. Uncommon on gravel bars along Paynes Creek. Early Jul.'Oswald & Ahart 7982: SE¼ SE¼ Sect. 15. Paynes Creek at the bridge site. 08 Jul 96.

Limnanthes alba ssp. versicolor (Greene) C.T.Mason – SHASTA MEADOWFOAM. Occasional plants along Paynes Creek. Both glabrous and densely hairy plants grow together, bringing into question the validity of subspecies in this taxon. Late Apr–May. [L. versicolor (Greene) Rydb., L alba var. versicolor (Greene) C.T.Mason] Oswald & Ahart 7441: NE¼ SW¼ Sect 7. Flood channels of Paynes Creek just downstream from the power line at this location. 23 Apr 96.

Limnanthes douglasii ssp. rosea (Hartw. ex Benth.) C.T.Mason – ROSY MEADOWFOAM. Drying ditches and margins of vernal pools in open grassland. Late Mar. [L. douglasii var. rosea (Hartw. ex Benth.) C.T.Mason, L rosea Hartw. ex Benth.] Oswald 4548: Edge of Hog Lake. 30 Apr. 91. Oswald & Ahart 7338: SE¼ SE¼ Sect. 13. Common on the drying bed of a roadside ditch along the gravel road 1.3 mi W of the parking lot. 08 Apr 96.


Lythraceae – LOOSESTRIFE FAMILY


Malvaceae – MALLOWS FAMILY


Molluginaceae – CARPET-WEED FAMILY

Mollugo verticillata L. – INDIAN-CHICKWEED. Sandy and gravelly flood channels along Paynes Creek. Native to tropical Amer. Mid May–Sep...

Moraceae – MULBERRY FAMILY

Ficus carica L. – Edible fig. Scattered trees on the flood plain along Paynes Creek. Native to Medit. With fruit mid May.

Oleaceae – OLIVE FAMILY


Fraxinus latifolia Benth. – OREGON ASH. Common along Paynes Creek and the Sacramento River. Early Apr.

Onagraceae – EVENING-PRIMROSE FAMILY

Camissonia contorta (Douglas ex Hook.) Raven – TWISTED EVENING-PRIMROSE. Gravelly places. Early Apr. Oswald 4892: NW¼ Sect. 17. Intersection of dirt road to Tuscan Buttes and Hwy. 36 at Hog Lake. 05 Apr. 92


Epilobium brachycarpum C.Presl – TALL ANNUAL WILLOWHERB. Roadsides, stream margins. Late Aug–Sep... [E. paniculatum Nutt. ex Torr. & A.Gray including var. jucundum (A.Gray) Trel. & var. laevicaule (Rydby.) Munz]

Epilobium ciliatum Raf. ssp. ciliatum – FRINGED WILLOWHERB. Sandy and rocky flood channels along Paynes Creek. In fruit early Sep. [E. californicum Hausskn. including var. holosericeum (Trel.) Jeps., var. occidentale (Trel.) Jeps. & var. parishii (Trel.) Jeps.; E. adenocalon Hausskn. including var. holosericeum (Trel.) Munz & var. parishii (Trel.) Munz; E. watsonii Babey var. parishii (Trel.) C.L.Hitchc. & var. occidentale (Trel.) C.L.Hitchc.] Oswald & Ahart 8265; SE NE¼ Sect. 14. Wet soil on the edge of Pay-


Ludwigia palustris (L.) Elliott − MARSH PURSLANE. Moist flood plain of Paynes Creek. Early Jul−Sep. [Includes var. americana (DC.) Bernald & Griscom & var. pacifica Fernald & Griscom] Oswald & Ahart 7967: NW¼ NE¼ Sect. 8. Paynes Creek E of the mouth of the intermittent stream in the NE end of the parcel. 08 Jul 96.

Ludwigia peploides (Humb., Bonpl. & Kunth) Raven ssp. peploides − YELLOW WATERWEED. Flood channels and quite water along Paynes Creek. Late Aug−Sep... [Ludwigia peploides (Humb., Bonpl. & Kunth) Griseb.]

Orobanchaceae − BROOM-RAPE FAMILY

Orobanche uniflora L. var. uniflora − NAKED BROOM-RAPE. Parasitic on both Lithophragma and Saxifraga on brushy north-facing slopes of Paynes Creek Canyon. Late Apr. [Includes var. minuta (Suksd.) Achey, var. sedi (Suksd.) Achey, var. occidentalis (Greene) Taylor & McBayde, var. occidentalis (Greene) Abrams ex Ferris] Oswald & Ahart 7433: NE¼ SW¼ Sect 7. Near the power line and N end of the Jeep Trail. 23 Apr 96.

Papaveraceae − POPPY FAMILY

Eschscholzia californica Cham. − CALIFORNIA-POPPY. Edge of a flood channels along Paynes Creek. Mid May−Jun.

Eschscholzia lobbiae Greene − FRINGEPOPS. Widespread on grassy flats. Mid Mar−May.


Platystemon californicus Benth. − CALIFORNIA CREAMCUPS. Grassy openings on brushy slopes of Paynes Creek Canyon. Mid Apr−May. [Includes var. crinitus Greene, horridulus (Greene) Jeps., nutans Brandegee, & ornithopus (Greene) Munz] Oswald & Ahart 7435: NE¼ SW¼ Sect 7. N of the end of Jeep Trail near the power line. 23 Apr 96.

Plantaginaceae − PLANTAIN FAMILY


Plantago elongata Pursh − ELONGATE PLANTAIN. Drying beds of shallow vernal wetlands. Mid Mar−Apr. [Includes ssp. pentasperma Bassett & var. californica (Greene) B.Boivin; P. bigelovii A.Gray ssp. californica (Greene) Bassett, P. heterophylla Nutt. misapplied]

Plantago erecta E.Morris − ERECT PLANTAIN. Common and widespread in grassland, open savanna. Early Mar−Apr. [P. hookeriana Fisch. & C.A.Mey. var. californica (Greene) Poe]


Plantanaceae − SYCAMORE FAMILY

Platanus racemosa Nutt. − WESTERN SYCAMORE. Riparian zones along Paynes Creek and the Sacramento River. Late Mar. Oswald, Ahart, & Molter 7261: NW¼ NE¼ Sect. 8. Paynes Creek in the NE end of the parcel. 25 Mar 96.

Polhemioaceae − PHLOX FAMILY

Gilia tricolor Benth. ssp. tricolor − BIRD'S-EYE GILIA. Locally abundant on grassy slopes and flats. Mid Mar−May.

Linanthus androsaceus (Benth.) Greene − COMMON LINANTHUS. Collected in moist, stony soil along Hog Lake on 25 April 1979 (Ahart 1843, CHSC). Based on calyx lobes that are hairy both on the margins and backs, this population would key to L. parviflorus in The Jepson Manual. However, the corolla is comparable in size, color, and especially in the thickness of the tube to that of L. androsaceus. The corolla tube of L. parviflorus, on the other hand, is thread-like. This plant was not relocated during our 1996 survey.

Linanthus bicolor (Nutt.) Greene − BICOLORED LINANTHUS. Grassy slopes and flats, openings with scattered shrubs and blue oak. Late Mar−May.


Linanthus filipes (Benth.) Greene – WILD BABY’S-BREATH. Localized populations on rocky and grassy slopes. Early Apr. Oswald & Ahart 7335: SW¼ SE¼ Sect. 22. E side of a grassy plateau above the Sacramento River at Paynes Creek. 08 Apr 96.


Navarretia intertexta (Benth.) Hook. sps. intertexta – NEEDLE-LEAVED NAVARRETTA. Locally common on flood channels along Paynes Creek. Mid May. Oswald & Ahart 7587: NW¼ NE¼ Sect. 8. Paynes Creek in the NE corner of the parcel. 20 May 96.


Navarretia tagetina Greene – MARIGOLD NAVARRETTA. Common and widespread in dry grassland and blue oak savanna; also in flood channels along Paynes Creek. Early May–Jun. Oswald & Ahart 7602: NW¼ NE¼ Sect. 8. Paynes Creek in the NE corner of the parcel. 20 May 96.

Navarretia viscidula Bentham. sps. purpurea (Greene ex Brand) H.Mason – STICKY NAVARRETTA. Locally abundant in grassy and gravelly upland. Mid May–Jun. Oswald & Ahart 7614: SW¼ SE¼ Sect. 18. Old quarry located on the W side of Hwy. 36 ca. 0.6 mi S of the parking lot. 06 May 96.

Phlox gracilis (Hook.) Greene – SLENDER PHLOX. Grassland, open blue oak savanna. Mid Mar–Apr. [Microsteris gracilis (Hook.) Greene, including spp. humilis (Greene) V.E.Grant & var. humilior (Hook.) Cronquist]

POLYGONACEAE – BUCKWHEAT FAMILY


Chorizanthe polygonoides Torr. & A.Gray var. polygonoides – KNOTWEED SPINEFLOWER. Locally common in thin soils on patches of eroded mudflow. Early Apr–May.


Eriogonum nudum var. pubiflorum Bentham. – Hairy-flowered Buckwheat. Open grassland and blue oak savanna. Early Jul–Sep...

Polygonum arenastrum Jord. ex Boreau – COMMON KNOTWEED. Parking lots, roadsides, sandy and rocky places along Paynes Creek. Native to Eur. Late Apr–Sep... Oswald & Ahart 7698: SE¼ SE¼ Sect. 15. Paynes Creek at the bridge site. 03 Jun 96.


Polygonum californicum Meisn. – CALIFORNIA KNOTWEED. Thin soils on patches of eroded mudflow. Mid May–Jun. Oswald & Ahart 7991: SE¼ NE¼ Sect. 19. Road leading to the quarry on the E side of Hwy. 36 ca. 0.9 mi S of the parking lot. 08 Jul 96.


Polygonum lapathifolium L. – WILLOW-WEED. Moist places along Paynes Creek. Late May–Sep... Oswald & Ahart 7722: NW¼ SE¼ Sect. 22. E edge of Paynes Creek just upstream from the Sacramento River. 03 Jun 96.

Polygonum persicaria L. – LADY’S-THUMB. Gravel bars along Paynes Creek. Native to Eur. Late Apr–Sep... Oswald & Ahart 7723: NW¼ SE¼ Sect. 22. E edge of Paynes Creek just upstream from the Sacramento River. 03 Jun 96.

Polygonum punctatum Elliott – DOTTED SMART-WEED. Moist places along Paynes Creek. Late Aug–Sep... Oswald & Ahart 8257: SE NE¼ Sect. 14. In moist soil along Paynes Creek ca. 1 mi upstream from the bridge site. 04 Sep 96.

Pterostegia drymarioides Fisch. & C.A.Mey. – PTEROSTEGIA. At the base of large rocks, in shaded places on outcrops. Early May. Oswald & Ahart 7575: SW¼ NE¼ Sect. 8. Rocky bank of intermittent stream in the NE corner of the parcel. 20 May 96.
Rumex conglomeratus Murray – GREEN DOCK.
Locally common on grassy and brushy flats along Paynes Creek Late May–Jun. Oswald & Ahart 7712: SE¼ NE¼ Sect. 22. Paynes Creek ca. 0.5 mi S of the bridge site. 03 Jun 96.


Portulacaceae – Purslane Family
Calandrinia ciliata (Ruíz & Pav.) DC. – REDMAIDS. Roadsides, creek margins, grasslands. Early Apr. [Includes var. menziesii (Hook.) J.F.Macbr., C. caulescens Humb., Bonpl. & Kunth var. menziesii A.Gray]


Montia fontana ssp. chondrosperma (Fenzl) Walters – WATER MONTIA. Shallow water of ditches, other wet places. Late Feb–Mar. Oswald & Ahart 7234: SE¼ SW¼ Sect. 25. Wet drainage paralleling the N side of Sevenmile Creek ca. 0.1 mi W of Hwy. 36. 18 Mar 96.

Portulaca oleracea L. – COMMON PURSLANE.

Primulaceae – Primrose Family
Anagallis arvensis L. – SCARLET PIMPERNEL.


Ranunculaceae – Buttercup Family
Clematis lasiantha Nutt. – CHAFFY CLEMATIS.
Common vine on brushy slopes. Mid Apr. Oswald & Ahart 7449: NE¼ SW¼ Sect 7. N side of Paynes Creek just downstream from the power line at this location. 23 Apr 96.

Delphinium hansenii (Greene) Greene ssp. hansenii – HANSEN’S LARKSPUR. Brushy slopes in Paynes Creek Canyon. Early May.

Delphinium patens Benth. ssp. patens – SPREADING LARKSPUR. Grassy and brushy openings on north-facing slopes of Paynes Creek Canyon. Mid Apr–May. Oswald & Ahart 7528: SW¼ NW¼ Sect. 13. Near Paynes Creek ca. 1 mi upstream from the bridge site. 06 May 96.


Myosurus minimus L. – COMMON MOUSETAIL.
Thin soils of vernally wet depressions, receding margin of Hog Lake. Mid Mar. [Includes var. filiformis Greene, ssp. montanus G.R.Campb. & ssp. major (Greene) G.R. Campb.; M. lepturus (A.Gray) Howell var. filiformis Greene]

Ranunculus aquatilis var. hispidulus Drew – WATER BUTTERCUP. Locally abundant in shallow water and on wet mud along the edge of Hog Lake. Late Apr. Oswald & Ahart 7421.1: NW¼ NW¼ Sect 17. 23 Sep 96.


Ranunculus canus Benth. – SACRAMENTO VALLEY BUTTERCUP. Oak savanna along ridges, riparian zones along Paynes Creek. Early Mar–May. [Includes var. laetus (Greene) L.D.Benson & var. ludovicianus (Greene) L.D.Benson] Oswald, Ahart, & Molter 7259: NW¼ NE¼ Sect. 8. Paynes Creek in the NE end of the parcel. 25 Mar 96.


Rhamnaceae – BUCKTHORN FAMILY

Ceanothus cuneatus (Hook.) Nutt. var. cuneatus – BUCKTHORN. Rocky and brushy slopes. Mid Mar. [Includes var. dubius J.T.Howell, var. ramulosus Greene, & var. submontanus (Rose) McMinn; C. ramulosus (Greene) McMinn var. ramulosus]


Rhamnus tomentella Benth. ssp. tomentella – HOARY COFFEEBERRY. Rocky ridges. Late Apr–May. Oswald & Ahart 7419: NW¼ NW¼ Sect. 17. W shore of Hog Lake. 23 Apr 96.

Rosaceae – ROSE FAMILY


Heteromeles arbutifolia (Lindl.) M.Roem. – TOYON. Brushy slopes along Paynes Creek. Flowering interval not determined.

Potentilla glandulosa Lindl. ssp. glandulosa – STICKY CINQUEFOIL. Seepy places on mudflow; shaded banks in riparian woodland along Paynes Creek. Early May. Oswald & Ahart 7514: SW¼ SW¼ Sect. 13. Seep on the rocky edge of an intermittent stream at this location. 06 May 96.

Rosa californica Cham. & Schldtl. – CALIFORNIA ROSE. Locally abundant bramble on the flood plain of Paynes Creek. Mid May. Oswald & Ahart 7590: NE¼ NW¼ Sect. 8. Paynes Creek in the NE corner of the parcel. 20 May 96.


22. Paynes Creek ca. 0.5 mi S of the bridge site. 03 Jun 96.

Rubus ursinus Cham. & Schldtl. – CALIFORNIA BLACKBERRY. Common on the flood plain of Paynes Creek. Late Mar. [R. vitifolius Cham. & Schldtl., R. vitifolius ssp. ursinus (Cham. & Schldtl.) Abrams, R. macropetalus Douglas ex Hook.]

Rubiaceae – MADDER FAMILY


Galium aparine L. – CLEAVERS. Blue oak savanna, rocky places. Mid Mar–Apr. Oswald & Ahart 7334: SW¼ SE¼ Sect. 22. Among basalt boulders on a bluff overlooking the Sacramento River just downstream from the mouth of Paynes Creek. 08 Apr 96.


Rutaceae – RUE FAMILY


Salicaceae – WILLOW FAMILY


Salix exigua Nutt. – SANDBAR WILLOW. Common on the flood plain of Paynes Creek. Flowering interval not determined. [S. exigua var. stenophylla (Rydб.) C.K. Schneid., S. hindsiana Benth. including var. leucodendroides (Rowlee) C.R.Ball & var. parishiana (Rowlee) C.R.Ball, S. sessilifolia Nutt. var. hindsiana
Saxifragaceae – Saxifrage Family

Lithophragma bolanderi A.Gray – Bolander’s Woodlandstar. Shaded, rocky slopes and outcrops. Both the entire- and lacerate-petaled variants of the plant are found. Early Apr–May. [L. scabrella (Greene) Greene, L. heterophylla (Hook. & Arn.) Torr. & A.Gray var. scabrella (Greene) Jeps.] Oswald & Ahart 7452: NE¼ SW¼ Sect. 7. Common on the brushly N-facing slope of Paynes Creek Canyon near 0.4 mi N of the Jeep Trail and 0.2 mi W of the power line at this location. 23 Apr 96.


Saxifraga californica Greene – California Saxifrage. Rocky slopes and ridges, rocky creek banks. Some plants (Oswald, Ahart, & Molter 7262) are intermediate between S. californica and S. integrifolia. Mid Mar–Apr. Oswald & Ahart 7230: NW¼ SW¼ Sect. 25. Along the jeep trail following the power line N of Sevenmile Creek. 18 Mar 96.

Saxifraga integrifolia Hook. – Hooker’s Saxifrage. Common in grassland, open blue oak savanna. Late Feb–Mar.

Scrophulariaceae – Figwort Family

Antirrhinum cornutum Benth. – Spurred Snapdragon. Gravel bars along Paynes Creek. Late May–Jul. Oswald & Ahart 7700: NE¼ NE¼ Sect. 22. Paynes Creek ca. 0.3 mi S of the bridge site. 03 Jun 96.


Collinsia tinctoria Hartw. ex Benth. – Sticky Chinese-Houses. Rocky banks along Paynes Creek. Late May–Jun. Oswald & Ahart 7705: SE¼ NE¼ Sect. 22. Paynes Creek ca. 0.4 mi S of the bridge site. 03 Jun 96.


Gratiola ebracteata Benth. – Bractless Hedge-hyssop. Common on the margins of vernal pools and on the drying beds of shallow wetlands and ditches. Early Apr–May.


Lindernia dubia (L.) Pennell – False Pimpernel. Sand bars along Paynes Creek, drying strand of Hog Lake. Late May–Sep. [L. anagallidea (Michx.) Pennell] Oswald & Ahart 7716: SE¼ NE¼ Sect. 22. Paynes Creek ca. 0.5 mi S of the bridge site. 03 Jun 96.


Mimulus douglasii (Benth.) A.Gray – Purple Mouse-ears. Thin soils on eroded patches of mudflow. Mid Mar. [M. cleistogamus J.T.Howell]


Mimulus glaucescens Greene – Shield-bracted Monkey-flower. Common on rocky flats and flood channels along Paynes Creek. Early Apr–Jun. CNPS List 4. Oswald & Ahart 7442: NE¼ SW¼ Sect. 7. Paynes Creek just downstream from the power line at this location. 23 Apr 96.

Mimulus guttatus var. nasutus (Greene) Jeps. – SNOUTED MONKEY-FLOWER. Outcrops, thin soils on eroded mudflow. Mid Mar–Apr. [Included in M. guttatus in The Jepson Manual.]

Mimulus pilosus (Benth.) S.Watson – DOWNY MIMETANTHE. Sandy and gravelly flood channels along Paynes Creek. Mid May–Sep. [Mimetanthe pilosa (Benth.) Greene] Oswald & Ahart 7704: NE¼ NE¼ Sect 22. Flood channel along Paynes Creek ca. 0.3 mi S of the bridge site. 03 Jun 96.


Penstemon azureus Bentham. var. azureus – AZURE BEARDTONGUE. Rocky margins of intermittent streams in blue oak woodland. Mid May. [P. heterophyllus Lindl. var. azureus (Benth.) Jeps.] Oswald & Ahart 7567: SW¼ SE¼ Sect 8. Interruption stream in the NE corner of the parcel. 20 May 96.


Tonella tenella (Benth.) A.Heller – SMALL-FLOWERED TONELLA. Moss-covered rocks in shaded places along Paynes Creek. Late Mar. Oswald, Ahart, & Molter 7265: SE¼ NW¼ Sect 8. Riparian woodland along Paynes Creek in the NE corner of the parcel. 25 Mar 96.

Triphysaria eriantha (Benth.) T.I.Chuang & Heckard ssp. eriantha – JOHNNYTUCK. Widespread in grassland and open oak savanna. Late Feb–May. [Orthocarpus erianthus Benth. var. erianthus, O. bidwelliae A.Gray]

Verbascum blattaria L. – MOTH MULLEIN. Roadsides, rocky flood plain of Paynes Creek. Native to Eurasia. Mid May–Sep...

Verbascum thapsus L. – WOOLLY MULLEIN. Roadsides, rocky flood plain of Paynes Creek. Native to Eurasia. Early Jul–Sep...

Veronica anagallis-aquatica L. – WATER SPEEDWELL. Locally common in sandy and rocky soil along flood channels of Paynes Creek. Mid Apr–Sep... [V. anagallis L.] Oswald & Ahart 7439: NE¼ SW¼ Sect 7. Paynes Creek just downstream from the power line at this location. 23 Apr 96.

Veronica peregrina L. ssp. xalapensis (Humb., Bonpl. & Kunth) Pennell – PURSLANE SPEEDWELL. Margins of vernal pools and other vernaly wet places. Early Apr–May. Oswald & Ahart 7445; NE¼ SW¼ Sect 7. Flood channels of Paynes Creek just downstream from the power line at this location. 23 Apr 96.


Solanaceae – NIGHTSHADE FAMILY

Datura stramonium var. tatula (L.) Torr. – PURPLE-STEMMED JIMSONWEEED. Old plant from last year on the sandy bank of Paynes Creek. Also young vegetative plant at the bridge site.

Nicotiana quadrivalvis Pursh – INDIAN TOBACCO. Growing on a flood channel along Paynes Creek. Flowering interval not determined.

Solanum americanum Mill. – AMERICAN BLACK NIGHTSHADE. Stream margins. Early Sep... [S. nodiflorum Jacq.] Oswald & Ahart 8268; SE NE¼ Sect 14. Flood plain of Paynes Creek ca. 1 mi upstream from the bridge site. 04 Sep 96.

Styracaceae – STORAX FAMILY

Styrax officinalis L. var. rediviva (Torr.) H.W. Howard – CALIFORNIA SNOWBELL. Common shrub on the slopes along Paynes Creek near the Sacramento River. Flowering period not determined. [Includes var. californica (Torr.) Rehder & var. fulvescens (Eastw.) Munz & I.M.Johnst., S. californica Torr.]

Urticaceae – NETTLE FAMILY


Valerianaceae – VALERIAN FAMILY

Plectritis ciliosa ssp. insignis (Suksd.) D.H.Morey – SHORT-SPURRED PINK PLECTRITIS. Thin soils and rocky places on mudflow. Mid Mar–Apr. [Includes var. davyana (Jeps.) Dyal, P. californica (Suksd.) Dyal var. rubens (Suksd.) Dyal, P. macropera (Suksd.) Rydb. var. patelliiformis (Suksd.) Dyal] Oswald, Ahart, & Molter 7268; SE NE¼ Sect 8. North-facing slope of Paynes Creek canyon in the NE end of the parcel. 25 Mar 96.

Plectritis macrocera Torr. & A.Gray – WHITE PLECTRITIS. Grassland, rocky places. Mid Mar. [Includes var. collina (A.Heller) Dyal, var. grayi
Burtt Davy) (Suksd.) Dyai & var. mamillata (Suksd.) Dyai; P. eichleriana (Suksd.) A.Heller, P. jepsonii (Suksd.) Burtt Davy] Oswald, Ahart, & Molter 7267: SE 1/4 NE 1/4 Sect. 8. North-facing slope with of Paynes Creek canyon in the NE corner of the parcel. 25 Mar 96.

**VERBENACEAE – VERVAIN FAMILY**

*Verbena hastata* L. – HALBERD-LEAVED VERVAIN. Moist edges of Paynes Creek. Early Jul–Sep...

*Verbena lasiostachya* Link var. scabrida Moldenke – WESTERN VERVAIN. Rocky flood channels along Paynes Creek. Early May. 25 Mar 96.

*Violaceae – Violet FAMILY*

*Viola douglasii* Steud. – DOUGLAS’ VIOLET. Scattered plants in rocky grassland with scattered blue oaks. Mid Mar. Oswald & Ahart 7232: NE 1/4 SE 1/4 Sect. 15. Gravel bar along Paynes Creek at the bridge site. 08 Jul 96.


**Zygophyllaceae – Caltrop FAMILY**


**Monocot Flowering Plants**

**Alismataceae – Water-Plantain Family**


*Salicifolia santafensis* Greene – SANTA FE SALICIFOLIA. Extensive colonies on sandy flats along Paynes Creek. Late Mar. Oswald & Ahart 7713: SE 1/4 NE 1/4 Sect. 22. Paynes Creek ca. 0.5 mi S of the bridge site. 03 Jun 96.


*Carex nudata* W.Boott – TORRENT SEDGE. Common on the rocky edge of Paynes Creek. Late Mar. Oswald, Ahart, & Molter 7265: NW 1/4 NE 1/4 Sect. 8. Paynes Creek in the NE corner of the parcel. 25 Mar 96.

*Cyperus bipartitus* Torr. – TWO-PARTED CYPERUS. In moist soil along Paynes Creek. Late Aug. [C. rivularis Kunth, C. niger Ruiz & Pav. var. rivularis (Kunth) V.E.Grant, C. niger var. castaneus (Pursh) Kük.] Oswald & Ahart 8268: SE 1/4 Sect. 14. Paynes Creek ca. 1 mi upstream from the bridge site. 04 Sep 96.

*Cyperus eragrostis* Lam. – TALL CYPERUS. Rocky flood channels along Paynes Creek. Early May. Oswald & Ahart 7697: SE 1/4 SE 1/4 Sect. 15. Along Paynes Creek at the bridge site. 03 Jun 96.

*Cyperus esculentus* L. – YELLOW NUT-SEDGE. Flood channels and gravel bars along Paynes Creek. Late May. Oswald & Ahart 7725: NW 1/4 SE 1/4 Sect. 22. E side of Paynes Creek just upstream from the Sacramento River. 03 Jun 96. Oswald & Ahart 7967: NW 1/4 NE 1/4 Sect. 8. Paynes E of the mouth of the intermittent stream in the NE end of the parcel. 08 Jul 96.

*Cyperus squarrosus* L. – AWNED CYPERUS. Moist places along Paynes Creek. Mid May. [Cyperus aris­tatus Rotb.] Oswald & Ahart 7604: NW 1/4 NE 1/4 Sect. 8. Paynes Creek in the NE corner of the parcel. 20 May 96.

Paynes E of the mouth of the intermittent stream in the NE end of the parcel. 08 Jul 96.


Eleocharis parishii Britton – PARISH’S SPIKE-RUSH. In moist soil along Paynes Creek. Late Aug. [E. montevidensis Kunth var. disciformis (Parish) V.E. Grant & var. parishii (Britton) V.E. Grant] Oswald & Ahart 8271: SE 1/4 Sect. 14. Paynes Creek ca. 1 mi upstream from the bridge site. 04 Sep 96.

Lipocarpha micrantha (Vahl) G.C.Tucker – SMALL-FLOWERED LIPOCARPHA. Moist gravel bars along Paynes Creek. Late May. [Hemicarpha micrantha (Vahl) Pax var. minor (Schrad.) Friedl.] Oswald & Ahart 7721: NW 1/4 SE 1/4 Sect. 22. E side of Paynes Creek just upstream from the Sacramento River. 03 Jun 96.


Hydrocharitaceae – WATERWEED FAMILY

Elodea canadensis Rich. – CANADIAN WATERWEED. Localized population in still water along Paynes Creek. Late May–Jun. Oswald & Ahart 7711: SE 1/4 NE 1/4 Sect. 22. Paynes Creek ca. 0.5 mi S of the bridge site. 03 Jun 96.

Juncaceae – RUSH FAMILY

Juncus acuminatus Michx. – SHARP-FRUITED RUSH. Flood channels along Paynes Creek. Late May.

Juncus bufonius L. var. bufonius – COMMON TOAD RUSH. Widespread in vernally moist places, gravelly flats. Early Apr. Oswald & Ahart 7713: SE 1/4 NE 1/4 Sect. 22. Along Paynes Creek ca. 0.5 mi S of the bridge site. 03 Jun 96.

Juncus bufonius var. congestus Wahl. – CONGESTED TOAD RUSH. Found in the parking lot at Hwy. 36. Dry plants early Jul. [J. bufonius var. congestus (S. Watson) J.T. Howell]


Juncus effusus var. pacificus Fernald & Wieg. – PACIFIC RUSH. Tufted rush on the bank of Paynes Creek. Mid May.

Juncus oxymeris Engel. – POINTED RUSH. In flood channels along Paynes Creek. Early May. Oswald & Ahart 7706: SE 1/4 NE 1/4 Sect. 22. Along Paynes Creek ca. 0.4 mi S of the bridge site. 03 Jun 96.

Juncus patens E. Mey. – SPREADING RUSH. Flood plain along Paynes Creek. Late Apr.

Juncus tenuis Willd. – SLENDER RUSH. On the edge of an intermittent drainage near Paynes Creek. Early May.


Juncaginaceae – ARROW-GRASS FAMILY

Lilaeas scilloides (Poir.) Hauman – FLOWERING-QUILLWORT. In wet soil in the drainage at the W end of Hog Lake. Late Apr.

Lilaceae – LILY FAMILY

[Includes Amaryllidaceae & Smilacaceae]

Allium ampelopsists Tott. – CLASPING ONION. Rocky slopes in blue oak savanna, flood plains along Paynes Creek. Early Apr–May.

Allium peninsulare Lemmon ex Greene var. peninsulare – MEXICAN ONION. Locally common in rocky and brushy slopes in blue oak woodland and on brushy banks along Paynes Creek. Mid May. Oswald & Ahart 7573: SW 1/4 NE 1/4 Sect. 8. Near the intermittent stream in the NE corner of the parcel. 20 May 96.

Brodiaea californica Lindl. var. californica – CALIFORNIA BRODIAEA. Locally abundant in open grassland and grassy openings in blue oak woodland. Late Apr–May.


Brodiaea elegans Hoover ssp. elegans – ELEGANT BRODIAEA. Common on dry slopes and flats. Early May–Jun. [Includes vars. mundula (Jeps.) Hoover & australis Hoover]
**Brodiaea minor** (Benth.) S. Watson – BLUESTARS. Widespread on grassy flats. Early Apr–May. [Includes var. *nana* (Hoover) Hoover]

**Calochortus luteus** Douglas ex Lindl. – YELlow MARiFOsa-LiLy. Dry slopes in oak savanna near Paynes Creek in the western half of the parcel. Late May–Jun.


**Chlorogalum pomeridianum** (DC.) Kunth var. *pomeridianum* – WavY-Leaved SOAP-PLANT. Rocky ridges, banks and flood plains along Paynes Creek. Mid May.


**Dichelostemma congestum** (Sm.) Kunth – Fork-Toothed OOKow. Bushy and grassy places along Paynes Creek. Early May. [*Brodiaea congesta* Sm., *Brodiaea pulchella* (Salisb.) Greene misapplied, D. *pulchellum* (Salisb.) A. Heller misapplied]

**Dichelostemma multijlorum** (Benth.) A. Heller – Round-Toothed OOKow. Common in open blue oak savanna. Early Apr–May. [*Brodiaea congesta* Sm., *Brodiaea pulchella* (Salisb.) Greene misapplied, D. *pulchellum* (Salisb.) A. Heller misapplied]


**Fritillaria affinis** (Schult.) Sealy var. *affinis* – Checkered FrilliLLy. Shaded and brushy slopes and banks along Paynes Creek, north-facing edges of rimrock along plateaus. In fruit late Mar. [*F. lanceolata* Pursh]

**Odontostomum hartwegii** Torr. – Hartweg’s OdontostomUM. Grassy slopes and flats, edges of drainages and streams. Early Apr–May. Oswald & Ahart 7527: SW¼ NW¼ Sect. 13. Rocky flood channel of Paynes Creek ca. 1 mi upstream from the bridge site. 06 May 96.

**Smilax californica** (A.D.C.) A. Gray – CALIFoRniA GreEnBriER. Prickly vine on the flood plain along Paynes Creek. Flowering interval not determined.

**Triteleia bridgesii** (S. Watson) Greene – BridgEs’ TRiTeLEiA. Margins of intermittent streams, banks and north-facing slopes along Paynes Creek. Early May. [*Brodiaea bridgesii* S. Watson]

**Triteleia hyacinthina** (Lindl.) Greene (typical form) – Wild HyacINTH. Along streams, on the margins of vernal pools, and on wet grassy flats. Early May. [*Brodiaea hyacinthina* (Lindl.) Baker, *Hesperoscor-dum hyacinthinum* Lindl.]

**Triteleia hyacinthina** (Lindl.) Greene (upland form) – Wild HyacINTH. Rocky slopes and flats in oak savanna. Although differing from the typical form in flower size, shape of filaments, habitat, and flowering period, it has not been recognized taxonomically in floras. Late Mar–Apr.

**Triteleia laxa** Bentham. – *Ithuriel’s-spear*. Widespread in blue oak savanna and in the riparian zone along Paynes Creek. Early Apr–May.


**Zigadenus venenosus** S. Watson var. *venenosus* – Death-Camas. Locally abundant on brushy slopes along Paynes Creek. Early Apr–May.

**Poaceae – Grass Family**

**Achnatherum lemmonii** (Vasey) Barkworth – Lemmon’s Needlegrass. Locally abundant on grassy slopes along Paynes Creek. Early Apr. [*Stipa lemmonii* (Vasey) Scribn.] Oswald & Ahart 7432: NE¼ SW¼ Sect. 7. Paynes Creek Canyon near the N of the end of the Jeep Trail. 23 Apr 96.

**Aegilops triuncialis** L. – Barbed Goatgrass. Flood channels along Paynes Creek. Mid May. Oswald & Ahart 7596: NW¼ NE¼ Sect. 8. Paynes Creek in the NE corner of the parcel. 20 May 96.

**Agrostis exarata** Trin. – Spiked Bentgrass. Gravel bars along Paynes Creek. Late May. [*A. ampla* Hitchc., A. *longiligula* Vasey, including var. *australis* J.T. Howell] Oswald & Ahart 7696: SE¼ SE¼ Sect. 15. Paynes Creek at the bridge site. 03 Jun 96.

**Agrostis hendersonii** Hitchc. – Henderson’s Bentgrass. Vernally wet flats. Dry plants noted in early Jun. CNPS List 3. [*A. microphylla* Steud. var. *intermedia* Beetle & hendoersonii (Hitchc.) Beetle] Oswald & Ahart 7718: NW¼ SE¼ Sect. 22. Grassy pla-
teau on the E side of Paynes Creek at the Sacramento River. 03 Jun 96.

*Agrostis stolonifera* L. – CREEPING BENT. Gravel bars along Paynes Creek. [A. alba L. var. alba misapplied in part, *A. alba* var. major (Gaudin) Farw. & palustris (Huds.) Pers., *A. palustris* Huds.]


*Allopecurus saccatus* Vasey – VERNAL POOL FOXTAIL. Common on drying beds of vernal pools. Mid Apr. [A. howelli Vasey]

*Andropogon virginicus* L. var. virginicus – BROOMSEDGE BLUESTEM. Moist places along intermittent streams, sandy flood plain of Paynes Creek. Native to eastern US. Flowering in autumn—plants still vegetative 04 Sep 96.

*Aristida oligantha* Michx. – OLDFIELD THREE-AWN. Open grassland, oak savanna, gravel bars. Early Jul. Oswald & Ahart 7964: NWY/NEY 1/4 S 1/2 S. Old quarry on the W side of Hwy. 36 ca. 0.6 mi S of the parking lot. 02 May 96.

*Avena barbata* Pott ex Link – SLENDER WILD OAT. Common in grassy places. Native to southern Eur. Late Apr. Oswald & Ahart 7615: SE 1/4 SW 1/4 SE 1/2. 02 May 96.

*Avena fatua* L. – WILD OAT. Flood plain of Paynes Creek. Less common than the previous species. Native to Eur. Early May. Oswald & Ahart 7526 – NW SW 1/4 SE 1/2. 06 May 96.


*Bromus carinatus* Hook. & Arn. var. carinatus – CALIFORNIA BROME. Growing along a sandy and rocky flood channel of Paynes Creek. Early May. Oswald & Ahart 7524.1: NW SW 1/4 SE 1/2. 06 May 96. [B. breviaristatus Buckl., *B. marginatus* Steud. & *B. polyanthus* Scribn.]

*Bromus diandrus* Roth – RIPGUT BROME. Common in thicker soils and in disturbed places. Mid Apr. [B. rigidus Roth including var. gussoni (Part.) Coss. & Durieu, misapplied] Oswald & Ahart 7601: NWY NE 1/4 S 1/2. Paynes Creek in the NE corner of the parcel. 20 May 96.


*Bromus laevipes* Shear – WOODLAND BROME. Brushy slopes along Paynes Creek. Early May. [B. vulgaris (Hook.) Shear var. eximius Shear] Oswald & Ahart 7519.1: NWY SW 1/4 SE 1/2. 06 May 96.

*Bromus madritensis* L. ssp. madritensis – FOXTAIL CHESS. Grassy flats. Native to Eur. Late Apr. Oswald & Ahart 7508: SE 1/4 SW 1/4 SE 1/2. 06 May 96.


*Bromus sterilis* L. – POVERTY BROME. Flood channels along Paynes Creek. Native to Eurasia. Early May. Oswald & Ahart 7523: NWY SW 1/4 SE 1/2. 06 May 96.

*Chloris virgata* Sw. – SILKY CHLORIS. Roadside weed. Native to warm temperate regions worldwide. Early Jul. Oswald & Ahart 7990: NEY NE 1/4 SE 1/2. 06 May 96.


*Cynosurus echinatus* L. – HEDGEHOG DOGTAIL. Common in blue oak woodland, riparian zones along Paynes Creek. Native to Eur. Early Apr. Oswald & Ahart 7512.1: SW 1/4 SW 1/4 SE 1/2. 06 May 96.

*Deschampsia danthonioides* (Trin.) Munro – ANNUAL HAIRGRASS. Widespread on drying beds of vernal pools and wetlands. Early Apr. [Aira danthonioides Trin.]


*Echinochloa colona* (L.) Link – JUNGLE-RICE. Sand and gravel bars along Paynes Creek. Late May.

*Echinochloa crus-galli* (L.) P.Beauv. – BARNYARD GRASS. Moist places along streams. Collected
early Sep. [Includes var. zelayensis (Humb., Bonpl. & Kunth) Hitchc.] Oswald & Ahart 8250: SW SW¼ Sect. 13. Seep on the rocky edge of an intermittent stream at this location. 04 Sep 96.


_Elymus multisetus_ (J.G.Sm.) Burt Davy – BIG SQUIRES TAIL. Brushy and rocky banks. Mid May. [Stitian junbatum J.G.Sm.] Oswald & Ahart 7594: NW¼ NE¼ Sect. 8. Along an intermittent stream in the NE corner of the parcel. 20 May 96.

_Eragrostis ciliatensis_ (All.) Vign. ex Janchen – STINKGRASS. Gravel bars along Paynes Creek. Late May. [E. megastachya (Koeler) Link] Oswald & Ahart 7702: NE¼ NE¼ Sect. 22. Paynes Creek ca. 0.3 mi S of the bridge site. 03 Jun 96.

_Eragrostis pectinacea_ (Michx.) Nees var. pectinacea – PURPLE LOVEGRASS. Gravel bars, vertically wet depressions. Late May. [E. diffusa Buckley] Oswald & Ahart 7700: SE¼ SE¼ Sect. 15. Paynes Creek at the bridge site. 03 Jun 96. Oswald & Ahart 7991: NE¼ NE¼ Sect. 19. Vertically wet depression on the E side of Hwy 36 ca. 0.7 mi SW of the parking lot. 08 Jul 96.


_Leersia oryoides_ (L.) Sw. – RICE CUTGRASS. Wet edge of Paynes Creek. Late Aug.

_Lolium multiflorum_ Lam. – ANNUAL RYEGRASS. Grassy slopes and flats, margins of streams and pools. Native to Eur. Late Apr. Oswald & Ahart 7511: SW¼ SW¼ Sect. 13. Rocky edge of an intermittent stream at this location. 06 May 96.


_Melica torreyana_ Scribn. – TORREY’S MELIC. Brushy slopes along Paynes Creek. Early May. Oswald & Ahart 7519: NW¼ SW¼ Sect. 13. Slope bordering Paynes Creek ca. 1 mi upstream from the bridge site. 06 May 96.

_Muhlenbergia rigens_ (Benth.) Hitchc. – DEERGRASS. Rocky margins and flood plains of Sevenmile Creek downstream from Hwy. 36, riparian zone along Paynes Creek. Early Jul.

_Nassella pulchra_ (Hitchc.) Barkworth – PURPLE NEEDLEGRASS. Grassy slopes along Paynes Creek. Early Apr. [Stha pu/cb/ra Hitchc.]


_Panicum acuminatum_ Sw. var. acuminatum – WESTERN PANICGRASS. Gravel and sand bars along Paynes Creek. Late May. [P. occidentale Scribn., P. hauchuciae Ashe, P. pacificum Hitchc. & Chase, P. shastense Scribn. & Merr., & P. thermale Bol., Di-chanthenium lanuginosum (Elliott) Gould var. fasci-culatum (Torr.) Spellenb.] Oswald & Ahart 7694: SE¼ SE¼ Sect. 15. Along Paynes Creek at the bridge site. 03 Jun 96.

_Panicum capillare_ L. – WITCHGRASS. Gravel bars. Late May. Oswald & Ahart 7693: SE¼ SE¼ Sect. 15. Paynes Creek at the bridge site. 03 Jun 96.


_Paspalum dilatatum_ Poir. – DALLISGRASS. Moist places along Paynes Creek. Native to S. Amer. Late May. Oswald & Ahart 7692: SE¼ SE¼ Sect. 15. Paynes Creek at the bridge site. 03 Jun 96.


_Poa bulbosa_ L. – BULBOUS BLUEGRASS. Rocky bank of intermittent stream in NE corner of parcel. Native to Eur. Late Mar.


_Poa secunda_ J.Presl ssp. secunda – ONE-SIDED BLUEGRASS. Tufted grass on outcrops and in thin soils of open rocky plains. Mid Mar. [P. canbiy (Scribn.) Howell, P. gracillima Vasey, P. incurva Scribn. & T.A. Williams, P. sandbergii Vasey, P. scabrella (Thurb.) Bent. ex Vasey] Oswald & Ahart 7344:
Poa tenerima Scribn. – DELICATE BLUEGRASS. Tufted grass in thin soils of shallow wetlands. Early Apr.


Scribneria bolanderi (Thurb.) Hack. – SCRIBNER’S-GRASS. Grassy opening at the end of the gravel road at Paynes Creek. Late Mar.


Setaria viridis (L.) P.Beauv. – GREEN BRISTLEGRASS. Gravel bars along Paynes Creek. Late May.

Sorghum halepense (L.) Pers. – JOHNSONGRASS. Moist flats along Paynes Creek. Native to Medit. Late May. Oswald & Ahart 7688: SE ¼ SE ¼ Sect. 15. Paynes Creek at the bridge site. 03 Jun 96.

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