Vascular Plants of Hog Lake Plateau

Bureau of Land Management
VASCULAR PLANTS OF HOG LAKE PLATEAU

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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>
<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 orcutia (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 hedge-hyssop and slender orcutia are also State listed endangered, while slender orcutia 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...
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>Species</th>
<th>List or Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td><em>Agrostis hendersonii</em> Hitchc., List 3</td>
<td>CNPS LISTS</td>
</tr>
<tr>
<td><em>Astragalus pauperculus</em> Greene, List 4</td>
<td>1B Rare, threatened, or endangered in California and elsewhere.</td>
</tr>
<tr>
<td><em>Gratiola heterosepala</em> Mason &amp; Bacig., List 1B, CE.</td>
<td>2 Rare, threatened, or endangered in California, but more common elsewhere.</td>
</tr>
<tr>
<td><em>Legenea limosa</em> (Greene) McVaugh, List 1B.</td>
<td>3 Plants about which we need more information—a review list.</td>
</tr>
<tr>
<td><em>Limnanthes flocososa</em> Howell ssp. <em>flocososa</em>, List 2.</td>
<td>4 Plants of limited distribution—a watch list.</td>
</tr>
<tr>
<td><em>Mimulus glaucescens</em> Greene, List 4.</td>
<td>STATE AND FEDERAL LISTS</td>
</tr>
<tr>
<td><em>Navaretia heterandra</em> H.Mason, List 4.</td>
<td>CE State listed, endangered.</td>
</tr>
<tr>
<td><em>Orcutta tenus</em> Hitchc., List 1B, CE, PT</td>
<td>PT Federally proposed, threatened.</td>
</tr>
<tr>
<td><em>Paronychia ahartii</em> Ertter, List 1B.</td>
<td></td>
</tr>
<tr>
<td><em>Polygonum bidwilliae</em> S.Watson, List 4.</td>
<td></td>
</tr>
<tr>
<td><em>Sagittaria sanforrdii</em> Greene, List 1B.</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 Brummitt 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 specimen 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.
**Ferns and Fern Allies**

**Isoetaceae – Quillwort Family**

Isoëtes howellii 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 Sect. 17. Hog Lake. 23 Apr 96.

Isoëtes nuttallii A.Braun ex Engelm. – Nuttall’s quillwort. Open grassland. Winter and spring.

**Selaginellaceae – Spike-moss Family**

Selaginella henseni 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. henseni (Hieron.) Jeps.]

**Marsileaceae – Marsilea Family**


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

**Polyponiaceae – Fern Family**

Cystopteris fragilis (L.) Bernh. – fragile fern. Moist and shaded places on outcrops. Active during the wet season.


Pentagramma triangularis (Kauf.) Yatsk., Windham, & E.Wollenw. ssp. triangularis – gold-backed fern. Outcrops and rocky places. Active late winter and spring. [Gymnogramma triangularis Kauf., Pityrogramma triangularis (Kauf.) Maxon] Oswald & Ahart 7578: SW¼ NE¼ Sect. 8. Scattered plants on the rocky and brushy banks of an intermittent stream at this location. 20 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 Sect. 15. Paynes Creek at the bridge site. 03 Jun 96.


**Anacardiaceae – Sumac Family**


**Apiaceae – Carrot Family**

[Umbelliferae]


*Sanicula bipinnata* Hook. & Arn. – POISON SANICLE. Common and widespread under or near blue oak. Mid Mar–Apr. Oswald & Ahart 7336: SW¼ SE¼ 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* Poep. 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 brush on the north-facing slope above the Jeep Trail at the powerline. 23 Apr 96.


**APOCYNACEAE – DOGBANE FAMILY**


**ARISTOLOCHIACEAE – PIPEVINE FAMILY**


**ASCLEPIADACEAE – MILKWEED FAMILY**

*Asclepias eriocarpa* Bentham. – 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 Sec. 8. Slope bordering the intermittent stream in the NE corner of the parcel. 20 May 96.


*Agosperis heterophylla* (Nutt.) Greene – ANNUAL AGOSPERIS. Scattered plants on grassy slopes and flats. Early Apr–May. Oswald & Ahart 7533: SE¼ NW¼ Sec. 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–Sept... Oswald & Ahart 8229: SE NE¼ Sec. 14. Paynes Creek ca. 1 mi upstream from the bridge site. 04 Sep 96.


*Bidens frondosa* L. – STICKTIGHT. Gravel bars. Late Aug–Sept... Oswald & Ahart 8260: SE NE¼ Sec. 14. Scattered plants on the flood plain of Paynes Creek ca. 1 mi upstream from the bridge site. 04 Sep 96.

*Blennosperma nanum* (Hook.) S.F.Blake var. nanum – YELLOW-CARPET. Widespread in grassland and open savanna. Late Feb–Apr.


*Calycadenia ciliosa* Greene – KLAMATH CALYCADENIA. Localized populations in dry grassy upland. Late May–Sept... [Included in *C. fremontii* (see next) in the Jepson Manual.] Oswald & Ahart 7686: NW¼ NE¼ Sec. 24. N side of the gravel road ca. 0.1 mi E of the Jeep Trail.


*Centauraea melitensis* L. – TOCALOTE. Localized weed on grassy flats along Paynes Creek. Native to S Eur. Late May–Jun. Oswald & Ahart 7217: SE¼ NE¼ Sect. 22. Paynes Creek ca. 0.5 mi SW of the bridge site. 03 Jun 96.

*Centaura solstitialis* L. – YELLOW STAR-THISTLE. Roadside, deeper soils of slopes and flats. Native to S Eur. Late May–Sep... Oswald & Ahart 7974: SE¼ NE¼ Sec. 8. Hwy. 36 at the NE end of the parcel. 08 Jul 96.

*Chicorium intybus* L. – CHICORY. Roadside, flood plains of streams. Native to Eur. Early Jul–Sep... Oswald & Ahart 7727: SE¼ NE¼ Sec. 22. Wooded slopes near Paynes Creek ca. 0.4 mi S of the bridge site. 03 Jun 96.

*Conyza canadensis* (L.) Cronquist – CANADIAN HORSEWEED. Roadside, stream margins. Late Aug–Sep... Oswald & Ahart 8255: SE NE¼ Sec. 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 Sec. 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 Sec. 22. Paynes Creek ca. 0.4 mi SW of the bridge site. 03 Jun 96.

*Gnaphalium palustre* Nutt. – WESTERN MARSH CUDWEED. Gravel bars, moist, sandy places along Paynes Creek. Early May–Jul. Oswald & Ahart 7692.3: SE¼ NE¼ Sec. 15. Paynes Creek at the bridge site. 03 Jun 96.

*Gnaphalium stramineum* Humb., Bonpl. & Kunth – COTTON-BATTING CUDWEED. Seeps on mudflow. Early May. [G. chilense Spreng.] Oswald & Ahart
7513: SW\% SW\% Sect. 13. Seep on the rocky edge of an intermittent stream at this location. 06 May 96.

Grindelia hirsutula Hook. & Lindl. var. davyi (Jeps.) M.A. Lane - FOOTHILL GUMPLANT. Rocky creek beds; roadsides. Late May–Jul. [Included in G. campanorum Greene, G. robusta Nutt. var. davyi Jeps.] Oswald & Ahart 7956: SW\% NE\% 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 7964:1. NW\% NE\% Sect. 8. Rocky flood plain along Paynes E of the mouth of the intermittent stream in the NE end of the parcel. 08 Jul 96.

Hesperaxacalis (Kellogg) Greene var. acacalis - DWARF EVA. Thin soils of grassy upland. Late Mar. [Eva acacalis (Kellogg) Greene]

Hesperaxacalis var. robustior Morefield - ROUST BST EVA. Bare soil on brushy banks. Early Apr. Oswald & Ahart 7323: NE\% SE\% 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. Roadsides, grassy slopes and flats. Plants with strap-shaped rather than pinnately-lobed leaves are sometimes referred to the var. integra (Gren. & Godr. (= forma integifolia 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: SW\% NE\% 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 - FREMONT'S GOLDFIELDS. Margins of vernal wet ditches and pools. Early Apr–May. [Baeria fremontii (Torr. ex A.Gray) A.Gray]


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

Layia fremontii (Torr. & A.Gray) A.Gray - FREMONT'S 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 7986: SE\% SE\% Sect. 13. S side of the gravel road 1.4 mi W of the parking lot. 08 Jul 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: SW\% NE\% Sect. 8. Near the intermittent stream in the NE corner of the parcel. 20 May 96.


Micropus californicus Fisch. & C.A.Mey. var. californicus - SLENDER COTTONWEED. Common and widespread in grassland, open blue oak savanna. Mid Mar–Apr.

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

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

Psilocarpus oregonis 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-
ensis A.Gray] Oswald & Ahart 7515: SW¼ SW¼ Sect. 13. Seep on the rocky edge of an intermittent stream at this location. 06 May 96.


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.

Bignoniacae – 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

Amsincia lycopsisides Lehm. – BUGLOSS FIDDLENECK. Oak savanna, roadsides. Similar to A. menziesii var. intermedia. Mid Mar–May.


Cryptantha flaccida (Douglas ex Lehm.) Greene – WEAK-STEMMED CRYPTANTHA. Grassy upland. Early May. Oswald & Ahart 7507: SE¼ SW¼ Sect. 13. Localized population on a grassy flat at this location. 06 May 96.


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

Heliophorum europaeum L. – EUROPEAN HELIOTROPE. Roadside, 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 fulvus (Hook. & Arn.) I.M.Johnst. – FULLVOUS POPCORN-FLOWER. Grassy flats. Early Apr. [P. fulvus var. campestris (Greene) I.M.Johnst.; P. campestris Greene]

Plagiobothrys rothropusivus (A. Gray) A. Gray – COMMOM POPCORN-FLOWER. Openings in brush, grassy
slopes and flats. Mid Mar.–May.
Plagiobothrys scriptus (Greene) I.M.Johnst. –
SCRIBE’S POPCORN-FLOWER. Grassland; the first pop-
corn-flower to bloom in the spring. Late Feb.–Mar.
[Allocarya scripta Greene]

Plagiobothrys hastensis Greene ex A.Gray –
SHASTA POPCORN-FLOWER. Open rocky and grassy
upland. Mid Mar.

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]

Plagiobothrys stipitatus var. micranthus (Piper)
I.M.Johnst. – SMALL-FLOWERED STALKED POPCORN-
FLOWER. Vernal pools and vernaly wet ditches, moist
flats along Paynes Creek. Early Apr.–Jul. [A. stipitata
ssp. micranthus Piper] Oswald & Ahart 7358: SW¼
NW¼ Sect. 17. Margin of Hog Lake. 06 May 96.

Brassicaceae – MUSTARD FAMILY
[Cruciferae]

Arabidopsis thaliana (L.) Heynh. – THALECRESS.
Eroded banks along Paynes Creek. Native to Eur.
Early Apr.–Jun. Oswald & Ahart 7320: SW¼ NW¼
Sect. 22. Paynes Creek downstream from the bridge
site. 08 Apr 96.

Aethyrsus pusillus (Hook.) Greene – PETTY ATHY-
SANUS. Grassland, oak savanna, outcrops. Late Feb–
Mar. Oswald & Ahart 7315: NW¼ NW¼ Sect. 23.
Growing in blue oak savanna S of the bridge site. 08
Apr 96.

Barbara verna (Mill.) Asch. – EARLY WINTER-
CRESS. Gravel bars and rocky margins of Paynes
Creek. Native to Eurasia. Late Mar.–Apr. Oswald,
Ahart, & Molter 7264: SE¼ NW¼ Sect. 8. Paynes
Creek in the NE end of the parcel. 25 Mar.

Capsella bursa-pastoris (L.) Medik. – SHEPHERD’S-PURSE.
Grassland, oak savanna, disturbed places. Native to Eur.
Late Feb.–Apr. Oswald & Ahart 7332: SW¼ SE¼ Sect.
22. E margin of Paynes near its mouth. 08 Apr 96.

Cardamine californica (Nutt.) Greene var. cali-
ifornica – MILKMAIDS. Locally common on the north
side of brushy and rocky ridges. Feb.–Mar. [Dentaria
californica Nutt. var. californica, D. integriloba Nutt.
var. californica (Nutt.) Jeps.] Oswald 7226: SE¼
SW¼ Sect. 8. Rim of Paynes Creek Canyon N of Hog
Lake. 15 Mar 96.

Cardamine oligosperma Nutt. – WESTERN BITTER-
CRESS. Rocky and other moist and protected places.
Late Feb.–Apr.

Draba verna L. – SPRING WHITLOW-GRASS. Grass-
land, oak savanna, rocky ridges, mossy rocks. Late
Feb.–Apr. Oswald, Ahart, & Molter 7272: SE¼ SE¼
Sect. 15. S bank of Paynes Creek at the end bridge
site. 25 Mar 96.

Hirschfeldia incana (L.) Lagr.-Foss. – MEDITER-
RANEAN HOARY-MUSTARD. Flood plain of Paynes
Creek. Mid Apr.–Sep. [Brassica geniculata (Desf.)
Ball, Sinapis incana L.] Oswald & Ahart 7440: NE¼
SW¼ Sect 7. Paynes Creek just downstream from the
power line at this location. 23 Apr 96.

Idaho scopigera (Hook.) A.Nelson & J.F.Macbr.
– FLATPOD. Thin, bare soils on patches of eroded
mudflow in oak savanna, apparently rare at Hog Lake
Plateau. Late Feb.–Mar. Oswald & Ahart 7224: SE¼
Sect. 13. Near the Jeep Trail on the N side of the ridge
at this location. 05 Mar 96.

Lepidium nitidum Nutt. var. nitidum – SHINING
PEPPER-GRASS. Widespread in grassland and open blue
oak savanna. Late Feb.–Mar.

Raphanus raphanistrum L. – JOINTED CHAR-
LOCK. Roadside, flood plain of Paynes Creek. Native
to Medit. Eur. Mid Mar.–May. Oswald & Ahart 7589:
NE¼ NW¼ Sect. 8. Paynes Creek in the NE corner of
the parcel. 20 May 96.

Rorippa nasturtium-aquaticum (L.) Hayek –
WATERCRESS. Flood channels along Paynes Creek.
Early May (with both flowers and fruits)–Jun. Oswald
& Ahart 7521: NW SW¼ Sect. 13. Paynes Creek ca. 1
mi upstream from the bridge site. 06 May 96.

Thysanocarpus curvipes Hook. var. curvipes –
CLASPING-LEAVED FRINGEPOD. Oak woodland, rocky
ridges, brushy slopes and banks. Mid Mar.–Apr. Os-
wald & Ahart 7319: SW¼ NW¼ Sect. 23. Loam soil
on the shaded bank of Paynes Creek downstream from
the bridge site. 08 Apr 96.

Thysanocarpus curvipes Hook. var. elegans
(Fisch. & C.A.Mey.) B.L.Rob. – ELEGANT FRINGEPOD.
Moist soil along Paynes Creek. Mid Apr. (in fruit).
[Varieties not recognized in The Jepson Manual.] Os-
wald & Ahart 7332.1: SW¼ SE¼ Sect. 22. E margin
of Paynes near its mouth. 08 Apr 96.

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

Callirichraceae – WATER-STARWORT FAMILY

Calliricthe hermaphrodita L. – NORTHERN
WATER-STARWORT. Submersed in Hog Lake. Early
May (with fruits). [C. autumnalis L.]

Calliricthe heterophylla Pursh var. bolanderi
(Hegelm.) Fassett – VARIABLE-LEAVED WATER-Star-
WORT. Growing in pools and later on wet sand on
flood plain of Paynes Creek. Late Apr. (flowers and
bolanderi (Hegelm.) Calder & RoyTaylor, C. palustris
L.] Oswald & Ahart 7443: NE¼ SW¼ 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. longipendulata Morong, C. marginata var. longipendulata (Morong) Jeps.]

Campanulaceae – Bellflower Family


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


Heterocodon rariiflorum 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.

Legenere limosa (Greene) McVaugh – Legenere. In shallow water and on wet mud along the margin of Hog Lake according to 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 vernaly 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. Vernaly 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 NE¼ Sect. 14. On gravel bars along Paynes Creek ca. 1 mi upstream from the bridge site. 04 Sep 96.  


**Convolvulaceae – MORNING-GLOARY FAMILY**  

**Calystegia occidentalis** (A.Gray) Brunmuth ssp. occidentalis – WESTERN MORNING-GLOARY. Brushy slopes. Mid May. [Convolvulus occidentalis A.Gray; Calystegia polymorpha (Greene) Munz] Oswald & Ahart 7579: SW¼ NE¼ Sect. 8. Along the intermittent stream in the NE corner of the parcel. 20 May 96.  


**Crassulaceaee – STONECROP FAMILY**  

**Crassula aquaticas** (L.) Schön. – WATER PYGMYWEED. Drying beds of hollow pools and ditches. Mid Mar. [C. sagooides (Maxim.) M. Bywater & Wikkens, Tillaea aquatic L. in part, Tillaeastrum aquaticum (L.) Britton in part]  

**Crassula connata** (Ruiz & Pav.) A.Berger – PYGMYWEED. Thin, bare soils of uplands Mid Mar–Apr. [Tillaea erecta Hook. & Arn.]  

**Dudleya cyanosa** (Lem.) Britton & Rose ssp. cyanosa – CANYON DUDLEYA. Outcrops along creeks and drainages, rocky bluffs above the Sacramento River and Paynes Creek. Early Apr–May.  

**Parviseudum pumilum** (Benth.) R.T.Claussen – DWARF-STONECROP. Thin soils on patches of eroded mudflow. Early Apr–May. [Sedella pumila (Benth.) Britton & Rose]  

**Sedum spathulifolium** Hook. – BROAD-LEAVED STONECROP. Rocky cliffs on the north side of Paynes Creek near its mouth. Early Apr.  

**Cucurbitaceae – GOURD FAMILY**  

**Marah fabaeus** (Naudin) Greene var. agrestis (Greene) Stocking – CALIFORNIA MANROOT. Rocky ridges. Late Feb–Mar.  

**Cuscutaceae – DODDER FAMILY**  


**Ericaceae – HEATH FAMILY**  

**Arctostaphylos manzanita** Parry ssp. manzanita – BIG MANZANITA. Brushy slopes in blue oak woodland along Paynes Creek. In fruit late Mar.  

**Euphorbiaceae – SPURGE FAMILY**  

**Chamaesyce macula** (L.) Small – SPOTTED SPURGE. Roadsides, gravel bars, other disturbed places. Native to eastern US. Mid May–Sep... [Euphorbia maculata L.; E. supina Raf.] Oswald & Ahart 7720: NW¼ SE¼ Sect. 22. Gravel bar on the E side of Paynes Creek just upstream from the Sacramento River. 03 Jun 96.  


**Chamaesyce occidentalis** (Durand & Hilg.) Millsp. ssp. occidentalis – VALLEY SPURGE. Common and widespread on summer-dry slopes and flats. Early Jun–Sep... [Euphorbia occidentalis Durand & Hilg.] Oswald & Ahart 7951: SE¼ NE¼ Sect. 8. Open blue oak savanna at the NE end of the parcel. 08 Jul 96.  

**Chamaesyce serpyllifolia** (Pers.) Small ssp. 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: SW¼ NE¼ 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-

**FABACEAE – LEGUME FAMILY**

*Leguminosae*

*Astragalus gambiaelanus* E.Sheld. – GAMBEL’S MILK-VELTCH. Rocky and eroded patches of mudflow. Early Apr. Oswald & Ahart 7324: NE¼ SE¼ Sct. 22. High bank of Paynes Creek ca. 1/2 of the way between the bridge site and the Sacramento River. 08 Apr 96.


*Lupinus bicolor* Lindl. var. *tridentatus* Eastw. ex C.P.Sm. – BICOLORED LUPINE. Grassy slopes and flats, oak savanna, flood channels along Paynes Creek. Mid Mar–May. [Varieties not recognized in The Jepson Manual.]


*Lupinus succulentus* Douglas ex W.D.J.Koch – SUCCULENT LUPINE. Growing in gravel at the parking lot. Early May.

*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 Sct. 13. Paynes Creek ca. 1 mi upstream from the bridge site. 06 May 96.


Sect 7. Near the power line at the N end of the Jeep Trail. 23 Apr 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 7451: 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 wilddenovii* 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.*


**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 wislizeni* A.DC. var. *wislizeni* – 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. – CANCHALAGUA. 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. – TOMB WORT. Gravelly banks. Early Apr. [Microcera quadrangularis (Lam.) Griseb.]

**GERANIACEAE – GERANIUM FAMILY**


*Geranium carolinianum* L. – CAROLINA GERANIUM. 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-Leafed 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. 23 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 Bentham. – Meadow Nemophila. Wet places in grassland, open savanna. Late Feb.–Apr.


Hypericaceae – St. John’s-wort Family

Hypericum anagalloides Cham. & Schult. – 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]

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* Bentham. – VINEGAR-WEED. 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.


**LIMNANTHACEAE – MEADOWFOAM FAMILY**

*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 up 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 – MALLOW FAMILY**


*Sidalcea hirsuta* A.Gray – HAIRY CHECKERBLOOM. Moist grassy flats along east shore of Hog Lake. Late May–Jun.

**MOLLUGINACEAE – CARPET-WEED FAMILY**

*Mollugo verticillata* L. – INDIAN-CHEEKN. 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* Bentham. – 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. junceum (A.Gray) Trel. & var. laevicaule (Ryd.) 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. adenocaulon Hausskn. including var. holosericeum (Trel.) Munz & var. parishii (Trel.) Munz; E. watsonii Barbev 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-
nes Creek ca. 1 mi upstream from the bridge site. 04 Sep 96.


Ludwigia peploides (Humb., Bonpl. & Kunth) Raven ssp. peploides – YELLOW WEAVERWEED. Flood channels and quite water along Paynes Creek. Late Aug–Sep... [Jussariea californica Jeps.; J. repens L. var. peploides (Humb., Bonpl. & Kunth)] Griseb.

OROBANCHACEAE – BROOM-RAPE FAMILY

Orobanchus uniflorus L. var. uniflorus – NAKED BROOM-RAPE. Parasitic on both Lithophragma and Saxifrages on brushy north-facing slopes of Paynes Creek Canyon. Late Apr. [Includes var. minuta (Suksd.) Achey, var. sedi (Suksd.) Achey, var. occidentalis (Greene) Taylor & MacBryde, ssp. 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 lobbii Greene – FRYINGPANS. Widespread on grassy flats. Mid Mar–May.


Platystemon californicus Bentham. – CALIFORNIA CREAMCUPS. Grassy openings on brushy slopes of Paynes Creek Canyon. Mid Apr–May. [Includes vars. 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]


PLATANACEAE – SYCAMORE FAMILY

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

POLEMONIACEAE – PHLOX FAMILY


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 ciliatus (Benth.) Greene – WHISKER-BRUSH. Locally abundant on grassy slopes and flats, in blue oak savanna. Early Apr–May. Oswald & Ahart 7529; SE¼ NW¼ Sect. 13. Slope above Paynes Creek N of the junction of the gravel road and the Jeep Trail. 06 May 96.

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. ssp. intertexta – NEEDLE-LEAVED NAVARRETIA. 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 NAVARRETIA. Common and widespread in dry grassland and blue oak savanna; also in flood channels along Paynes Creek. Early May–Jun. Oswald & Ahart 7502; NW¼ NE¼ Sect. 8. Paynes Creek in the NE corner of the parcel. 20 May 96.


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

POLYGONACEAE – BUCKWHEAT FAMILY

Chorizanthe membranacea Bentham – PINK SPINEFLOWER. Rocky bluffs, creek banks. Late May–Jun. Oswald & Ahart 7719; NW¼ SE¼ Sect. 22. Rocky bluffs on the E side of Paynes Creek near the Sacramento River. 03 Jun 96.

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 Benth. – HAIRY-FLOWEROVER 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, l.: 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 SMARTWEED. 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 drymariaei 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.


**Rumex salicifolius** var. **triangulivalvis** (Danser) C.L.Hitchc. – **CALLOSE-VALVED WILLOW DOCK.** Rocky stream channels. Early May. [R. triangulivalvis (Danser) Rech.f. var. oreolapathum Rech.f.]

**PORTULACACEAE – PURSLANE FAMILY**

**Calendrinia ciliata** (Ruin & Pav.) DC. – **REDMAIDS.** Roadsides, creek margins, grasslands. Early Apr. [Includes var. menziesii (Hook.) J.F.Maehr, C. caulescens Humb., Bonpl. & Kunth var. menziesii A.Gray]

**Claytonia parviflora** Douglas ex Hook. ssp. parvi-

flora – **SMALL-FLOWERED MINER’S-LETTUCE.** Shaded places on rocky slopes and ridges, creek banks, under blue oak. Mid Mar–May. Oswald & Ahart 7318: SW¼ NW¼ Sect. 23. Paynes Creek downstream from the bridge site. 08 Apr 96. [Montia perfoliata (Donn ex Willd.) Howell in part. M. perfoliata var. parviflora (Douglas ex Hook.) Jeps., M. perfoliata forna parvi-

flora (Douglas ex Hook.) J.T.Howell]

**Claytonia perfoliata** Donn ex Willd. ssp. perfo-

liata – **COMMON MINER’S-LETTUCE.** Under blue oak, in rocky and shaded places. Mid Mar–Apr. [Montia perfo-

liata (Donn ex Willd.) Howell] Oswald & Ahart 7317: SW¼ NW¼ Sect. 23. Paynes Creek downstream from the bridge site. 08 Apr 96.

**Montia fontana** L. ssp. **amportana** Sennen – **WATER MONTIA.** Moist, thin soils and outcrops in up-


**Montia fontana** ssp. **chondrosermna** (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.


**PRIMULACEAE – PRIMROSE FAMILY**


**Dodecatheon clevelandii** Greene ssp. **patulum** (Greene) H.J.Thompson – **LOWLAND SHOOTINGSTAR.** Widespread in grassland, open blue oak savanna. Late Feb–Apr. [D. patulum Greene] Oswald & Ahart 7233: SW¼ NE¼ Sect. 26. Open flat between the Sacramento River and the power transmission lines at this location. A few plants in this population have magenta rather than white petals. 18 Mar 96.

**Dodecatheon hendersonii** A.Gray – **HENDERSON’S SHOOTINGSTAR.** Brushy slopes, blue oak savanna. Mid Mar–Apr. [Includes var. cruciatum Greene, ssp. cruci-


**RANUNCULACEAE – BUTTERCUP FAMILY**

**Clematis lasiantha** Nutt. – **CHAPARRAL 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. han-

senii – **HANSEN’S LARKSPUR.** Brushy slopes in Paynes Creek Canyon. Early May.

**Delphinium patens** Bentham 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.

**Delphinium variegatum** Torr. & A.Gray ssp. varie-

gatum – **ROYAL LARKSPUR.** Grassy flats and openings in blue oak woodland. Early Apr.

**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.Campbell & ssp. major (Greene) G.R.Campbell; 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: I: NW¼ NW¼ Sect 17. 23 Sep 96.


**Ranunculus canus** Bentham – **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.

**Ranunculus hebecarpus** Hook. & Arn. – **PUBES-

cENT-FRUITED BUTTERCUP.** Shaded banks. Late Mar–Apr. Oswald, Ahart, & Molter 7274; SE¼ SE¼ Sect. 15. S bank of Paynes Creek at the bridge site. 25 Mar 96.


Rhamnaceae – BUCKTHORN FAMILY

Ceanothus cuneatus (Hook.) Nutt. var. cuneatus – BUCKBRUSH. Rocky and brushy slopes. Mid Mar. [Includes var. dubius J.T.Howe, 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. & Schleidt. – 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.


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

Rubiaceae – MADDER FAMILY


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 (Ryd.) C.K. Schneid., S. hindsiana Benth, including var. leucodendroides (Rowlee) C.R.Ball & var. parishiana (Rowlee) C.R.Ball, S. sessilifolia Nutt. var. hindsiana...
Salix gooddingii C.R. Ball – Goodding’s Black Willow. Flood plain and banks of Paynes Creek. With expanding leaves and catkins late Mar. [Includes var. variabilis C.R. Ball; S. nigra Marshall var. vaillcola Dudley]

Salix laevigata Bebb – Red Willow. Flood plain of Paynes Creek. Flowering interval not determined.

Salix lasiolepis Bentham – Arroyo Willow. Flood plain of Paynes Creek. Developing leaves and green fruits late Mar. [Includes var. bracelinae C.R. Ball & var. sandbergii (Ryd.) C.R. Ball, S. tracyi C.R. Ball]

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. Grassy and brushy 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.


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

Scrophulariaceae – Figwort Family

Antirrhinum cornutum Bentham – 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.


Lindernia dubia (L.) Pennell – False Pimpkin. 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.


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


Kimnus glaucenscens 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. – SNAUSED 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. [Mimetanthhe pilosus (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 Benth. 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 NE¼ Sect 8. Intermittent 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 eriantha Benth. var. eriantha, O. bidwilliae 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 vernal 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. latula (L.) Torr. – PURPLE-STEMMED JIMSONWEED. 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.

Styraeceae – STORAX FAMILY

Styrox 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-SPORED PINK PLECTRITIS. Thin soils and rocky places on mudflow. Mid Mar.–Apr. [Includes var. daviana (Jeps.) Dyal, P. californica (Suksd.) Dyal var. rubens (Suksd.) Dyal, P. macroptera (Suksd.) Rydb. var. patelliformis (Suksd.) Dyal] Oswald, Ahart, & Molter 7268: SE¼ NE¼ Sect 8. North-facing slope of Paynes Creek canyon in the NE end of the parcel. 25 Mar 96.

Plectritis macrocerca Torr. & A.Gray – WHITE PLECTRITIS. Grassland, rocky places. Mid Mar. [Includes var. collina (A.Heller) Dyal, var. grayi
(Suksd.) Dyal & var. mamillata (Suksd.) Dyal; P. eichleriana (Suksd.) A. Heller, P. jepsonii (Suksd.) Burtt Davy] Oswald, Ahart, & Molter 7267: SE¼ NE¼ 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...

[Includes var. scabra Moldenke] Oswald & Ahart 7983: SE¼ SE¼ Sect. 15. Gravel bar along Paynes Creek at the bridge site. 08 Jul 96.

*Verbena lasiostachys* Link var. *scabriflora* Moldenke — WESTERN VERVAIN. Rocky flood channels along Paynes Creek. Early Jun. [V. robusta Greene]

**VIOlaceae — Violet Family**

*Viola douglasii* Steud. — DOUGLAS’ VIOLET. Scattered plants in rocky grassland with scattered blue oaks. Mid Mar. Oswald & Ahart 7231: NW¼ SW¼ Sect. 25. Near the jeep trail following the powerline N of Sevèmilie Creek. 18 Mar 96.

**VISCACEAE — Mistletoe Family**

[ Loranthaceae ]


*Phoradendron villosum* (Nutt.) Nutt. — HAIRY MISTLETOE. On blue oak (*Quercus douglasii*). Flowering interval not determined. [P. flavescens (Pursh) Nutt. var. villosum (Nutt.) Engelm.]

**VITACEAE — Grape Family**


**ZYGOPHYLLACEAE — Caltrop Family**


**Monocot Flowering Plants**

**ALISMATACEAE — Water-plantain Family**


* Sagittaria sanfordii* Greene — SANFORD’S ARROWHEAD. Extensive colonies in Hog Lake. Late Jun—Jul. CNPS List 1B, proposed move to List 4 in the 6th edition of the CNPS Inventory. Oswald & Ahart 7977: NW¼ NW¼ Sect. 17. Collected in ca. 3 dm of water on the NE side of the lake. 08 Jul 96.

**Cyperaceae — Sedge Family**

*Carex barbara* Dewey — SANTA BARBARA SEDGE. Extensive colonies on sandy flats along Paynes Creek. Late Mar. Oswald & Ahart 7710: SE¼ NE¼ 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 7260: NW¼ NE¼ 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) Kut.] Oswald & Ahart 8270: SE NE¼ 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: SE¼ NE¼ 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: NW¼ SE¼ Sect. 22. E side of Paynes Creek just upstream from the Sacramento River. 03 Jun 96. Oswald & Ahart 7966: NW¼ NE¼ 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 Rothb.] Oswald & Ahart 7604: NW¼ NE¼ 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 macrostachya_ Britton ex Small – PALE SPIKE-RUSH. Common in vernal pools, wet drainages, sloughs and flood channels along creeks. Late May. [E. palustris (L.) Roem. & Schult.] Oswald & Ahart 7969: NW¼ NE¼ Sect. 8. Along Paynes E of the mouth of the intermittent stream in the NE end of the parcel. 08 Jul 96.

_Eleocharis parshii_ Britton – PARISH'S SPIKE-RUSH. In moist soil along Paynes Creek. Late Aug. [E. montevidensis] Kunth var. _discolor_ (Parish) V.E. Grant & var. _parshii_ (Britton) V.E. Grant] Oswald & Ahart 8271: SE NE¼ 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. [L. micrantha (Vahl) Pax var. minor (Schrad.) Friedl.] Oswald & Ahart 7721: NW¼ SE¼ Sect. 22. E side of Paynes Creek just upstream from the Sacramento River. 03 Jun 96.


HYDROCHARITACEAE – WATERWEED FAMILY

_Eloea canadensis_ Rich. – CANADIAN WATERWEED. Localized population in still water along Paynes Creek. Late May–Jun. Oswald & Ahart 7711: SE¼ NE¼ 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: SE¼ NE¼ Sect. 22. Along Paynes Creek ca. 0.5 mi S of the bridge site. 03 Jun 96.

_Juncus bufonius_ var. _congestus_ Wahlenb. – CONGESTED TOAD RUSH. Found in the parking lot at Hwy. 36. Dry plants early Jul. [J. bufonius var. congondii (S. Watson) J.T. Howell]


_Juncus effusus_ var. _pacificus_ Fernald & Wieg. – PACIFIC RUSH. Tufted rush on the bank of Paynes Creek. Mid May.

_Juncus oxiemeris_ Engelm. – POINTED RUSH. In flood channels along Paynes Creek. Early May. Oswald & Ahart 7706: SE¼ NE¼ 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 [Lilaeaceae]

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

LILIACEAE – LILY FAMILY [Includes Amaryllidaceae & Smilacaceae]

_Allium amplectens_ Torr. – 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: SW¼ NE¼ 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 MARIPOSA-LILY. Dry slopes in oak savanna near Paynes Creek in the western half of the parcel. Late May–Jun.

**Calochortus superbus** Purdy ex J.T. Howell – SUPERB MARIPOSA-LILY. Grassy and rocky slopes and flats. Early May. [C. *luteus* Douglas ex Lindl. var. *citrinus* S. Watson]


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


**Dichelostemma congestum** (Sm.) Kunth – FORK-TOOTHED OOKOW. Brushy and grassy places along Paynes Creek. Early May. [Brodiaea congesta Sm., *Brodiaea pulchella* (Salisb.) Greene misapplied, D. *pulchellum* (Salisb.) A. Heller misapplied]

**Dichelostemma multiflorum** (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 FRITILLARY. 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, Hesperosco- rium 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 florals. Late Mar–April.

**Triteleia laxa** Bentham. – ITURIHEL’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**

[Gramineae]

**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 henderoni** Hitchc. – HENDERSON’S BENTGRASS. Vernally wet flats. Dry plants noted in late Jun. CNPS List 3. [A. *microphylla* Steud. var. *intermedia* Beetle & *hendersonii* (Hitchc.) Beetle] Oswald & Ahart 7718: NW¼ SE¼ Sect. 22. Grassly 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) Farr. & _palastris_ (Huds.) Pers., A. palastris Huds.]


_Alopecurus saccatus_ Vasey – _VERNAL POOL FOXTAIL_. Common on drying beds of vernal pools. Mid Apr. [A. howellii 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.


_Avena barbata_ Pott ex Link – _SLENDER WILD OAT_. Common in grassy places. Native to southern Eur. Late Apr. _Oswald & Ahart_ 7615: SW¼ SE¼ Sect. 18. Old quarry on the W side of Hwy. 36 ca. 0.6 mi S of the parking lot. 20 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: NW¼ SW¼ Sect. 13. Paynes Creek ca. 1 mi upstream from the bridge site. 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: NW¼ SW¼ Sect. 13. Paynes Creek ca. 1 mi upstream from the bridge site. 06 May 96. [B. breviantherus Buckl., B. marginatus Steud. & _pallens_ Scribn.]


_Bromus laevipes_ Shear – _WOODLAND BROME_. Brushy slopes along Paynes Creek. Early May. [B. vulgaris (Hook.) Shear var. _eximius_ Shear] _Oswald & Ahart_ 7519.1: NW¼ SW¼ Sect. 13. Slope above Paynes Creek ca. 1 mi upstream from the bridge site. 06 May 96.


_Bromus sterilis_ L. – _POVERTY BROME_. Flood channels along Paynes Creek. Native to Eurasia. Early May. _Oswald & Ahart_ 7523: NW¼ SW¼ Sect. 13. Paynes Creek ca. 1 mi upstream from the bridge site. 06 May 96.

_Chloris virginia_ Sw. – _SILKY CHLORIS_. Roadside weed. Native to warm temperate regions worldwide. Early Jul. _Oswald & Ahart_ 7990: NE¼ NE¼ Sect. 19. E edge of Hwy. 36 ca. 0.7 mi S of the parking lot. 08 Jul 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.


_Eragrostis cilianensis_ (All.) Vign. ex Janchen – STINKGRASS. Gravel bars along Paynes Creek. Late May. [E. megastachya (Koeler) Link] Oswald & Ahart 7762: 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, very wet depressions. Late May. [E. diffusa Buckl.] Oswald & Ahart 7690: SE¼ SE¼ Sect. 15. Paynes Creek at the bridge site. 03 Jun 96. Oswald & Ahart 7991: NE¼ NE¼ Sect. 19. Very wet depression on the E side of Hwy. 36 ca. 0.7 mi SW of the parking lot. 08 Jul 96.


_Hordeum marinum_ Huds. ssp. gussoneanum (Parl.) Thell. – MEDITERRANEAN BARLEY. Grassy slopes and flats. Native to Eur. Mid Apr. [H. geniculatum All., H. gussoneanum Par., H. hystrix Roth]


_Leersia ozyoides_ (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. [Stipa pulchra Hitchc.]


_Panicum acuminatum_ Sw. var. acuminatum – WESTERN PANICGRASS. Gravel and sand bars along Paynes Creek. Late May. [P. occidentale Scribn., P. hauuchucae Ashe, P. pacificum Hitchc. & Chase, P. shastense Scribn. & Merr., & P. thermale Bol., Di.-

_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. canbyi (Scribn.) Howell, P. gracillicoma Vasey, P. incurva Scribn. & T.A. Williams, P. sandbergii Vasey, P. scabrella (Thurb.) Benth. ex Vasey] Oswald & Ahart 7344:
NE¼ SW¼ Sect. 13. S side of the gravel road 0.9 mi W of the parking lot. 08 Apr 96.

*Poa tenerima* Scribn. – DELICATE BLUEGRASS. Tufted grass in thin soils of shallow wetlands. Early Apr.

*Polypogon interruptus* Humb., Bonpl. & Kunth – DITCH BEARDOGRASS. Sandy and rocky flood channels along Paynes Creek. Native to S. Amer. Early May. [P. lutosus (Poir.) Hitchc. misapplied] Oswald & Ahart 7520: NW¼ SW¼ Sect. 13. Paynes Creek ca. 1 mi upstream from the bridge site. 06 May 96.


*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. [Chaetochloa viridis (L.) Scribn.] Oswald & Ahart 7689: SE¼ SE¼ Sect. 15. Paynes Creek at the bridge site. 03 Jun 96.

*Sorghum halepense* (L.) Pers. – JOHNSONGRASS. Moist flats along Paynes Creek. Native to Medit. Late May. Oswald & Ahart 7688: SE¼ SE¼ Sect. 15. Paynes Creek at the bridge site. 03 Jun 96.


*Vulpia myuros* var. *hirsuta* (Hack.) Asch. & Graebn. – FOXTAIL FESCUE. Grassy slopes and flats. Mid Apr. [Festuca megalura Nutt.]

**POTAMOGETONACEAE – PONDWEED FAMILY**


**TYPHACEAE – CATTAIL FAMILY**

*Typha domingensis* Pers. – SOUTHERN CATTAIL. Shallow margins of Paynes Creek. Summer.
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