

PLANTS OF ANGEL ISLAND, MARIN COUNTY, CALIFORNIA

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ABSTRACT.— The floristic composition of Angel Island, Marin County, California, is presented. The vascular flora consists of 416 native and naturalized plants, representing 252 genera and 73 families. Eighty species of ornamental plants persisting from cultivation, representing 64 genera and 39 families, are also identified. The nonvascular flora consists of 42 species of fungi, 7 species of green algae, 8 species of brown algae, and 41 species of red algae. The vascular flora occurs in seven plant communities and is composed mainly of the following plant types: forbs (69 percent), grasses (13 percent), shrubs (8 percent), and trees (4 percent). Approximately 25 percent of the 1605 native and naturalized vascular plants of Marin County occur on Angel Island.

Angel Island is situated in San Francisco Bay off the southern coast of Marin County, California. The island lies approximately 3½ miles north of the city of San Francisco and is separated from the nearest mainland, the

Tiburon Peninsula, by Raccoon Strait, which is about a mile in width at the narrowest point.

The shape of the island, as shown in Figure 1, roughly resembles an equilateral triangle

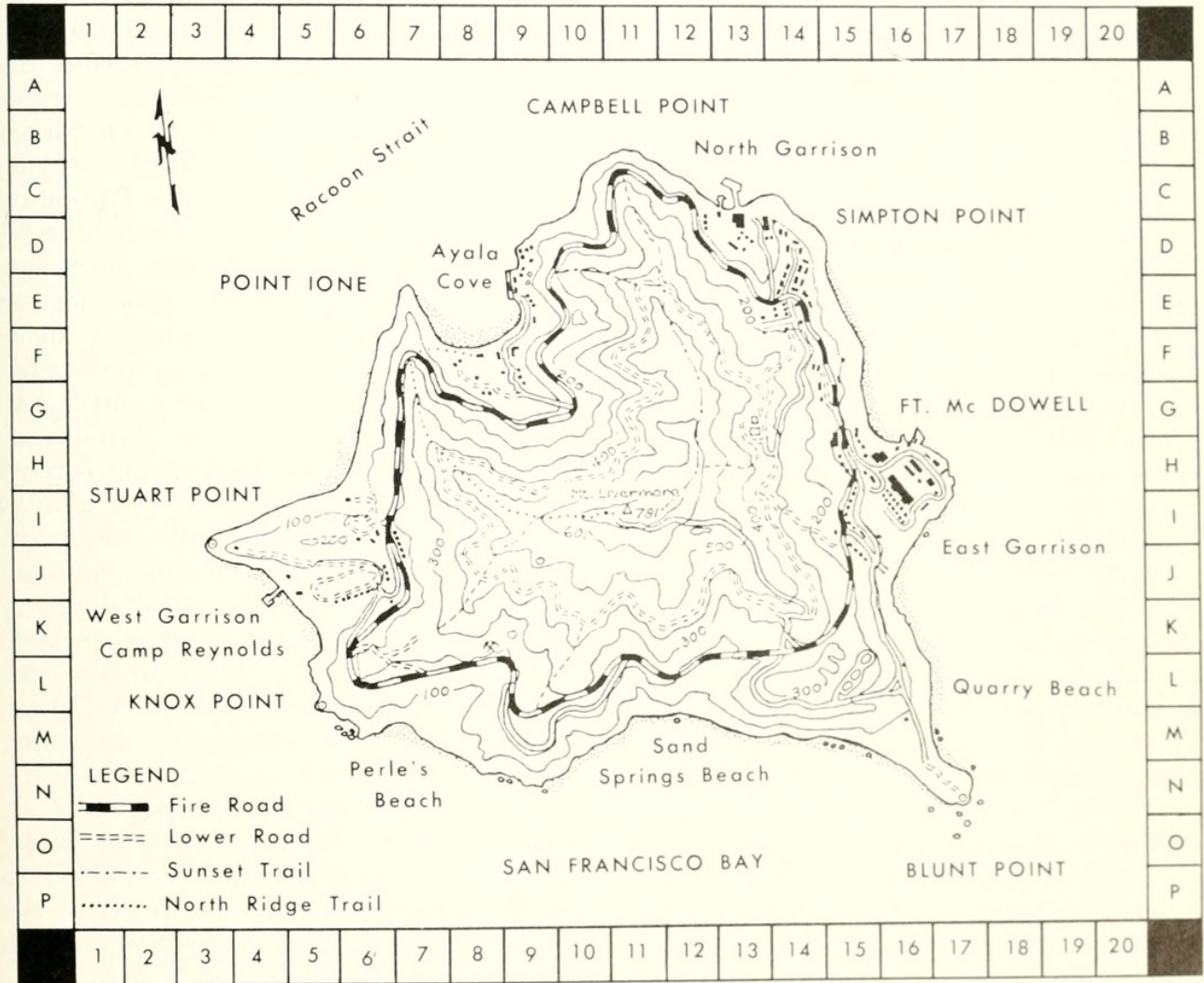


Fig. 1. Map of Angel Island.

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with the sides measuring about $1\frac{1}{4}$ miles in length. Hence, the area of the island is slightly larger than one square mile and equal to approximately 740 acres.

The topography of the island is roughly pyramidal in form, with the central peak, Mt. Livermore (elevation 781 ft), forming the central axis for various spurs that radiate out to the perimeter of the island.

Numerous water seepages occur in the canyons formed by the radiating ridges, but it is only in the canyon extending from the summit of Mt. Livermore to Perle's Beach that any significant water flow occurs. The damming of this small stream in two locations has resulted in the formation of two small ponds.

With the exception of several miles of narrow, sandy beaches, the island is generally hilly. In some areas, particularly near Simpson Point and Blunt Point, the cliffs are extremely steep.

CLIMATE

Due to the steady sweep of air from the Pacific Ocean, the climate of Angel Island is characterized by few extremes of heat or cold. Like other central coastal regions of California, the winters are cool and wet and the summers are warmer and dry. Until recently, only intermittent precipitation and temperature records were maintained on the island. The limited data available indicate a total annual precipitation ranging from a low of 21.34 inches to a high of 34.53 inches, with the average being 26.62 inches. These data further reveal that 84 percent of the total average precipitation occurs during the five-month period between November and March and that measurable amounts of precipitation occur on the average less than 70 days a year. As in many coastal regions of California, summer fog and low overcast play an important role in the island's climate. Summer mornings are frequently foggy, but clearing usually begins early in the forenoon. These low summer fogs no doubt contribute soil moisture as condensation occurs on leaves of trees and drips to the ground (Oberlander 1956).

The average annual temperature on Angel Island is 56 F. The average monthly mini-

mum temperature occurs in January and is 42 F, and the average monthly maximum temperature occurs in September and is 73 F. The average monthly temperature ranges from a low of 46 F in January to a high of 65 F in September.

GEOLOGY

Ransome (1894) conducted the first and most extensive study of the island's geology. This study has been supplemented and updated by Bloxam (1960) and by Schlocker, Bonilla, and Radbruch (1958), who compiled an extensive geological map of the island. The geological features of the island have also provided source material for other studies of rock formations in the San Francisco Bay area such as those of Bloxam (1956), Schlocker (1961), and Bailey, Irwin, and Jones (1964). Ransome (1894) describes the structure of the island as consisting essentially of a syncline trough with its axis plunging to the northeast. The rocks of Angel Island all belong to the Franciscan Formation and consequently were formed during the Jurassic approximately 100 million years ago. Bloxam (1960) identified the following six major rock groups on the island: (1) Franciscan graywackes, conglomerates, and radiolarian cherts; (2) jadeite-bearing metagraywackes derived from the Franciscan graywackes; (3) glaucophane-schists derived from graywackes, cherts, and basic igneous rocks; (4) a large and apparently concordant sheet of altered diabase intrusive into the Franciscan sediments; (5) pillow-lavas at Blunt Point; and (6) a vertical dike-like body of serpentinite and pyroxenite near the western end of the island. Of these rock groups, the near vertical serpentine dike extending across the western portion of the island is the predominant geological feature of the area. Bloxam (1960) further points out that all the rocks of the island are metamorphosed to various degrees, with the exception of the graywacke and shale at Quarry Point, which are unmetamorphosed.

VEGETATION COMMUNITIES

Seven categories of vegetation cover are recognized as occurring on Angel Island.

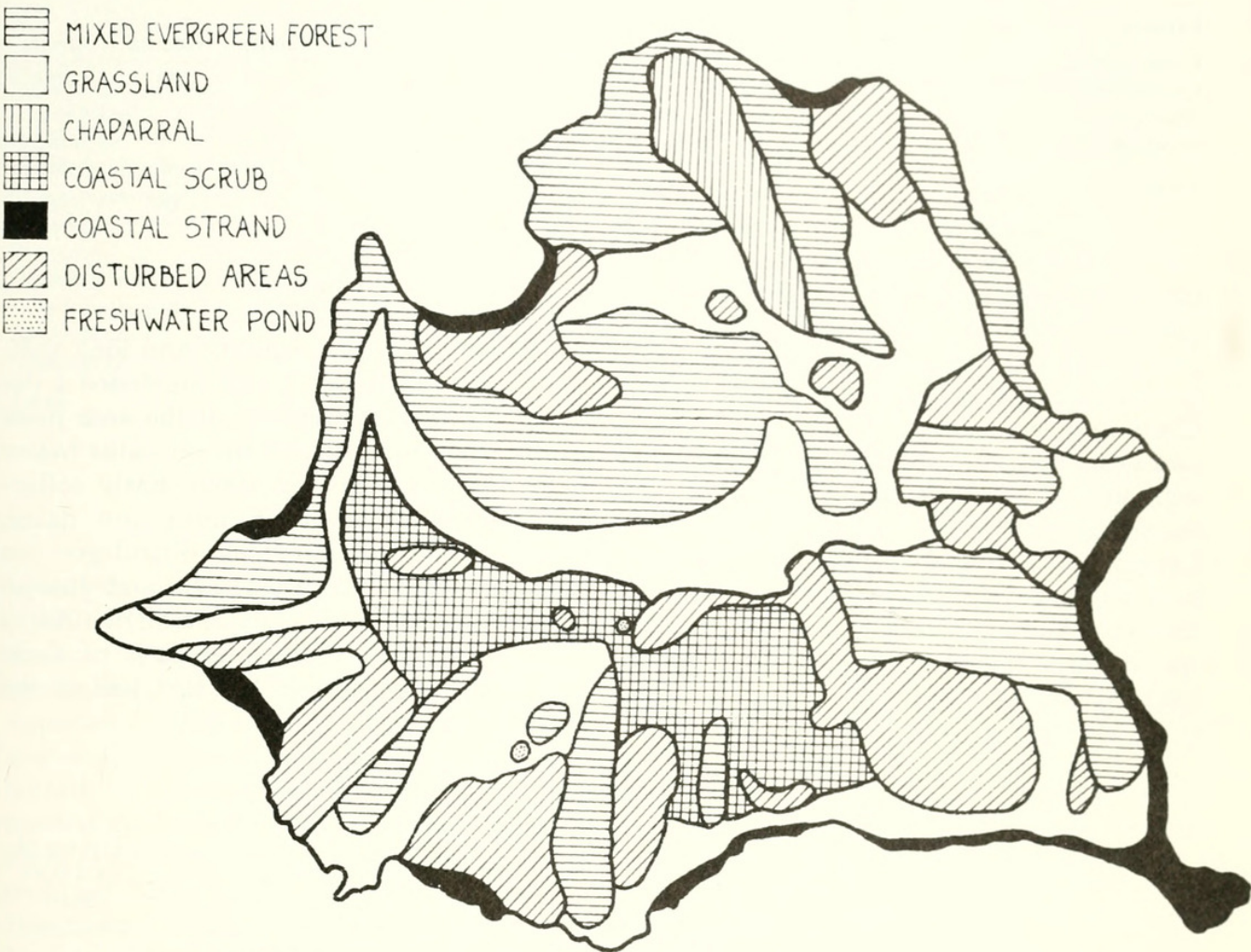


Fig. 2. Map of Angel Island showing location of its seven categories of vegetation cover.

TABLE 1. Tabulation of the native and naturalized vacular flora.

Division Class Subclass	Family	Genus	Specific and infraspecific taxa		
			Native	Naturalized	Total
Calamophyta	1	1	2	0	2
Tracheophyta					
Filicinae	3	7	7	0	7
Gymnospermae	2	2	0	2	2
Angiospermae					
Monocotyledonae	10	45	60	30	90
Dicotyledoneae	57	197	213	102	315
Totals	73	252	282	134	416

These include mixed evergreen forest (33 percent), grassland (28 percent), altered or disturbed areas (20 percent), coastal scrub (10 percent), chaparral (4 percent), coastal strand (4 percent), and freshwater ponds (less than one percent). The location of each vegetation type is indicated in Figure 2.

FLORA OF THE ISLAND

The native and naturalized vascular flora of Angel Island consists of 73 families, 252 genera, and 416 species and infraspecific taxa (Table 1). In addition, 80 species of cultivated plants have been identified (Table 2) as

TABLE 2. Tabulation of the nonvascular flora identified.

Division	Genus	Species
Eumycophyta	28	42
Chlorophyta	5	7
Phaeophyta	8	8
Rhodophyta	33	41
Totals	74	98

well as 42 species of higher fungi and 56 species of marine algae (Table 3). The 10 largest families are listed in Table 5 and contain 138 genera and 265 species, or 64 percent of the total native and naturalized vascular flora. Comparing the 416 species and infraspecific taxa or native and naturalized vascular plants with the 1605 species and infraspecific taxa recognized by Howell (1970) for all Marin County indicates that the flora of Angel Island represents approximately 25 percent of the total Marin County flora. No endemic species occur on Angel Island nor is the island the type locality for any plants.

TABLE 3. Tabulation of the cultivated plants identified.

Class	Family	Genera	Species
Subclass			
Gymnospermae	5	11	12
Angiospermae			
Monocotyledoneae	5	8	10
Dicotyledoneae	29	45	58
Totals	39	64	80

CHECKLIST

The relative inaccessibility and long military history of Angel Island precluded a detailed floristic examination of the area prior to the study upon which the checklist below is largely based (Ripley 1969). Early collectors included Albert Kellogg (no date), George Vasey (1876), T. S. Brandegee (no date), Volney Rattan (1877), and Joseph Burt-Davy (no date). Only one or two Angel Island collections exist from each of these collectors. Collectors in the first half of the

TABLE 4. Plant characteristics of Angel Island native, introduced, and cultivated plants.

Growth habit	Generalized life form			Total	Percent of individual category	Percent of total native and introduced flora	Percent of total flora (native, introduced, and cultivated)
	Annual	Biennial	Perennial				
I. NATIVE PLANTS							
Ferns	0	0	7	7	3	1.7	1.3
Sedges	1	0	5	6	2	1.5	1.2
Rushes	1	0	5	6	2	1.5	1.2
Grasses	5	1	24	30	11	7.3	6.0
Forbs	73	8	110	191	67	46.0	39.0
Shrubs	0	0	30	30	11	7.2	6.0
Trees	0	0	10	10	4	2.4	2.0
Subtotals	80	9	191	280	100	67.3	56.4
II. INTRODUCED PLANTS							
Grasses	17	0	8	25	19	6.0	5.0
Forbs	61	8	28	97	71	23.0	19.9
Shrubs	0	0	7	7	5	1.7	1.3
Trees	0	0	7	7	5	1.7	1.3
Subtotals	78	8	50	136	100	32.7	27.4
III. CULTIVATED PLANTS							
Grasses	0	0	1	1	1.3		.20
Forbs	0	0	6	6	7.5		1.2
Shrubs	0	0	22	22	26.5		4.4
Trees	0	0	51	51	64.7		10.0
Subtotals	0	0	80	80	100.0		16.2
Grand totals	158	17	320	493			

TABLE 5. The 10 largest families of vascular plants.

Family	Genera	Species and infraspecific taxa
Compositae	47	76
Gramineae	25	61
Leguminosae	12	45
Scrophulariaceae	7	16
Cruciferae	14	16
Rosaceae	10	12
Umbelliferae	10	12
Caryophyllaceae	6	11
Onagraceae	4	9
Cyperaceae	3	7
Totals	138	265

P	perennial
B	biennial
A	annual
N	native
I	introduced
C	ornamental plant persisting from cultivation
T	tree
S	shrub
F	forb
Fr	fern
G	grass
R	rush
Sd	sedge

Finally, the approximate collection location of each specimen is indicated by map grid coordinates from Figure 1.

The checklist is arranged in alphabetical order by families for ease of reference. Identification of the algal flora follows that of Smith (1944) and Hollenberg and Abbott (1966). The vascular plant identification follows that of Munz (1973) and Howell (1970).

twentieth century included E. C. Sutcliffe (1920), Alice Eastwood (1925), and John Thomas Howell (1946 and 1949). The 51 specimens collected by Howell are the most important of these collections. In addition, numerous plants were observed but not collected by Howell on his two trips that formed the basis for many citations in *Marin Flora* (1970). The most recent collectors have included Otto T. Solbrig (1956), Peter H. Raven and Michael P. Johnson (1967), J. Douglas Ripley (1967–1969), Gordon True (1978), Alva Day (1979–1980), and Catherine G. Burke (1979–1980). Of these collections, the most extensive are those of Ripley with 1074 and Raven and Johnson with 337.

The following abbreviations are used in this checklist to indicate individual collectors.

B	Catherine G. Burke
B-D	Joseph Burtt-Davy
D	Alva Day
E	Alice Eastwood
H	John Thomas Howell
K	Albert Kellogg
R	Volney Rattan
JDR	J. Douglas Ripley
R & J	Peter H. Raven and Michael P. Johnson
S	E. C. Sutcliffe
OS	Otto T. Solbrig
T	Gordon True
TB	T. S. Brandegee
V	George Vasey

Certain plant characteristics are also indicated in the checklist following the scientific name for all vascular plants. The following abbreviations are used for this purpose:

DIVISION EUMYCOPHYTA—Higher Fungi

- Agrocybe pediades* (Fr.) Fayod.
JDR 1008, 2 Mar 1968, L-6; JDR 1048, 31 Mar 1968, G-12.
- Aleuria aurantia* (Fr.) Fuckel.
JDR 1000, 2 Mar 1968, F-10.
- Amanita gemmata* (Fr.) Gill.
JDR 1005, 2 Mar 1968, F-10.
- Amanita pantherina* (DC. ex Fr.) Secr.
JDR 1656, 30 Dec 1968, F-10.
- Amanita rubescens* (Pers. ex Fr.) Gray
JDR 1704, 20 Apr 1969, E-11.
- Amanita vaginata* (Fr.) Vitt.
JDR 998, 2 Mar 1968, F-10.
- Bolbitius vitellinus* (Fr.) Fr.
JDR 975, 6 Feb 1968, H-13; JDR 1002, 2 Mar 1968, D-11.
- Boletus chrysenteron* (Bull. ex Fr.) Quel.
JDR 1003, 2 Mar 1968, F-12.
- Boletus subtomentosus* (L. ex Fr.) Quel.
JDR 1662, 30 Dec 1968, D-10.
- Chroogomphus rutilus* (Fr.) Miller
JDR 974, 6 Feb 1968, J-9.
- Clavariadelphus ligula* (Fr.) Donk.
JDR 963, 6 Feb 1968, F-10.
- Clavulina cristata* (Fr.) Schroet.
JDR 1660, 30 Dec 1968, F-10.

- Laccaria striatula* (Peck) Peck
JDR 1659, 30 Dec 1968, F-10.
- Lactarius chrysorheus* Fr.
JDR 964, 6 Feb 1968, F-10.
- Lactarius subdulcis* (Bull. ex Fr.) Gray
JDR 965, 6 Feb 1968, F-10; JDR 1669, 30 Dec 1968, E-12.
- Lepiota rachodes* (Vitt.) Quel.
JDR 944, 27 Dec 1967, J-4.
- Marasmius candidus* Fr.
JDR 999, 2 Mar 1968, F-10.
- Marasmius plicatulus* Peck
JDR 968, 6 Feb 1968, F-10; JDR 1004, 2 Mar 1968, F-12.
- Nematoloma fasciculare* (Fr.) Karst.
JDR 945, 27 Dec 1967, F-7; JDR 976, 6 Feb 1968, I-13.
- Peziza badia* Merat.
JDR 480, 28 Apr 1967, J-9.
- Pluteus cervinus* (Schaeff ex Secr.) Kummer
JDR 1667, 30 Dec 1968, F-12.
- Ramariopsis kunzei* (Fr.) Donk.
JDR 1010, 2 Mar 1968, K-9.
- Schizophyllum commune* Fr.
JDR 1047, 31 Mar 1968, F-10.
- Suillus pungens* Thiers
JDR 938, 27 Dec 1967, L-5; JDR 939, 27 Dec 1967, J-9; JDR 1657, 30 Dec 1968, F-10.
- Tremella mesenterica* Fr.
JDR 970, 6 Feb 1968, E-11.
- Clitocybe inversa* (Fr.) Quelet
JDR 971, 6 Feb 1968, K-14.
- Clitocybe nuda* (Fr.) Cooke
JDR 969, 6 Feb 1968, F-10; JDR 1049, 31 Mar 1968, G-12.
- Clitocybe robusta* Peck
JDR 1661, 30 Dec 1968, F-12.
- Cortinarius cinnamomeus* Fr.
JDR 976, 6 Feb 1968, F-10.
- Cortinarius croceofolius* Peck
JDR 1007, 2 Mar 1968, J-9.
- Entoloma serriceus* (Fr.) Kuhn. & Romagn.
JDR 966, 6 Feb 1968, F-10.
- Gyromitra lacunosa* Afx. ex Fr.
JDR 475, 28 Apr 1967, J-9.
- Hebeloma crustiliniforme* Quelet
JDR 476, 28 Apr 1967, J-9.
- Hygrophorus eburneus* Fr.
JDR 1672, 30 Dec 1968, H-12.
- Hygrophorus flavescens* (Kauffmann) Smith & Hesler
JDR 1009, 2 Mar 1968, K-9.
- Hygrophorus hypothejus* (Fr.) Fr.
JDR 1666, 30 Dec 1968, E-12.
- Hygrophorus ponderatus* Britz.
JDR 479, 28 Apr 1967, J-9.
- Laccaris amethystina* (Bolt. ex Fr.) B. & Br.
JDR 940, 27 Dec 1967, J-9; JDR 1671, 30 Dec 1968, H-12.
- Tricholoma flavovirens* (Fr.) Lundell
JDR 942, 27 Dec 1967, J-9; JDR 1644, 30 Dec 1968, F-12.
- Tricholoma virgatum* (Fr. ex Fr.) Kummer
JDR 1359, 29 Apr 1968, F-10.
- Volvariella speciosa* (Fr.) Sing.
JDR 1673, 30 Dec 1968, I-11.
- Xylaria hypoxylon* (Linn.) DuMortier
JDR 1673, 30 Dec 1968, I-11.
- DIVISION CHLOROPHYTA—Green Algae
- Bryopsis corticulans* Setchell
JDR 1492, 10 Jun 1968, E-9.
- Cladophora columbiana* Coll.
JDR 1475, 10 Jun 1968, J-3.
- Enteromorpha intestinalis* (L.) Link.
JDR 1466, 10 Jun 1968, J-4.
- Spongomorpha coalita* (Ruprecht) Collins
JDR 1449, 10 Jun 1968, L-16.
- Ulva angusta* Setchell & Gardner
JDR 1471, 10 Jun 1968, J-3.
- Ulva linza* L.
JDR 1488, 10 Jun 1968, J-3.
- Ulva lobata* (Kützinger) Setchell & Gardner
JDR 1472, 10 Jun 1968, J-3.
- DIVISION PHAEOPHYTA—Brown Algae
- Cystoseira osmundacea* (Menzies) C.A. Agardh
JDR 1531, 14 Jun 1968, C-13.
- Desmarestia ligulata* (Lightf.) Lamour
JDR 1456, 10 Jun 1968, N-17.

Ectocarpus acutus Setchell & Gardner
JDR 1456, 10 Jun 1968, J-3.

Egregia menziesii (Turn.) Aresch.
JDR 1483, 10 Jun 1968, J-3.

Fucus distichus L. ssp. *edentatus* (De la Py-laise) Powell
JDR 1470, 10 Jun 1968, J-4.

Laminaria sinclairii (Harvey) Farlow
JDR 1431, 10 Jun 1968, O-17.

Nereocystis luetkeana (Mertens) Ruprecht & Postels
JDR 1532, 14 Jun 1968, K-16.

Pelvetia fastigiata (J. G. Agardh) De Toni
JDR 1477, 10 Jun 1968, K-4.

DIVISION RHODOPHYTA—Red Algae

Ahnfeltia plicata (Hudson) Fries.
JDR 1439a, 10 Jun 1968, O-17.

Antithamnionella glandulifera (Kyl.) Woll.
JDR 1431, 10 Jun 1968, O-17.

Callithamnion pikeanum Harvey
JDR 1443, 10 Jun 1968, O-17.

Callophyllis obtusifolia J. G. Agardh
JDR 1437, 10 Jun 1968, O-17.

Ceramium eatonianum (Farlow) De Toni
JDR 1430, 10 Jun 1968, O-17.

Ceramium gardneri Kylin
JDR 1451, 10 Jun 1968, O-17.

Cryptopleura violacea (J. G. Agardh) Kylin
JDR 1434, 10 Jun 1968, O-17.

Cryptosiphonia woodii J. G. Agardh
JDR 1438, 10 Jun 1968, O-17.

Endocladia muricata (Postels & Ruprecht) A. G. Agardh
JDR 1480, 10 Jun 1968, L-5.

Gelidium coulteri Harvey
JDR 1440, 10 Jun 1968, O-17.

Gigartina agardhii Setchell & Gardner
JDR 1468, 10 Jun 1968, J-3.

Gigartina exasperata Harv. & Bail.
JDR 1478, 10 Jun 1968, J-3.

Gigartina canaliculata Harvey
JDR 1447, 10 Jun 1968, O-17.

Gigartina papillata (C. Ag.) J. Ag.
JDR 1479, 10 Jun 1968, J-4.

Gracilariopsis sjoestedtii (Kylin) Dawson
JDR 1460, 10 Jun 1968, K-16.

Grateloupia doryphora (Montagne) Howe
JDR 1491, 10 Jun 1968, E-8.

Gymnogongrus leptophyllus J. G. Agardh
JDR 1436, 10 Jun 1968, O-17.

Gymnogongrus linearis (Turner) J. G. Agardh
JDR 1446, 10 Jun 1968, N-16.

Gymnogongrus platyphyllus Gardner
JDR 1432, 10 Jun 1968, O-17.

Halosaccion glandiforme (Gmelin) Ruprecht
JDR 1530, 14 Jun 1968, K-4.

Leptocladia conferata Setchell
JDR 1464, 10 Jun 1968, N-17.

Lithophyllum decipiens (Foslie) Foslie
JDR 1490, 10 Jun 1968, J-4.

Iridaea heterocarpa Postels & Ruprecht
JDR 1445, 10 Jun 1968, O-17.

Iridaea cordata S. & G. var. *splendens* (S. & G.) Abb.
JDR 1485, 10 Jun 1968, J-4.

Melobesia mediocris (Foslie) Setchell & Ma-zon
JDR 1428, 10 Jun 1968, O-17.

Microcladia borealis Ruprecht
JDR 1444, 10 Jun 1968, O-17.

Microcladia coulteri Harvey
JDR 1453, 10 Jun 1968, O-17.

Odonthalia floccosa (Esper) Falkenberg
JDR 1433, 10 Jun 1968, O-17.

Petrocelis franciscana Setchell & Gardner
JDR 1487, 10 Jun 1968, O-17.

Pikea californica Harvey
JDR 1441, 10 Jun 1968, O-17.

Platythamnion pectinatum Kylin
JDR 1462, 10 Jun 1968, J-3.

Polyneura latissima (Harvey) Kylin
JDR 1435, 10 Jun 1968, O-17.

Polysiphonia hendryi
JDR 1463, 10 Jun 1968, J-3.

Porphyra lanceolata (Setchell & Hus) G. M. Smith
JDR 1482, 10 Jun 1968, J-4.

Pterosiphonia dendroidea (Montagne) Falken-berg
JDR 1439, 10 Jun 1968, O-17.

Ptilota filicina (Farlow) J. G. Agardh
JDR 1465, 10 Jun 1968, O-17.

Rhodomela larix (Turner) G. A. Agardh
JDR 1481, 10 Jun 1968, J-4.

Schizymenia pacifica Kylin
JDR 1457, 10 Jun 1968, O-17.

Smithora naiadum (Anderson) Hollenberg
JDR 1427, 10 Jun 1968, O-17.

Stenogramme interrupta (C. A. Agardh) Montagne
JDR 1429, 10 Jun 1968, O-17.

DIVISION CALAMOPHYTA

Class Equisetinae

Equisetaceae

Equisetum hyemale L. var. *affine* (Engelm.) A. A. Eat. PNF
JDR 703, 25 Jun 1967, L-16.

Equisetum telmateia Ehrh. var. *braunii* Milde. PNF
JDR 386, 20 Apr 1967, L-7; JDR 625, 7 Jun 1967, K-8.

DIVISION PTEROPHYTA—Ferns

Class Filicinae

Dryopteridaceae

Dryopteris arguta (Kaulf.) Maxon. PNFr
JDR 953, 27 Dec 1967, G-9.

Polystichum munitum (Kaulf.) Presl. PNFr
JDR 563, 7 Jun 1967, I-6; JDR 982, 6 Feb 1968, F-10.

Polypodiaceae

Polypodium californicum Kaulf. PNFr
JDR 564, 7 Jun 1967, E-7; JDR 981, 6 Feb 1968, F-10.

Pteridaceae

Adiantum jordanii C. Muell. PNFr
JDR 559, 2 May 1967, G-7; JDR 1191a, 11 Apr 1968, H-13; JDR 980, 6 Feb 1968, K-8.

Pellaea andromedifolia (Kaulf.) Fee. PNFr
JDR 1069, 31 Mar 1968, E-6; JDR 1176, 11 Apr 1968, K-9.

Pityrogramma triangularis (Kaulf.) Maxon. PNFr

JDR 457, 28 Apr 1967, F-13; JDR 511, 2 May 1967, C-14; JDR 587, 7 Jun 1967, F-11.

Pteridium aquilinum (L.) Kuhn var. *pubescens* Underw. PNFr

JDR 565, 7 Jun 1967, F-7; JDR 588, 7 Jun 1967, E-12; JDR 1320, 12 Apr 1968, I-9.

DIVISION CONIFEROPHYTA

Araucariaceae

Araucaria bidwillii Hook. PCT
JDR 497, 2 May 1967, D-13.

Araucaria heterophylla (Salisb.) Franco. PCT
JDR 499, 2 May 1967, D-13.

Cupressaceae

Chamaecyparis lawsoniana (A. Murr.) Parl. PCT
JDR 749, 22 Sep 1967, F-14.

Cupressus macrocarpa Hartw. ex Gord. PIT
JDR 469, 28 Apr 1967, K-14.

Calocedrus decurrens (Torr.) Florin. PCT
JDR 513, 2 May 1967, H-14.

Pinaceae

Abies concolor (Gord. & Glend.) Lindl. PCT
JDR 486, 2 May 1967, D-13.

Cedrus deodara (D. Don) G. Don. PCT
JDR 485, 2 May 1967, D-13; JDR 991, 6 Feb 1968, H-15.

Pinus monophylla Torr. & Frem. PCT
Observed by B, Jan 1980, F-8.

Pinus ponderosa Dougl. ex P. & C. Lawson. PCT
JDR 598, 7 Jun 1967, G-13.

Pinus radiata D. Don. PIT
JDR 470, 28 Apr 1967, J-9.

Pseudotsuga menziesii (Mirbel) Franco. PCT
JDR 1365, 29 Apr 1968, J-13.

Taxaceae

Taxus baccata L. PCT
JDR 697, 25 Jun 1967, D13.

Taxodiaceae

Cryptomeria japonica D. Don. PCT
JDR 516, 2 May 1967, H-15.

Sequoia sempervirens (D. Don) Endl. PCT
JDR 568, 7 Jun 1967, I-4; JDR 1251a, 12
Apr 1968, K-13.

Sequoiadendron giganteum (Lindl.) Buchh.
PCT

JDR 514, 2 May 1967, J-16.

DIVISION ANTHROPHYTA—Flowering Plants

Class Dicotyledoneae

Aceraceae

Acer negundo L. ssp. *californicum* (T. & G.)
Wesmael. PCT

JDR 491, 2 May 1967, E-13; JDR 726, 25
Jun 1967, K-6.

Acer macrophyllum Pursh. PNT

JDR 597, 7 Jun 1967, G-12.

Aizoaceae

Mesembryanthemum chilense Mol. PNF

JDR 1533, 14 Jun 1968, J-4.

Mesembryanthemum edule L. PIF

JDR 660, 20 Jun 1967, L-16.

Mesembryanthemum floribundum Haw. PIF

JDR 535, 2 May 1967, I-17.

Tetragonia tetragonioides (Pall.) O. Kuntze.

PIF

JDR 715, 25 Jun 1967, K-4.

Anacardiaceae

Rhus diversiloba T. & G. PNS

JDR 410, 20 Apr 1967, I-7; JDR 1224, 12
Apr 1968, L-6.

Schinus molle L. PCT

JDR 515, 2 May 1967, H-15.

Apocynaceae

Nerium oleander L. PCS

JDR 756, 22 Sep 1967, E-14.

Vinca major L. PIF

JDR 441, 20 Apr 1967, J-5; JDR 1231, 12
Apr 1968, I-4.

Aristolochiaceae

Aristolochia californica Torr. PNF

K without number or date; R without num-
ber, 1877; JDR 812, 22 Sep 1967, F-9; JDR
1014, 2 May 1968, E-10.

Basellaceae

Andredera cordifolia (Ter.) Stennis. PCF

JDR 717, 22 Sep 1967, I-14.

Berberidaceae

Berberis darwinii Hook. PCS

JDR 526, 2 May 1967, H-15.

Betulaceae

Corylus cornuta Marsh. var. *californica* (A.
DC.) Sharp. PNT

JDR 637, 20 Jun 1967, K-15; JDR 670a, 20
Jun 1967, F-12; JDR 1364, 29 Apr 1968, H-
10.

Boraginaceae

Amsinckia intermedia F. & M. ANF

JDR 418, 20 Apr 1967, I-5; JDR 1071, 31
Mar 1968, F-7.

Cynoglossum grande Dougl. ex Lehm. PNF

JDR 560, 2 May 1967, E-7; JDR 1013, 2
Mar 1968, F-11.

Echium fastuosum Jacq. PIS

JDR 385, 20 Apr 1967, J-4; JDR 1180, 11
Apr 1968, C-11.

Myosotis latifolia Poir. PIF

JDR 524, 2 May 1967, E-14.

Callitrichaceae

Callitriche marginata Torr. PNF

JDR 632, 20 Jun 1967, J-9.

Caprifoliaceae

Lonicera hispidula Dougl. var. *vacillans*
Gray. PNS

JDR 561, 7 Jun 1967, F-6.

Lonicera japonica Thunb. PIS

JDR 709, 25 Jun 1967, D-14.

Sambucus coerulea Raf. PNS

JDR 569, 7 Jun 1967, I-6.

Symphoricarpos rivularis Suksdorf. PNS

JDR 763, 22 Sep 1967, E-11.

Symphoricarpos mollis Nutt. PNS

R. & J. 21177, 2 May 1967, J-12.

Caryophyllaceae

Arenaria douglasii Fenzl ex T. & G. ANF

JDR 401, 20 Apr 1967, M-16; JDR 595, 7
Jun 1967, E-12.

Cerastium glomeratum Thuill. AIF
JDR 1103, 11 Apr 1968, F-7; JDR 1271, 12 Apr 1968, E-9.

Polycarpon tetraphyllum (L.) L. AIF
JDR 1409, 10 Jun 1968, I-16.

Sagina apetala Ard. var. *barbata* Fenzl. AIF
R. & J. 21158, 2 May 1967, K-8.

Silene californica Durand. PNF
JDR 1389, 8 Jun 1968, C-11.

Silene gallica L. AIF
JDR 423, 20 Apr 1967, I-4; JDR 1149, 11 Apr 1968, J-14; JDR 1378, 29 Apr 1968, K-15.

Spergularia bocconii (Scheele) Foucaud. AIF
JDR 1358, 29 Apr 1968, J-14.

Spergularia macrotheca (Hornem.) Heynh. PNF
JDR 390, 20 Apr 1967, M-15; JDR 1311, 12 Apr 1968, K-9.

Spergularia rubra (L.) J. & C. Presl. PIF
JDR 647, 20 Jun 1967, H-13.

Spergularia villosa (Pers.) Camb. PIF
JDR 531, 2 May 1967, H-15; JDR 1108, 11 Apr 1968, F-7; JDR 1051, 31 Mar 1968, G-8; JDR 1221, 12 Apr 1968, K-6.

Stellaria media (L.) Vill. AIF
JDR 996, 6 Feb 1968, E-14; JDR 1017, 2 May 1968, F-10.

Casuarinaceae

Casuarina stricta Dry. PCT
JDR 487, 2 May 1967, D-14.

Celastraceae

Maytenus boaria Mol. PCT
JDR 1407, 10 Jun 1968, G-14.

Chenopodiaceae

Atriplex leucophylla (Moq.) Dietr. PNF
Observed by H on 16 May 1946.

Chenopodium album L. AIF
JDR 667, 20 Jun 1967, L-6.

Chenopodium ambrosioides L. var. *vagans* (Standl.) J. T. Howell. PIF
Observed by H on 16 May 1946.

Chenopodium californicum (Wats.) Wats. PNF
JDR 1411, 10 Jun 1968, O-16.

Chenopodium multifidum L. AIF
JDR 1395, 8 Jun 1968, N-16.

Salicornia virginica L. PNF
JDR 1232, 12 Apr 1968, L-5.

Cistaceae

Helianthemum scoparium Nutt. var. *vulgare* Jeps. PNF
JDR 1054, 31 Mar 1968, G-12.

Compositae

Achillea borealis Bong. ssp. *californica* (Pollard) Keck. PNF
JDR 408, 20 Apr 1967, I-5; JDR 1115, 11 Apr 1968, J-5.

Achyrachaena mollis Schauer. ANF
Observed by H on 16 May 1946.

Agoseris apargioides (Less.) Greene. PNF
JDR 1297, 12 Apr 1968, H-8.

Agoseris grandiflora (Nutt.) Greene. PNF
JDR 580a, 7 Jun 1967, E-11.

Ambrosia chamissonis (Less.) Greene var. *bipinnatisecta* J. T. Howell. PNF
JDR 664, 20 Jun 1967, K-5; JDR 720, 25 Jun 1967, N-15.

Anthemis cotula L. AIF
JDR 1706, 16 Jun 1969, E-12.

Artemisia californica Less. in Hook. PNS
JDR 725, 25 Jun 1967, F-13; JDR 1505, 14 Jun 1968, L-5.

Artemisia douglasiana Bess. PNF
JDR 713, 25 Jun 1967, J-14.

Artemisia pycnocephala DC. PNF
JDR 950, 27 Dec 1967, I-9.

Aster chilensis Nees. PNF
JDR 814, 22 Sep 1967, J-9.

Baccharis pilularis DC. PNS
JDR 822, 22 Sep 1967, J-9.

Baccharis pilularis DC. var. *consanguinea* (DC.) C. B. Wolf. PNS
JDR 708, 25 Jun 1967, H-7.

Bellis perennis L. PNF
JDR 558, 2 May 1967, F-8.

Carduus pycnocephalus L. AIF
JDR 1373, 29 Apr 1968, J-12.

Carduus tenuiflorus Curt. AIF
JDR 521, 2 May 1967, L-16; JDR 438, 20 Apr 1967, J-8.

Centaurea melitensis L. AIF

JDR 656, 20 Jun 1967, J-15; JDR 694, 25 Jun 1967, D-14; JDR 1525, 14 Jun 1968, K-9.

Cirsium brevistylum Cronq. PNF

JDR 623, 7 Jun 1967, K-9.

Cirsium occidentale (Nutt.) Jeps. PNF

JDR 696, 25 Jun 1967, D-13.

Cirsium proteanum J. T. Howell. PNF

R. & J. 21304, 2 May 1967, D-10.

Cirsium quercetorum (Gray) Jeps. PNF

JDR 616, 7 Jun 1967, K-6.

Cirsium remotifolium (Hook.) DC. PNF

H 21878, 16 May 1946, without location.

Cirsium vulgare (Savi) Ten. BIF

JDR 454, 28 Apr 1967, K-8.

Conyza bonariensis (L.) Cronq. AIF

Observed by H, 16 May 1946.

Conyza canadensis (L.) Cronq. AIF

Observed by H, 16 May 1946.

Cotula australis (Less.) Hook. AIF

JDR 435, 20 Apr 1967, I-4; JDR 1074, 11 Apr 1968, F-8; JDR 1097, 11 Apr 1968, F-9.

Cotula coronopifolia L. PIF

JDR 432, 20 Apr 1967, I-4.

Cynara scolymus L. PCS

JDR 807, 22 Sep 1967, F-8.

Erechtites arguta (A. Rich.) DC. AIF

JDR 595a, 7 Jun 1967, G-13.

Erechtites prenanthoides (A. Rich.) DC. AIF

JDR 737, 22 Sep 1967, E-14.

Erigeron glaucus Ker. PNF

JDR 629, 7 Jun 1967, N-17.

Eriophyllum confertiflorum (DC.) Gray. PNS

JDR 589, 7 Jun 1967, J-14.

Eriophyllum staechadifolium Lag. var. *artemisiifolium* (Less.) Macbr. PNS

JDR 504, 2 May 1967, J-6.

Evax sparsiflora (Gray) Jeps. ANF

JDR 1353, 12 Apr 1968, K-9.

Filago gallica (L.) L. AIF

JDR 643, 20 Jun 1967, K-16; JDR 692, 25 Jun 1967, D-14.

Gnaphalium californicum DC. BNF

JDR 574, 7 Jun 1967, H-6; JDR 1194, 12 Apr 1968, E-11.

Gnaphalium chilense Spreng. BNF

JDR 673, 20 Jun 1967, K-15; JDR 1191, 11 Apr 1968, I-14; JDR 1399, 8 Jun 1968, H-16.

Gnaphalium luteo-album L. AIF

JDR 1192, 11 Apr 1968, I-14; JDR 1094, 12 Apr 1968, G-7.

Gnaphalium purpureum L. BNF

JDR 1192a, 11 Apr 1968, I-14.

Grindelia camporum Greene var. *Davyi* (Jeps.) Steyerl. PNF

JDR 588a, 7 Jun 1967, F-13.

Grindelia hirsutula H. & A. var. *brevisquama* Steyerl. PNF

JDR 1337, 12 Apr 1968, I-9.

Gutierrezia californica (DC.) T. & G. PNS

E without number, 3 Apr 1925; OS 2681, Oct 1957; JDR 636, 20 Jun 1967, I-6; JDR 716, 25 Jun 1967, J-7.

Haplopappus ericoides (Less.) Hook. & Arn. PNS

JDR 721, 25 Jun 1967, M-10.

Heterotheca bolanderi Gray. PNF

JDR 669, 20 Jun 1967, K-15; JDR 699, 25 Jun 1967, E-12.

Hypochoeris glabra L. PIF

JDR 380, 20 Apr 1967, M-15; JDR 1233, 12 Apr 1968, L-5; JDR 1269, 12 Apr 1968, E-9; JDR 1281, 12 Apr 1968, K-9.

Hypochoeris radicata L. PIF

JDR 809, 22 Sep 1967, F-7; JDR 580, 7 Jun 1967, F-11.

Iva axillaris Pursh. PNF

JDR 661, 20 Jun 1967, L-15; JDR 765, 22 Sep 1967, K-9.

Lactuca saligna L. AIF

JDR 813, 22 Sep 1967, F-7.

Lasthenia chrysostoma (F. & M.) Greene. ANF

JDR 1295, 12 Apr 1968, K-8.

Madia gracilis (Smith) Keck. PNF

JDR 553, 2 May 1967, K-13.

Madia sativa Mol. PNF

JDR 621, 7 Jun 1967, K-8.

Matricaria matricarioides (Less.) Porter. AIF

JDR 435a, 20 April 1967, E-13; JDR 1067, 11 Apr 1968, G-10; JDR 1357, 29 Apr 1968, I-8.

- Micropus californicus* F. & M. ANF
JDR 1225, 12 Apr 1968, J-5; JDR 1344, 12 Apr 1968, K-9.
- Microseris bigelovii* (Gray) Sch.-Bip. ANF
H 21859, 16 May 1946.
- Microseris douglasii* (DC.) Sch.-Bip. ANF
JDR 1347, 12 Apr 1968, K-9.
- Microseris heterocarpa* (Nutt.) Chamb. ANF
JDR 1349, 12 Apr 1968, K-9.
- Microseris linearifolia* (Nutt.) Sch.-Bip. ANF
JDR 1310, 12 Apr 1968, K-9.
- Pentachaeta alsinoides* Greene. ANF
H 21865, 16 May 1946.
- Picris echioides* L. BIF
R. & J. 21032, 2 May 1967, K-9.
- Psilocarphus tenellus* Nutt. ANF
Observed by H, 16 May 1946.
- Rafinesquia californica* Nutt. ANF
Observed by H, 16 May 1946.
- Senecio aronicoides* DC. PNF
E without number, 3 Apr 1925; JDR 466, 28 Apr 1967, E-11; JDR 1030, 2 Mar 1968, G-13.
- Senecio mikanioides* Otto. PIF
JDR 756a, 22 Sep 1968, K-16.
- Senecio sylvaticus* L. AIF
JDR 707, 25 Jun 1967, L-15.
- Senecio vulgaris* L. AIF
JDR 433, 20 Apr 1967, I-4; JDR 1336, 12 Apr 1968, I-8.
- Silybum marianum* (L.) Gaertn. BIF
JDR 581a, 7 Jun 1967, F-11; JDR 623, 7 Jun 1967, L-16; JDR 949, 27 Dec 1967, F-8.
- Solidago californica* Nutt. PNF
JDR 752, 22 Sep 1967, L-15.
- Soliva daucifolia* Nutt. ANF
JDR 663, 20 Jun 1967, L-7.
- Soliva pterosperma* (Juss.) Less. ANF
JDR 1096, 11 Apr 1968, J-5; JDR 1304, 12 Apr 1968, K-8.
- Soliva sessilis* R. & P. ANF
D 80-39, 29 May 1980, F-8.
- Sonchus asper* (L.) Hill. AIF
JDR 1388, 29 Apr 1968, I-6; JDR 1414, 10 Jun 1968, N-17.
- Stephanomeria virgata* Benth. ANF
Observed by H, 16 May 1946.
- Stylocline amphibola* (Gray) J. T. Howell. ANF
R. & J. 21328, 2 May 1967, K-16.
- Taraxacum officinale* Weber in Wiggers. PIF
JDR 508, 2 May 1967, D-14; JDR 1092, 11 Apr 1968, J-4.
- Tragopogon porrifolius* L. BIF
JDR 1423, 10 Jun 1968, H-16.
- Wyethia angustifolia* Nutt. PNF
JDR 594, 7 Jun 1967, H-7; JDR 1287, 12 Apr 1968, K-8.
- Xanthium spinosum* L. AIF
JDR 755, 22 Sep 1968, K-16.
- Convolvulaceae**
- Calystegia polymorpha* (Greene) Munz. PNF
Observed by H, 16 May 1946.
- Calystegia purpurata* (Greene) Brummitt. PNF
JDR 450, 28 Apr 1967, G-13; JDR 624, 7 Jun 1967, K-7; JDR 1117, 11 Apr 1968, J-9.
- Calystegia subacaulis* H. & A. PNF
JDR 1305, 12 Apr 1968, K-8.
- Convolvulus arvensis* L. PIF
Observed by H, 16 May 1946.
- Dichondra donnelliana* Tharp & Johnston. PNF
JDR 1103a, 11 Apr 1968, F-7; JDR 1187a, 11 Apr 1968, I-14.
- Crassulaceae**
- Dudleya farinosa* (Lindl.) Britt. & Rose. PNF
R without number, 26 May 1877; JDR 570, 7 Jun 1967, J-4.
- Sedum spathulifolium* Hook. PNF
JDR 505, 2 May 1967, J-3.
- Tillaea erecta* H. & A. ANF
JDR 1037, 2 Mar 1968, K-8; JDR 1236, 12 Apr 1968, K-5.
- Cruciferae**
- Arabis glabra* (L.) Bernh. BNF
JDR 1302, 12 Apr 1968, K-8.
- Brassica campestris* L. AIF
JDR 1333, 12 Apr 1968, G-7.
- Brassica geniculata* (Desf.) J. Ball. BIF
JDR 626, 7 Jun 1967, I-7; JDR 631, 20 Jun 1967, E-12.

Cakile maritima Scop. AIF

JDR 431, 20 Apr 1967, K-5; JDR 634, 20 Jun 1967, L-16.

Capsella bursa-pastoris (L.) Medic. AIF

JDR 1129, 11 Apr 1968, F-8; JDR 1173, 11 Apr 1968, G-7.

Cardamine oligosperma Nutt. BNF

JDR 1012, 2 Mar 1968, E-10; JDR 1120, 11 Apr 1968, E-6.

Coronopus didymus (L.) Smith. BIF

Observed by H, 16 May 1946.

Dentaria integrifolia Nutt. var. *californica* (Nutt.) Jeps. PNF

JDR 414, 20 Apr 1967, J-4; JDR 979, 6 Feb 1968, E-10.

Erysimum capitatum (Dougl.) Greene. BNF

JDR 502, 2 May 1967, D-14.

Lepidium nitidum Nutt. ANF

JDR 1036, 2 May 1968, J-7; JDR 1518, 14 Jun 1968, K-9.

Lepidium strictum (Wats.) Rattan. AIF

D 80-44, 29 May 1980, F-9.

Lobularia maritima (L.) Desv. PIF

JDR 409, 20 Apr 1967, J-5.

Raphanus sativus L. BIF

JDR 510, 2 May 1967, D-14.

Rorippa nasturtium-aquaticum (L.) Britt. & Rendl. PIF

JDR 735, 22 Sep 1967, L-9; JDR 1415, 10 Jun 1968, N-16.

Thelypodium lasiophyllum (H. & A.) Greene. ANF

JDR 1503, 14 Jun 1968, K-9; JDR 1529, 14 Jun 1968, E-6.

Thysanocarpus curvipes Hook. ANF

JDR 1207, 12 Apr 196, E-6.

Cucurbitaceae

Marah fabaceus (Naud.) Dunn. PNF

JDR 389, 20 Apr 1967, L-6.

Marah oregonus (T. & G.) Howell. PNF

JDR 1330, 12 Apr 1968, I-9.

Ericaceae

Arbutus menziesii Pursh. PNT

JDR 405, 20 Apr 1967, D-12; JDR 818, 22 Sep 1967, E-11.

Arctostaphylos glandulosa Eastw. var. *Cushingiana* (Eastw.) Adams ex McMinn. PNS
JDR 978, 6 Feb 1968, E-11.

Euphorbiaceae

Euphorbia peplus L. AIF

JDR 731, 22 Sep 1967, H-15.

Euphorbia spathulata Lamk. ANF

JDR 1351, 12 Apr 1968, K-9; JDR 1384, 29 Apr 1968, K-15; JDR 1417, 10 Jun 1968, N-17.

Fagaceae

Quercus agrifolia Nee. PNT

JDR 423, 20 Apr 1967, I-4.

Quercus wislizeni A. DC. var. *frutescens* Engelm. PNT

JDR 977, 6 Feb 1968, D-11.

Quercus suber L. PCT

Observed by B, Jan 1980, K-14 and L-8.

Garryaceae

Garrya elliptica Dougl. PNS

JDR 566a, 7 Jun 1967, E-7.

Gentianaceae

Centaurium muhlenbergii (Griseb.) W. Wight. ANF

H 21857, 16 May 1946.

Geraniaceae

Erodium botrys (Cav.) Bertol. AIF

JDR 1516, 14 Jun 1968, K-9.

Erodium cicutarium (L.) L'Hér. AIF

JDR 396, 20 Apr 1967, N-16; JDR 811, 22 Sep 1967, G-9; JDR 984, 6 Feb 1968, E-11.

Erodium moschatum (L.) L'Hér. AIF

JDR 1170, 11 Apr 1968, G-7; JDR 1413, 10 Jun 1968, N-16.

Geranium carolinianum L. ANF

JDR 1106a, 11 Apr 1968, G-7.

Geranium dissectum L. AIF

JDR 417, 20 Apr 1967, I-5.

Geranium molle L. BIF

JDR 520, 2 May 1967, H-16; JDR 537, 2 May 1967, C-11.

Pelargonium zonale (L.) L'Hér. PCS

JDR 530, 2 May 1967, I-16.

Hippocastanaceae

Aesculus californica (Spach) Nutt. PNT
JDR 602, 7 Jun 1967, H-14.

Hydrophyllaceae

Eucrypta chrysanthemifolia (Benth.)
Greene. ANF
TB without number or date.

Nemophila heterophylla F. & M. ANF
JDR 1217, 12 Apr 1968, F-6.

Phacelia californica Cham. PNF
JDR 437, 20 Apr 1967, J-6; JDR 1158, 11
Apr 1968, F-12.

Phacelia malvifolia Cham. ANF
JDR 1393, 29 Apr 1968, C-11.

Phacelia nemoralis Greene. BNF
H 21892, 16 May 1946.

Pholistoma auritum (Lindl.) Lilja. ANF
Observed by H, 16 May 1946.

Hypericaceae

Hypericum caneriensis L. PCS
JDR 1408, 10 Jun 1968, K-15.

Juglandaceae

Juglans hindsii (Jeps.) Jeps. PCT
JDR 730, 25 Jun 1967, K-15.

Labiatae

Lepechinia calycina (Benth.) Epl. PNS
JDR 472, 28 Apr 1967, H-8; JDR 583, 7
Jun 1967, K-7.

Mentha pulegium L. PIF
Observed by B, 1980, E-11.

Monardella villosa Benth. var. *franciscana*
(Elmer) Jeps. PNF
JDR 615, 7 Jun 1967, K-7.

Rosmarinus officinalis L. PCS
JDR 1140, 11 Apr 1968, F-8.

Salvia leucantha Cav. PCS
JDR 962, 27 Dec 1967, J-6.

Stachys rigida Nutt. var. *quercetorum* (Hel.)
Epl. ANF
JDR 416, 20 Apr 1967, J-3; JDR 545, 2
May 1967, D-12; JDR 1109, 11 Apr 1968, G-
7.

Lauraceae

Umbellularia californica (H. & A.) Nutt.
PNT

JDR 413, 20 Apr 1967, I-4; JDR 1019, 2
May 1968, F-10.

Leguminosae

Acacia decurrens (Wendl.) Willd. PIT

JDR 494, 2 May 1967, E-13; JDR 1043, 2
May 1968, F-7.

Acacia longifolia Willd. PIT
Observed by B, 1980, H-15.

Albizia lophantha (Willd.) Benth. PIT
JDR 960, 6 Feb 1968, L-6.

Acacia melanoxylon R. Br. PIT
JDR 442, 20 Apr 1967, K-6.

Acacia verticillata (L'Hér.) Willd. PCT
JDR 523, 2 May 1967, E-14.

Astragalus gambellianus Sheld. ANF
JDR 1511, 14 Jun 1968, K-9; JDR 1315, 12
Apr 1968, M-16.

Astragalus nuttalli (T. & G.) J. T. Howell var.
virgatus (Gray) Barneby. PNF
S without number, May 1920; H 21869, 16
May 1946.

Cytisus monspessulanus L. PIS
JDR 961, 27 Dec 1967, K-14.

Cytisus multiflorus (L'Hér.) Sweet. PCS
JDR 1142, 11 Apr 1968, I-15.

Cytisus scoparius (L.) Link. PIS
JDR 542, 2 May 1967, C-10; JDR 1214, 12
Apr 1968, J-7; JDR 1334, 12 Apr 1968, I-10.

Cytisus scoparius (L.) Link. var. *andrianus*
(Puiss.) Dippel. PIS
D 80-42, 29 May 1980, F-7.

Lathyrus latifolius L. PIF
JDR 1392, 8 Jun 1968, L-15.

Lathyrus vestitus Nutt. ex Torr. & Gray ssp.
Bolanderi (Wats.) C. L. Hitchc. PNF
JDR 612, 7 Jun 1967, F-12; JDR 1059, 31
Mar 1968, D-15; JDR 1133, 11 Apr 1968, E-
11.

Lotus scoparius (Nutt.) Ottley. PNF
JDR 578, 7 Jun 1967, E-12.

Lotus strigosus (Nutt.) Greene. ANF
H 21869, 16 May 1946.

Lotus subpinnatus Lag. ANF

JDR 556, 2 May 1967, K-13; JDR 1223, 12 Apr 1968, L-6; JDR 1299, 12 Apr 1968, K-9; JDR 1340, 12 Apr 1968, G-12.

Lupinus albifrons Benth. var. *collinus* Greene. PNF

H 21873, 16 May 1946.

Lupinus arboreus Sims. PNS

JDR 603, 7 Jun 1967, E-12; JDR 536, 2 May 1967, C-11.

Lupinus bicolor Lindl. var. *umbellatus* (Greene) C. P. Sm. ANF

JDR 379, 20 Apr 1967, N-15; JDR 1370, 29 Apr 1968, J-11.

Lupinus densiflorus Benth. ANF

H 21863, 16 May 1946.

Lupinus formosus Greene. PNF

JDR 459, 28 Apr 1967, I-9.

Lupinus latifolius Agardh. PNF

JDR 575, 7 Jun 1967, J-8.

Lupinus polycarpus Greene. ANF

JDR 1510, 14 Jun 1968, K-9.

Lupinus rivularis Dougl. PNF

JDR 604, 7 Jun 1967, I-7.

Lupinus succulentus Dougl. ANF

Observed by H, 16 May 1946.

Medicago arabica (L.) All. AIF

JDR 393, 20 Apr 1967, M-16; JDR 1376, 29 Apr 1968, H-14.

Medicago polymorpha L. AIF

JDR 1179, 11 Apr 1968, F-15; JDR 1335, 12 Apr 1968, I-10; JDR 1521, 14 Jun 1968, K-9.

Medicago polymorpha L. var. *brevispina* (Benth.) Heyn. AIF

JDR 1175, 11 Apr 1968, G-7; JDR 1247, 12 Apr 1968, E-10; JDR 1332, 12 Apr 1968, I-8.

Melilotus indicus (L.) All. BIF

JDR 704, 25 Jun 1967, K-14; JDR 1401, 10 Jun 1968, J-16; JDR 1416, 10 Jun 1968, M-16.

Robinia pseudo-acacia L. PCT

JDR 567, 7 Jun 1967, I-6.

Sophora microphylla Aiton. PCT

JDR 496, 2 May 1967, D-14.

Thermopsis macrophylla H. & A. PNF

JDR 1387, 29 Apr 1968, I-6.

Trifolium amplexens T. & G. ANF

JDR 1296, 12 Apr 1968, K-9.

Trifolium albopurpureum T. & G. ANF

JDR 1293, 12 Apr 1968, K-9.

Trifolium bifidum Gray. ANF

JDR 1151, 11 Apr 1968, H-13.

Trifolium dubium Sibth. AIF

JDR 1080, 11 Apr 1968, G-13; JDR 1377, 29 Apr 1968, J-15; JDR 1418, 10 Jun 1968, N-16.

Trifolium fucatum Lindl. ANF

Observed by H, 16 May 1946.

Trifolium gracilentum T. & G. ANF

JDR 1135, 11 Apr 1968, F-11; JDR 1200, 12 Apr 1968, I-14; JDR 1354, 12 Apr 1968, K-9.

Trifolium macraei H. & A. ANF

JDR 461, 28 Apr 1967, K10; JDR 1316, 12 Apr 1968, K-8.

Trifolium microcephalum Pursh. ANF

JDR 1216, 12 Apr 1968, J-7; JDR 1265, 12 Apr 1968, J-5; JDR 1276, 12 Apr 1968, K-9; JDR 1339, 12 Apr 1968, I-9.

Trifolium microdon H. & A. ANF

JDR 552, 2 May 1967, K-14; JDR 1121, 11 Apr 1968, F-12.

Trifolium repens L. PIF

JDR 671, 20 Jun 1967, K-14.

Trifolium tridentatum Lindl. ANF

JDR 423a, 20 Apr 1967, J-5; JDR 1166, 11 Apr 1968, I-9; JDR 1254, 12 Apr 1968, D-10.

Trifolium variegatum Nutt. ANF

JDR 391, 20 Apr 1967, M-15; JDR 555, 2 May 1967, C-11.

Vicia americana Muhl. var. *oregana* (Nutt.) Nels. PNF

R. & J. 21333, 2 May 1967, E-12.

Vicia angustifolia L. AIF

JDR 1215, 12 Apr 1968, J-7.

Vicia exigua Nutt. ANF

JDR 1134, 11 Apr 1968, F-13; JDR 1250, 12 Apr 1968, D-10.

Vicia sativa L. AIF

JDR 546, 2 May 1967, C-11.

Lythraceae

Lythrum hyssopifolia L. PNF

JDR 768, 22 Sep 1967, H-9; JDR 1523, 14 Jun 1968, K-9.

Magnoliaceae

- Magnolia grandiflora* L. PCT
JDR 805, 22 Sep 1967, J-6.

Malvaceae

- Lavatera cretica* L. AIF
H 21899, 16 May 1946, H-16.
Malva parviflora L. AIF
JDR 668, 20 Jun 1967, I-6.
Sidalcea malviflora (DC.) Gray. PNF
JDR 421, 20 Apr 1967, I-4; JDR 1270, 12
Apr 1968, C-12.

Moraceae

- Ficus carica* L. PCT
JDR 742, 22 Sep 1967, D-14.

Myoporaceae

- Myoporum laetum* Forst. PCS
Observed by B, 1980, E-9.

Myricaceae

- Myrica californica* C. & S. PNT
JDR 1679, 16 May 1969, G-15.

Myrtaceae

- Eucalyptus amygdalina* Labill. PCT
JDR 488, 2 May 1967, D-13; JDR 702, 25
Jun 1967, I-14.
Eucalyptus cornuta Labill. PCT
JDR 754, 22 Sep 1967, K-13.
Eucalyptus eugenioides Sieb. PCT
JDR 638, 20 Jun 1967, I-14.
Eucalyptus ficifolia F. J. Muell. PCT
JDR 744, 22 Sep 1967, D-13.
Eucalyptus globulus Labill. PIT
JDR 610, 7 Jun 1967, I-15.
Eucalyptus goniocalyx F. J. Muell. PCT
JDR 525, 2 May 1967, D-13.
Eucalyptus leucoxylon F. J. Muell. PCT
JDR 819, 22 Sep 1967, I-15.
Eucalyptus polyanthemos Schau. PCT
JDR 823, 22 Sep 1967, I-14.
Eucalyptus pulverulenta Sims. PCT
JDR 714, 25 Jun 1967, I-16.
Melaleuca nesophila F. J. Muell. PCS
JDR 748, 22 Sep 1967, D-14.
Syzygium paniculatum Gaertner. PCT
JDR 729, 25 Jun 1967, G-15.

Nyctaginaceae

- Abronia latifolia* Esch. PNF
JDR 534, 2 May 1967, J-16.
Abronia umbellata Lamk. PNF
JDR 533, 2 May 1967, J-16.
Bougainvillea spectabilis Willd. PCS
JDR 723, 25 Jun 1967, I-15.

Oleaceae

- Ligustrum ovalifolium* Hassk. PCS
JDR 609, 7 Jun 1967, I-16.
Syringa vulgaris L. PCS
JDR 495, 2 May 1967, E-14.

Onagraceae

- Clarkia amoena* (Lehm.) Nels. & Macbr.
ANF
JDR 605, 7 Jun 1967, G-14.
Clarkia concinna (F. & M.) Greene. ANF
JDR 586, 7 Jun 1967, E-11.
Clarkia unguiculata Lindl. ANF
JDR 760, 22 Sep 1967, J-15.
Epilobium adenocaulon Hausskn. var. *Parishii*
(Trel.) Munz. PNF
JDR 1524, 14 Jun 1968, K-9.
Epilobium brachycarpum Presl. ANF
R. & J. 21064, 2 May 1967, K-9.
Epilobium minutum Lindl. ANF
JDR 1356, 12 Apr 1968, K-9.
Epilobium watsonii Barbey var. *franciscanum*
(Barbey) Jeps. PNF
Observed by H, 16 May 1946.
Fuchsia magellanica Lam. PCS
JDR 600, 20 Jun 1967, H-15.
Oenothera ovata Nutt. PNF
JDR 458, 28 Apr 1967, J-9.
Zauschneria californica Presl. PNF
JDR 718, 22 Sep 1967, J-6; JDR 946, 27
Dec 1967, K-14.

Orobanchaceae

- Orobanche fasciculata* Nutt. var. *franciscana*
Achey. ANF
JDR 1703, 20 Apr 1969, K-8.

Oxalidaceae

- Oxalis pes-caprae* L. PIF
JDR 403, 20 Apr 1967, J-16; JDR 1169, 11
Apr 1968, F-8.

Oxalis pilosa Nutt. PNF
JDR 995, 6 Feb 1968, D-13.

Oxalis rubra St. Hil. PIF
JDR 404, 20 Apr 1967, J-16.

Papaveraceae

Eschscholzia californica Cham. ANF
JDR 383, 20 Apr 1967, M-14; JDR 601, 7 Jun 1967, H-14; JDR 1078, 11 Apr 1968, F-14; JDR 1182, 11 Apr 1968, J-15.

Stylomecon heterophylla (Benth.) G. Tayl. ANF
JDR 1068, 11 Apr 1968, E-7.

Pittosporaceae

Pittosporum crassifolium Banks & Soland. PCT
JDR 408, 20 Apr 1967, D-14.

Pittosporum eugenioides A. Cunn. PCT
JDR 490, 2 May 1967, J-6.

Pittosporum rhombifolium A. Cunn. PCT
JDR 743, 22 Sep 1967, D-14.

Pittosporum undulatum Vent. PCT
JDR 449, 20 Apr 1967, K-6.

Pittosporum viridiflorum Sims. PCT
JDR 712, 25 Jun 1967, K-6.

Plantaginaceae

Plantago hookeriana F. & M. var. *californica* (Greene) Poe. ANF
JDR 1034, 31 Mar 1968, H-12; JDR 1161, 11 Apr 1968, G-13.

Plantago lanceolata L. PIF
JDR 607, 7 Jun 1967, G-13; JDR 1193, 11 Apr 1968, F-14; JDR 1227, 12 Apr 1968, K-6.

Polemoniaceae

Gilia achilleifolia Benth. ssp. *multicaulis* (Benth.) V. & A. Grant. ANF
JDR 1089, 11 Apr 1968, F-6.

Gilia capitata Dougl. ANF
JDR 382, 20 Apr 1967, M-14.

Gilia clivorum (Jeps.) V. Grant. ANF
JDR 1355, 12 Apr 1968, K-9.

Navarretia squarrosa (Esch.) H. & A. ANF
JDR 624, 7 Jun 1967, K-14.

Polemonium carneum Gray. PNF
V without number, 1876.

Polygalaceae

Polygala x dalmaisina Bailey. PCS
JDR 1406, 10 Jun 1968, E-13.

Polygonaceae

Eriogonum latifolium Smith in Rees. PNF
JDR 654, 2 May 1967, F-7.

Polygonum aviculare L. AIF
JDR 764, 22 Sep 1967, F-12.

Pterostegia drymarioides F. & M. ANF
JDR 1038, 2 May 1968, K-9.

Rumex acetosella L. PIF
JDR 635, 20 Jun 1967, L-16; JDR 666, 20 Jun 1967, M-16; JDR 1199, 12 Apr 1968, H-14.

Rumex crispus L. PIF
JDR 665, 20 Jun 1967, L-16.

Rumex pulcher L. PIF
JDR 766, 22 Sep 1967, E-12.

Portulacaceae

Calandrinia ciliata (R. & P.) DC. var. *menziesii* (Hook.) Macbr. ANF
JDR 1055, 31 Mar 1968, E-12.

Montia perfoliata (Donn) Howell. ANF
JDR 388, 20 Apr 1967, L-5; JDR 1015, 2 Mar 1968, E-10.

Primulaceae

Anagallis arvensis L. AIF
JDR 462, 28 Apr 1967, F-7.

Anagallis arvensis L. forma *caerulea* (Schreb.) Baumg. AIF
Observed by R. & J., 2 May 1967.

Dodecatheon hendersonii Gray. PNF
JDR 1024, 2 May 1968, E-10; JDR 1031, 2 May 1968, G-12.

Proteaceae

Grevillea robusta A. Cunn. PCT
JDR 739, 22 Sep 1967, D-14.

Ranunculaceae

Delphinium californicum T. & G. PNF
JDR 613, 7 Jun 1967, J-9.

Ranunculus californicus Benth. PNF
JDR 415, 20 Apr 1967, I-4; JDR 1032, 2 May 1968, I-9.

Ranunculus muricatus L. AIF

JDR 658, 20 Jun 1967, J-9; JDR 1705, 20 Apr 1969, F-7.

Thalictrum polycarpum (Torr.) Wats. PNF

JDR 1057, 31 Mar 1968, E-10; JDR 1184, 11 Apr 1968, G-12.

Rhamnaceae

Ceanothus thyrsiflorus Esch. PNS

JDR 406, 20 Apr 1967, D-13; JDR 706, 25 Jun 1967, I-4.

Rhamnus crocea Nutt. PNS

JDR 948, 6 Feb 1968, J-8; JDR 983, 6 Feb 1968, E-12.

Rosaceae

Acaena californica Bitt. PNF

R. & J. 21187, 2 May 1967, J-11.

Adenostoma fasciculatum H. & A. PNS

JDR 569, 7 Jun 1967, E-12.

Cotoneaster franchetti Bois. PCS

JDR 483, 2 May 1967, E-14.

Cotoneaster pannosus Franch. PIS

D 79-40, 6 July 1979, G-8.

Crataegus monogyna Jacq. PCT

JDR 492, 2 May 1967, E-14.

Eriobotrya japonica (Thunb.) Lindl. PCT

JDR 738, 22 Sep 1967, E-14.

Heteromeles arbutifolia (Ait.) M. Roem. PNS

JDR 492a, 2 May 1967, G-14; JDR 611, 7 Jun 1967, K-15; JDR 951, 27 Dec 1967, L-15.

Holodiscus discolor (Pursh) Maxim. PNS

JDR 562, 7 Jun 1967, G-8; JDR 701, 25 Jun 1967, D-10.

Horkelia californica Cham. & Schlecht. PNF

R. & J. 21194, 2 May 1967, H-9.

Malus sylvestris Mill. PCT

JDR 493, 2 May 1967, E-14.

Oemleria cerasiformis (T. & G.) Landon. PNS

JDR 412, 20 Apr 1967, G-7; JDR 1683, 30 Dec 1968, L-7.

Potentilla glandulosa Lindl. PNF

Observed by H, 16 May 1946.

Prunus armeniaca L. PCT

JDR 754, 22 Sep 1967, E-13.

Prunus avium L. PCT

JDR 566, 7 Jun 1967, F-8.

Prunus cerasifera Ehrh. 'atropurpurea'. PCT
JDR 484, 2 May 1967, E-13.

Pyracantha angustifolia (Franch.) Schneid. PCS

JDR 946, 27 Dec 1967, K-15.

Pyrus communis L. PCT

JDR 1374, 29 Apr 1968, K-15.

Rosa californica C. & S. PNS

JDR 1390, 8 Jun 1968, I-16.

Rosa gymnocarpa Nutt. PNS

JDR 576, 7 Jun 1967, J-4.

Rubus parviflorus Nutt. var. *velutinus* (H. & A.) Greene. PNS

JDR 590, 7 Jun 1967, F-11; JDR 1114, 11 Apr 1968, I-8.

Rubus procerus P. J. Muell. PNS

JDR 1070, 11 Apr 1968, F-7.

Rubus ursinus C. & S. PNS

JDR 453, 28 Apr 1967, L-7; JDR 1072, 11 Apr 1968, G-7.

Rubiaceae

Coprosma repens A. Rich. PCS

JDR 740, 22 Sep 1967, D-13.

Galium aparine L. AIF

JDR 1264, 12 Apr 1968, C-12; JDR 1286, 12 Apr 1968, K-9.

Galium nuttallii Gray. PNF

JDR 463, 28 Apr 1967, F-11; JDR 1267, 12 Apr 1968, D-12; JDR 1298, 12 Apr 1968, K-9; JDR 1329, 12 Apr 1968, G-7.

Sherardia arvensis L. AIF

JDR 1421, 10 Jun 1968, F-8; JDR 1106, 11 Apr 1968, G-7.

Salicaceae

Populus alba L. PCT

JDR 473, 28 Apr 1967, J-6.

Populus nigra L. var. *italica* Du Roi. PCT

JDR 734, 22 Sep 1967, J-5.

Salix babylonica L. PCT

JDR 557, 2 May 1967, F-8.

Salix lasiolepis Benth. PNT

JDR 719, 22 Sep 1967, L-11; JDR 987, 6 Feb 1968, J-15; JDR 988, 6 Feb 1968, G-15.

Salix lasiolepis Benth. var. *bigelovii* (Torr.) Bebb. PNT

JDR 989, 6 Feb 1968, L-8.

Saxifragaceae

Heuchera micrantha Dougl. PNF
JDR 577, 7 Jun 1967, H-7; JDR 1528, 14 Jun 1968, E-7.

Lithophragma heterophyllum (H. & A.) T. & G. PNF
JDR 547, 2 May 1967, D-11; JDR 1058, 31 Mar 1968, F-10.

Ribes californicum (H. & A.) PNS
JDR 1243, 12 Apr 1968, L-6.

Saxifraga californica Greene. PNS
JDR 1016, 2 May 1968, F-10.

Scrophulariaceae

Castilleja affinis H. & A. PNF
JDR 593, 7 Jun 1967, F-10.

Castilleja foliolosa H. & A. PNF
JDR 1052, 31 Mar 1968, E-11.

Castilleja franciscana Penn. PNF
R. & J. 21310, 2 May 1967, D-10.

Castilleja latifolia H. & A. PNF
JDR 1150, 11 Apr 1968, J-15; JDR 1258, 12 Apr 1968, D-11; JDR 1322, 12 Apr 1968, G-12.

Collinsia heterophylla Buist ex Grah. ANF
JDR 538, 2 May 1967, D-11; JDR 1212, 12 Apr 1968, G-7; JDR 1346, 12 Apr 1968, K-9.

Collinsia multicolor Lindl. & Paxt. ANF
R. & J. 21312, 2 May 1967, D-10.

Linaria canadensis (L.) Dum.-Cours. var. *texana* (Scheele) Penn. BNF
JDR 381, 20 Apr 1967, M-12.

Linaria cymbalaria (L.) Mill. PIF
JDR 1502, 14 Jun 1968, L-5.

Mimulus aurantiacus Curt. PNS
JDR 468, 28 Apr 1967, K-15; JDR 461, 28 Apr 1967, C-11.

Mimulus guttatus Fisch. ex DC. PNF
JDR 655, 20 Jun 1967, K-16.

Mimulus guttatus Fisch. ex DC. var. *arvensis* (Greene) Munz. PNF
JDR 1400, 10 Jun 1968, N-15.

Orthocarpus attenuatus Gray. ANF
JDR 1322, 12 Apr 1968, I-8.

Orthocarpus densiflorus Benth. ANF
JDR 456, 28 Apr 1967, F-12; JDR 584, 7 Jun 1967, J-14; JDR 1244, 12 Apr 1968, D-13.

Orthocarpus pusillus Benth. ANF

JDR 426, 20 Apr 1967, I-4; JDR 1147, 11 Apr 1968, F-8; JDR 1245, 12 Apr 1968, D-10.

Scrophularia californica Cham. PNF
JDR 591, 7 Jun 1967, E-11.

Veronica arvensis L. AIF
JDR 1098, 11 Apr 1968, F-8.

Simarubaceae

Ailanthus altissima (Mill.) Swingle. PCT
JDR 648, 20 Jun 1967, L-16.

Solanaceae

Nicotiana glauca Grah. PCS
Observed by B, 1980, I-15.

Solanum nigrum L. AIF
Observed by H, 16 May 1946.

Tropaeolaceae

Tropaeolum majus L. AIF
JDR 1424, 10 Jun 1968, N-16.

Umbelliferae

Angelica tomentosa Wats. PNF
Observed by H, 16 May 1946.

Daucus pusillus Michx. ANF
JDR 644, 7 Jun 1967, F-7.

Foeniculum vulgare Mill. PNF
JDR 722, 25 Jun 1967, E-13.

Heracleum lanatum Michx. PNF
JDR 503, 2 May 1967, D-12; JDR 1209, 12 Apr 1968, F-7.

Lomatium dasycarpum (T. & G.) C. & R. PNF
JDR 467, 28 Apr 1967, I-8.

Osmorhiza chilensis H. & A. PNF
JDR 617, 7 Jun 1967, J-8.

Perideridia kelloggii (Gray) Mathias. PNF
R. & J. 21123, 2 May 1967, K-9.

Sanicula bipinnatifida Dougl. PNF
JDR 420, 20 Apr 1967, I-9; JDR 670, 7 Jun 1967, K-15; JDR 1273, 12 Apr 1968, F-10; JDR 1212, 12 Apr 1968, G-7.

Sanicula crassicaulis Poepp. PNF
JDR 436, 20 Apr 1967, I-4; JDR 1183, 11 Apr 1968, I-15; JDR 1282, 12 Apr 1968, K-9.

Scandix pecten-veneris L. AIF
JDR 518, 2 May 1967, H-15.

Torilis arvensis (Huds.) Link ssp. *purpurea* (Ten.) Hayek. AIF

D 80-39, 29 May 1980, F-8.

Torilis nodosa L. AIF

JDR 663, 20 Jun 1967, L-6; JDR 1160, 11 Apr 1968, F-14; JDR 1348, 12 Apr 1968, K-9.

Urticaceae

Urtica holosericea Nutt. PNF

JDR 736, 22 Sep 1967, G-15.

Valerianaceae

Centranthus ruber (L.) DC. PIF

JDR 528, 2 May 1967, H-17.

Plectritis macrocera T. & G. ANF

JDR 434, 20 Apr 1967, E-14.

Verbenaceae

Verbena robusta Greene. PNF

Observed by H, 16 May 1946.

Violaceae

Viola pedunculata T. & G. PNF

JDR 419, 20 Apr 1967, I-4; JDR 1268, 12 Apr 1968, D-12.

Vitaceae

Parthenocissus tricuspidata (Sieb. & Zucc.) Planch. PCF

JDR 724, 25 Jun 1967, G-14.

Class Monocotyledoneae

Agavaceae

Agave americana L. PCS

JDR 803, 22 Sep 1967, K-4.

Agave americana L. 'variegata'. PCS

JDR 959, 27 Dec 1967, K-6.

Cordylina stricta Endl. PCS

JDR 990, 6 Feb 1968, H-15.

Amaryllidaceae

Allium dichlamydeum Greene. PNF

JDR 622, 7 Jun 1967, K-8.

Amaryllis belladonna L. PCF

JDR 725, 25 Jun 1967, J-6.

Brodiaea laxa (Benth.) Wats. PNF

JDR 592, 7 Jun 1967, F-11.

Brodiaea pulchella (Salisb.) Greene. PNF

JDR 440, 20 Apr 1967, J-6; JDR 1190, 11 Apr 1968, I-14; JDR 1237, 12 Apr 1968, K-5.

Narcissus poetaz Hort. PCF
JDR 992, 6 Feb 1968, E-13.

Narcissus pseudo-narcissus L. PCF
JDR 1042, 2 Mar 1968, I-7.

Araceae

Zantedeschia aethiopica (L.) Spreng. PIF
JDR 806, 22 Sep 1967, I-6.

Cyperaceae

Carex barbarae Dewey. PNSd
JDR 700, 25 Jun 1967, F-12; JDR 1189a, 11 Apr 1968, G-14; JDR 1367, 29 Apr 1968, D-14.

Carex brevicaulis Mkze. PNSd
H 21850, 16 May 1946.

Carex gracilior Mkze. PNSd
JDR 1288, 12 Apr 1968, K-9.

Carex tumulicola Mkze. PNSd
JDR 400, 20 Apr 1967, M-15; JDR 1093, 11 Apr 1968, M-16; JDR 1347, 12 Apr 1968, K-9.

Cyperus eragrostis Lamk. PNSd
JDR 750, 22 Sep 1967, G-15.

Scirpus cernuus Vahl. var. *californicus* (Torr.) Beetle. ANSd
JDR 1402, 10 Jun 1968, N-15.

Gramineae

Agrostis diegoensis Vasey. PNG
JDR 619, 7 Jun 1967, K-8.

Agrostis exarata Trin. var. *pacifica* Vasey. PNG
JDR 672, 20 Jun 1967, L-6.

Agrostis hallii Vasey. PNG
Observed by H, 16 May 1946.

Agrostis semiverticillata (Forsk.) C. Chr. PIC

JDR 769, 22 Sep 1967, M-15; JDR 747, 22 Sep 1967, D-11.

Aira caryophyllea L. AIG
JDR 628, 7 Jun 1967, K-8; JDR 1164, 11 Apr 1968, F-14; JDR 1314, 12 Apr 1968, K-9.

Ammophila breviligulata Fernald. PIC
JDR 947, 27 Dec 1967, K-16.

Avena barbata Brot. AIG
JDR 395, 20 Apr 1967, M-14; JDR 1145, 11 Apr 1968, I-8; JDR 1263, 12 Apr 1968, C-12.

Avena fatua L. AIG

JDR 572, 7 Jun 1967, K-8; JDR 1382, 29 Apr 1968, K-15.

Briza maxima L. AIG

JDR 1701, 20 Apr 1969, I-7; JDR 1707, 20 Apr 1969, E-11.

Briza minor L. AIG

JDR 572, 7 Jun 1967, H-7; JDR 1382, 29 Apr 1968, J-15.

Bromus carinatus H. & A. BNG

JDR 447a, 20 Apr 1967, I-7; JDR 1171, 11 Apr 1968, G-7; JDR 1284, 12 Apr 1968, K-9.

Bromus diandrus Roth. AIG

JDR 394, 20 Apr 1967, M-15; JDR 447, 20 Apr 1967, J-7; JDR 509, 2 May 1967, D-14; JDR 527, 2 May 1967, I-16; JDR 1086, 11 Apr 1968, F-14.

Bromus madritensis L. AIG

JDR 446, 20 Apr 1967, J-6; JDR 646, 20 Jun 1967, L-5.

Bromus marginatus Nees + PNG

JDR 1324, 12 Apr 1968, I-8.

Bromus mollis L. AIG

JDR 427, 20 Apr 1967, J-5; JDR 1372, 29 Apr 1968, J-13; JDR 1404, 10 Jun 1968, N-16.

Bromus racemosus L. AIG

R. & J. 21330, 2 May 1967, D-10.

Bromus rubens L. AIG

JDR 1124, 11 Apr 1968, F-12; JDR 1338, 29 Apr 1968, I-9.

Cortaderia selloana (Schult.) Aschers. & Graebn. PCG

JDR 532, 2 May 1967, K-16; JDR 633, 20 Jun 1967, H-16; JDR 957, 27 Dec 1967, L-15.

Cynodon dactylon (L.) Pers. PIG

JDR 1522, 14 Jun 1968, K-9.

Cynosurus echinatus L. AIG

D 79-41, 6 Jul 1979, E-12.

Dactylis glomerata L. PIG

Observed by H, 16 May 1946.

Danthonia californica Boland. var. *americana* (Scribn.) Hitchc. PNG

JDR 1188, 11 Apr 1968, F-14.

Danthonia pilosa R. Br. PIG

T 8468, 16 Jun 1978, H-7.

Distichlis spicata (L.) Greene. PNG

JDR 728, 25 Jun 1967, K-5.

Elymus glaucus Buckl. PNG

JDR 460, 28 Apr 1967, I-9; JDR 548, 2 May 1967, K-8; JDR 1280, 12 Apr 1968, K-9.

Elymus triticoides Buckl. PNG

Observed by H, 16 May 1946.

Elymus triticoides Buckl. ssp. *multiflorus* Gould. ANG

JDR 705, 25 Jun 1967, G-8.

Festuca californica Vasey. PNG

JDR 551, 2 May 1967, K-8; JDR 1023, 2 Mar 1968, I-9; JDR 1077, 11 Apr 1968, E-9; JDR 1123, 11 Apr 1968, G-12.

Festuca dertonensis (All.) Aschers. & Graebn. AIG

JDR 541, 2 May 1967, C-11; JDR 1104, 11 Apr 1968, G-7; JDR 1285, 12 Apr 1968, K-9; JDR 1231, 12 Apr 1968, K-6.

Festuca idahoensis Elmer. PNG

JDR 1146, 11 Apr 1968, I-9.

Festuca megalura Nutt. ANG

JDR 1082, 11 Apr 1968, G-14; JDR 1022, 2 Mar 1968, E-11; JDR 1260, 12 Apr 1968, D-10; JDR 1303, 12 Apr 1968, K-9.

Festuca myuros L. AIG

JDR 507, 2 May 1967, C-13; JDR 550, 2 May 1967, D-11; JDR 1262, 12 Apr 1968, D-10.

Festuca pacifica Piper. ANG

JDR 1187, 11 Apr 1968, I-14.

Festuca reflexa Buckl. ANG

JDR 1420, 10 Jun 1968, K-9.

Festuca rubra L. PNG

Observed by H, 16 May 1946.

Gastridium ventricosum (Gouan) Schinz & Thell. ANG

JDR 652, 20 Jun 1967, K-15; JDR 762, 22 Sep 1967, M-15; JDR 1506, 14 Jun 1968, L-6.

Holcus lanatus L. PIG

JDR 1708, 16 Jun 1969, F-7.

Hordeum brachyantherum Nevski. PNG

JDR 582, 7 Jun 1967, E-11; JDR 693, 25 Jun 1967, D-13; JDR 986, 6 Feb 1968, D-13.

Hordeum glaucum Steud. AIG

JDR 1095, 11 Apr 1968, G-7; JDR 1128, 11 Apr 1968, F-12.

Hordeum leporinum Link. AIG

JDR 443, 20 Apr 1967, H-6; JDR 1101, 11 Apr 1968, J-7; JDR 1363, 29 Apr 1968, I-9; JDR 1383, 29 Apr 1968, J-16.

Hordeum vulgare L. AIG

Observed by H, 16 May 1946.

Koeleria macrantha (Ledeb.) Spreng. PNG

JDR 554, 2 May 1967, K-14; JDR 1307, 12 Apr 1968, K-9; JDR 1324a, 12 Apr 1968, I-9.

Lolium multiflorum Lamk. var. *muticum* DC. FIG

JDR 651, 20 Jun 1967, J-15; JDR 1369, 29 Apr 1968, J-13.

Lolium perenne L. FIG

R. & J. 21040, 2 May 1967, K-9.

Melica californica Scribn. PNG

JDR 1203, 12 Apr 1968, G-15; JDR 1381, 29 Apr 1968, K-15.

Melica torreyana Scribn. PNG

JDR 549, 2 May 1967, K-8; JDR 1249, 12 Apr 1968, D-12; JDR 1163, 11 Apr 1968, G-15; JDR 1157, 11 Apr 1968, G-12.

Monerma cylindrica (Willd.) Coss. & Dur. AIG

Observed by H, 16 May 1946.

Phalaris californica H. & A. PNG

JDR 464, 28 Apr 1967, I-9; JDR 1143, 11 Apr 1968, H-10; JDR 1331, 12 Apr 1968, G-12.

Phalaris minor Retz. AIG

JDR 618a, 7 Jun 1967, K-8.

Poa annua L. AIG

JDR 985, 6 Feb 1968, D-11; JDR 1020, 2 Mar 1968, F-13; JDR 1100, 11 Apr 1968, F-7.

Poa bolanderi Vasey ssp. *howellii* (Vasey & Scribn.) Keck. ANG

JDR 1186, 11 Apr 1968, F-14.

Poa scabrella (Thurb.) Benth. PNG

JDR 1085, 11 Apr 1968, F-14; JDR 1148a, 11 Apr 1968, I-14; JDR 1240, 12 Apr 1968, D-12.

Poa unilateralis Scribn. PNG

JDR 1087, 11 Apr 1968, F-14; JDR 1317, 12 Apr 1968, K-9; JDR 1321, 12 Apr 1968, I-9.

Polypogon interruptus H. B. K. FIG

JDR 1396, 8 Jun 1968, N-17; JDR 1403, 10 Jun 1968, M-14; JDR 1526, 14 Jun 1968, N-16.

Polypogon monspeliensis (L.) Desf. AIG

JDR 653, 20 Jun 1967, L-15; JDR 758, 22 Sep 1967, N-16.

Sitanion x hansenii (Scribn.) J. G. Smith. PNG

JDR 1371a, 29 Apr 1968, D-14.

Sitanion jubatum J. G. Smith. PNG

JDR 767, 22 Sep 1967, J-15; JDR 1381a, 29 Apr 1968, L-15.

Stipa lepida Hitchc. PNG

JDR 1198, 12 Apr 1968, F-13.

Stipa pulchra Hitchc. PNG

JDR 539, 2 May 1967, D-11; JDR 1127, 11 Apr 1968, H-11; JDR 1131, 11 Apr 1968, E-11; JDR 1371, 29 Apr 1968, C-14.

Iridaceae

Iris longipetala Herbert. PNG

JDR 429, 20 Apr 1967, J-7.

Sisyrinchium bellum Wats. PNG

JDR 387, 20 Apr 1967, L-6; JDR 1118, 11 Apr 1968, G-9; JDR 1246, 12 Apr 1968, C-11.

Juncaceae

Juncus balticus Willd. PNR

JDR 1292, 12 Apr 1968, K-9.

Juncus bufonis L. ANR

JDR 640, 20 Jun 1967, J-8.

Juncus effusus L. var. *pacificus* Fern. & Wieg. PNR

JDR 751, 22 Sep 1967, G-15.

Juncus patens E. Mey. PNR

JDR 397, 20 Apr 1967, M-16; JDR 579, 7 Jun 1967, F-12.

Juncus tenuis Willd. var. *congestus* Engelm. PNR

JDR 657a, 20 Jun 1967, K-16; JDR 1291, 12 Apr 1967, K-9.

Luzula subsesilis (Wats.) Buch. PNR

B-D 6912 without date; JDR 540, 2 May 1967, D-11; JDR 1035, 2 Mar 1968, F-12; JDR 1075, 11 Apr 1968, J-7.

Liliaceae

Aloe saponaria (Ait.) Haw. PIS

JDR 517, 2 May 1967, G-14.

Calochortus luteus Dougl. ex Lindl. PNF

D 80-47, 18 Jun 1980, I-12.

Chlorogalum pomeridianum (DC.) Kunth var. *divaricatum* (Lindl.) Hoover. PNF

JDR 630, 20 Jun 1967, I-8.



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