

1999

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Boyd, Steve (1999) "Vascular flora of the Liebre Mountains, western Transverse Ranges, California," *Aliso: A Journal of Systematic and Floristic Botany*. Vol. 18: Iss. 2, Article 15.

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VASCULAR FLORA OF THE LIEBRE MOUNTAINS, WESTERN TRANSVERSE RANGES, CALIFORNIA

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ABSTRACT

The Liebre Mountains form a discrete unit of the Transverse Ranges of southern California. Geographically, the range is transitional to the San Gabriel Mountains, Inner Coast Ranges, Tehachapi Mountains, and Mojave Desert. A total of 1010 vascular plant taxa was recorded from the range, representing 104 families and 400 genera. The ratio of native vs. nonnative elements of the flora is 4:1, similar to that documented in other areas of cismontane southern California. The range is noteworthy for the diversity of *Quercus* and oak-dominated vegetation. A total of 32 sensitive plant taxa (rare, threatened or endangered) was recorded from the range.

Key words: Liebre Mountains, Transverse Ranges, southern California, flora, sensitive plants.

INTRODUCTION

The Transverse Ranges are one of southern California's most prominent physiographic features. In contrast to California's other principal cordillera—the Sierra Nevada, Coast Ranges, and Peninsular Ranges—which are oriented north-south, the Transverse Ranges trend east-west. East-west trending ranges are uncommon in North America, and geologic mechanisms responsible for the anomalous orientation of California's Transverse Ranges are not yet fully understood (Norris and Webb 1990). Major units of the Transverse Ranges include, from east to west, the Little San Bernardino, San Bernardino, San Gabriel, Santa Monica, Liebre, Santa Susana, Topatopa, Pine Mountain, and Santa Ynez ranges. Technically, this enumeration should include the northern group of Channel Islands, which are geologically an extension of the Santa Monica Mountains. The Transverse Ranges cover a linear distance of nearly 520 km (320 mi) between their western end at Point Arguello near Santa Barbara and their eastern terminus in the Eagle Mountains near Desert Center (Sharp 1972; Norris and Webb 1990). Physical breaks between the component ranges are often obscure and a rather diverse array of names has been applied to various configurations, particularly in the western portion where circumscription of physiographic units is complicated by convergence of the Tehachapi and Inner Coast ranges.

Although the Transverse Ranges border the Los Angeles Basin, California's most densely populated region, and have been the subject of considerable botanical exploration over the years, published floristic accounts of the component ranges are surprisingly scarce. Broad-scale floristic reports for the San Gabriel Mountains include Johnston's (1919) flora of the pine

belt and Peirson's (1935) handbook of trees and shrubs. Published documentation of the San Bernardino Mountains is little better, limited to Parish's (1917) enumeration of the pteridophytes and spermatophytes and McBride et al.'s (1975) checklist for the montane coniferous forest. By far the best-documented element of the Transverse Ranges has been the Santa Monica Mountains, which have been comprehensively covered by Raven et al. (1986). While the body of floristic literature for the Transverse Ranges is certainly augmented by more narrowly focused local studies (e.g., Derby and Wilson 1978, 1979; Lewis and Gause 1966; Muns 1984, 1985a, 1985b, 1986, 1992, 1994; Parish 1890; Sawyer 1987; Swinney 1994) and unpublished technical reports and dissertations (Boyd et al. 1993; Krantz 1994; Mistretta 1995; Robinson 1953; Thorne 1971–1973), many segments of the range remain virtual floristic *terra incognita*.

The threat to southern California's native flora from urbanization, agriculture, pollution, habitat fragmentation, and invasive exotic taxa is pervasive and growing. Regions such as the Transverse Ranges contain large tracts of natural habitat that are biologically diverse, relatively intact ecologically, and mostly administered in public trust; these areas are vital for meeting societal goals of preserving California's natural heritage. A critical component of any strategy for managing regional biological diversity is developing a baseline account of the resources being managed. Presently, work is ongoing to provide comprehensive documentation for both the San Gabriel Mountains (O. Mistretta, pers. comm.) and San Bernardino Mountains (A. Sanders, pers. comm.). In this paper, I present a preliminary floristic account of another important segment of the Transverse Ranges, the Liebre Mountains

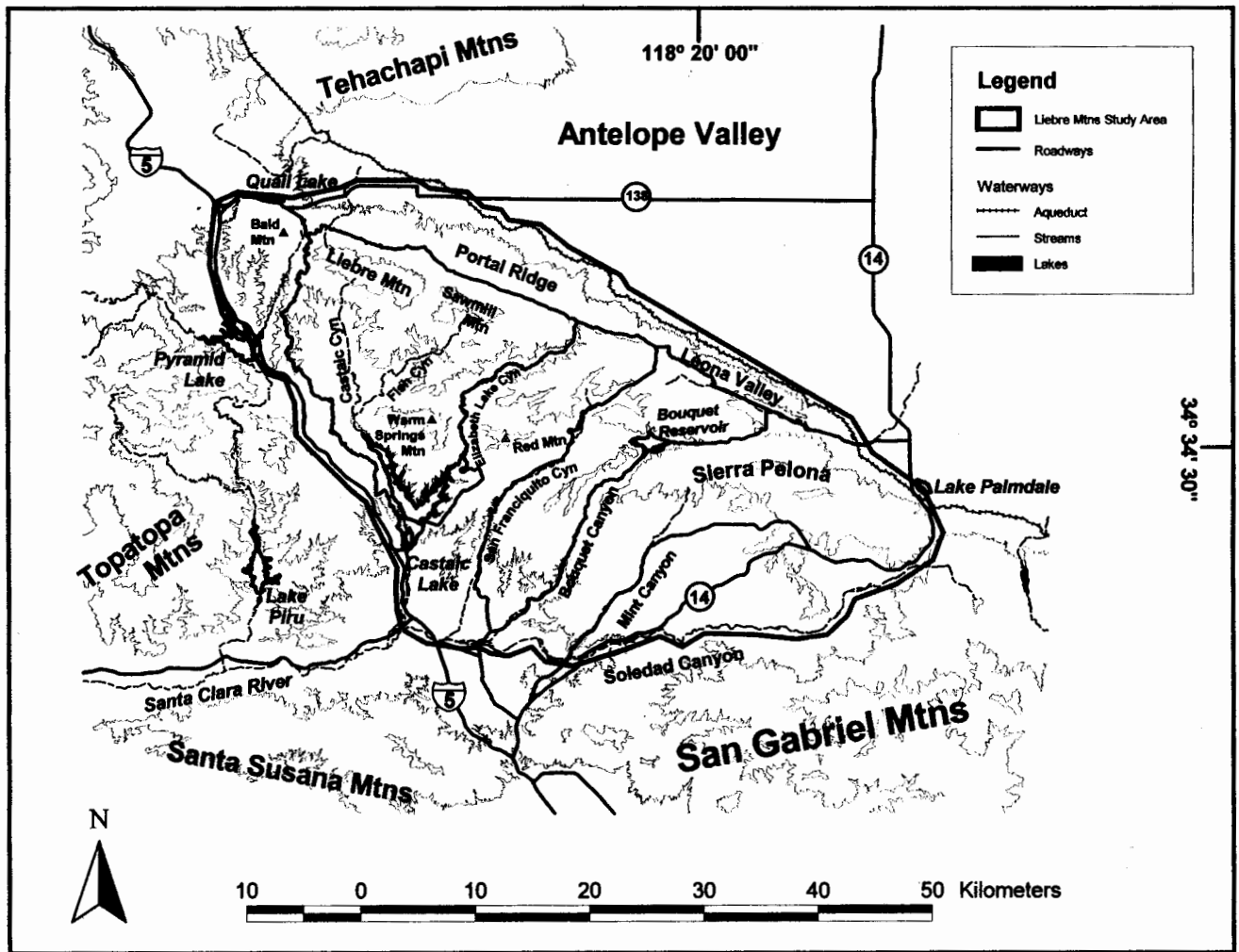


Fig. 1. Map of the Liebre Mountains study area and vicinity indicating major roads, drainages, and selected peaks and ridge systems.

region. The study includes the results fieldwork conducted by myself and/or Timothy S. Ross, with various associates, as well as review of collections housed in the herbarium of Rancho Santa Ana Botanic Garden (RSA-POM) and elsewhere.

PHYSICAL SETTING

Physiography

The Liebre Mountains represent the easternmost end of what is referred to collectively as the Western Transverse Ranges (Hickman 1993), and they occupy a transitional position between the Santa Susana, Topatopa, and Pine Mountain ranges to the west and San Gabriel Range to the east. The northern base of the Liebre Mountains defines the southwestern border of the Mojave Desert. As circumscribed here, the range is a roughly triangular area bounded by the Santa Clara River on the south and southeast, California Aqueduct along the north and northeast, and Interstate 5 along the west (Fig. 1). The study area encompasses approxi-

mately 1630 km² (613 mi²), with elevation ranging between 1764 m (5788 ft) on Burnt Peak and 294 m (965 ft) where the Santa Clara River crosses Interstate 5.

Physiography of the Liebre Mountains region is strongly controlled by two of Southern California's major fault systems: the San Andreas on the north and northeast, and the San Gabriel on the west and south (Dibblee 1982). The eastern boundary of the range, and its general separation from the San Gabriel Mountains, is defined by the Soledad Fault. The range can be generally divided into two physiographically and geologically discrete parts; the rugged, mountainous north and northeastern section, and a lower area of rolling hills and small erosional valleys in the west and south (Dibblee 1982).

Portal Ridge (including Ritter Ridge), separates Antelope Valley, the westernmost end of the Mojave Desert, from the rift zone of the San Andreas Fault. The steep escarpments of this narrow, northwest-trending ridge system contrast sharply with the relatively gentle relief along its crest. At its northwest end, the ridge is

dissected by several drainages originating on the northern flanks of Liebre and Sawmill mountains, including Tentrock, Horse Camp, Cow Spring, and Kings canyons. From Kings Canyon southeastward, the crest of Portal Ridge continues unbroken to its southern terminus at Ritter Ridge. Drainage from the northern flank of Portal Ridge is northeastward into the Mojave Desert. The shorter, steeper drainages of the southern flank empty into the San Andreas Fault rift.

The massive San Andreas rift is characterized by a series of deep, elongate valleys separated from each other by low divides. From northwest to southeast these include Oakdale Canyon, Oakgrove Canyon, Pine Canyon, Leona Valley, and Anaverde Valley. The southern edge of the rift zone is marked by another series of steep escarpments comprising the Liebre-Sawmill-Sierra Pelona crest. These relatively narrow, elongate ridges, like Portal Ridge to the north, are characterized by extensive areas of gentle topography across their summits.

To the south of the Liebre-Sawmill-Sierra Pelona crest lies the body of the mountainous portion of the range. Topography is characterized by steep, rugged ridges and narrow, winding canyons. Important topographic features within this area include Del Sur Ridge, Jupiter Mountain, Tule Ridge, Red Mountain, Warm Springs Mountain, Sawtooth Mountain, Burnt Peak, and Red Rock Mountain. A series of subsidiary faults of generally northeast trend divide this block between the San Andreas and San Gabriel fault zones and are mirrored by the principal drainages of the range. These include Soledad, Mint, Bouquet, Elizabeth Lake, and San Francisquito canyons. Much of the western end of the range is drained by tributaries of Castaic Creek, while slopes on the extreme northwestern edge drain into Piru Creek. Ultimately, all drainage from the Liebre-Sawmill-Sierra Pelona crest southward drains to the Santa Clara River, and ultimately, the Pacific Ocean.

In addition to the principal drainages, some of which support year-round surface water, there are several large bodies of water within the range. Most of these represent manmade reservoirs, including Bouquet Reservoir, Castaic Lake, and Pyramid Lake. A large reservoir was once constructed in San Francisquito Canyon, but suffered a catastrophic failure of the earthen dam in 1928 (Sharp 1972). Natural permanent and seasonal lakes are restricted within the range to the valleys within the San Andreas Rift and adjacent Portal Ridge. These are fault sags and include Elizabeth Lake, Munz Lakes, Lake Hughes, and Quail Lake (the latter two now augmented by earthen dams), as well as Tweedy and Gookins lakes on Portal Ridge.

AVERAGE PRECIPITATION 1948-1995

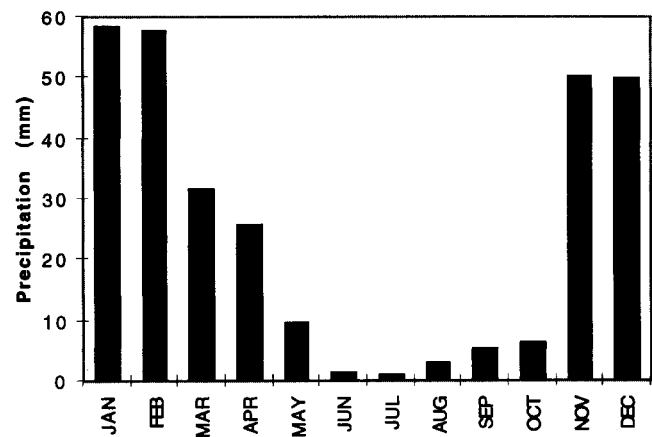


Fig. 2. Graph of average monthly precipitation for Sandberg WSMO (located at ca. 34.75°N 118.73°W, elev. ca. 1376 m.) showing typical Mediterranean-climate pattern of winter rain and summer drought. Source WWW.Worldclimate.com.

Geology

The Liebre Mountains region is geologically complex (Jennings and Strand 1969). An excellent, detailed geologic overview of the range is provided by Dibblee (1982), and I will present only a brief synopsis here. The Liebre-Sawmill-Sierra Pelona crest and adjacent uplands are eroded largely from pre-Cenozoic basement complex, as are significant portions of Portal Ridge. Liebre Mountain itself is predominantly composed of granitic rocks, while Sawmill Mountain is dominated by gneiss. An extensive area of ancient Pelona schist nearly bisects the range from Sierra Pelona and adjacent Portal Ridge southwestward to San Francisquito Canyon. The lower, hilly regions to the west, south, and southeast of the Liebre-Sawmill-Sierra Pelona crest are characterized by Cenozoic sedimentary and volcanic rocks, these often highly deformed and eroded. The area occupied by these substrates represent two ancient depositional basins, the Ridge Basin along the west, and Soledad Basin along the southeastern edges of the range. These sediments were originally deposited under largely marine conditions. Subsequently, they have been extensively uplifted and deformed, resulting in areas of striking badlands topography, as well as the unusual formations in the Vasquez Rocks area near Agua Dulce.

Climate

The Liebre Mountains region experiences a typical Mediterranean-type climate of warm, dry summers and cool, moist winters. Under this regime, most precipitation falls as rain resulting from Pacific frontal storms during the months of November through March (Fig. 2). Winter snow, although generally light and short-lived, is frequent along the highest ridges of the Lie-

Table 1. Mean annual precipitation records.

Station mm (in)	Lat/long	Elev. m (ft)	Mean annual precip mm (in)	Record period
Acton-Escondido FC261	34.50°N 118.26°W	902 (2959)	272.9 (10.7)	1931–1995
Bouquet Canyon	34.58°N 118.36°W	933 (3061)	388.9 (15.3)	1940–1978
Dry Canyon Reservoir	34.48°N 118.53°W	443 (1453)	354.2 (13.9)	1931–1990
Elizabeth Lake	34.60°N 118.56°W	634 (2080)	559.7 (22.0)	1955–1972
Fairmont	34.70°N 118.43°W	932 (3057)	409.4 (16.1)	1931–1995
Neenach	34.80°N 118.58°W	881 (2890)	216.3 (8.5)	1931–1964
Newhall S FC32CE	34.38°N 118.53°W	378 (1240)	461.7 (18.2)	1931–1995
Pine Canyon PS FC321	34.66°N 118.43°W	1003 (3290)	474.4 (18.7)	1955–1972
Palmdale	34.58°N 118.10°W	791 (2595)	206.1 (8.1)	1931–1995
Sandberg Ptrl Stn	34.75°N 118.71°W	1226 (4022)	411.5 (16.2)	1931–1988
Sandberg WSMO	34.75°N 118.73°W	1376 (4514)	296.4 (11.7)	1948–1955
Saugus Power Plant 1	34.58°N 118.45°W	641 (2103)	465.3 (18.3)	1933–1995
Vincent F S FC120	34.48°N 118.13°W	955 (3133)	222.6 (8.8)	1931–1995

bre-Sawmill-Sierra Pelona crest. Exceptionally strong, cold storms bring snow to extensive areas above 1000 m, and sometimes even lower. While precipitation patterns are relatively uniform throughout the range, there is considerable variation in average annual precipitation between different sites (Table 1). Topography, regional rainshadow effects, marine layer penetration, and cold air drainage all exert their effect on local microclimates, and are reflected in the distribution of various floristic elements and vegetation types.

HISTORY OF BOTANICAL EXPLORATION

Based on herbarium specimens deposited at RSA and elsewhere, I have been able to document from the range, collections made by at least 188 individual primary collectors (excluding associated collectors) covering a span of more than one century (1883–1998). A majority of these are limited, *ad hoc* efforts, frequently restricted to areas serving as the principal transportation corridors of the time. It appears that the Liebre Mountains was not an area of intense floristic interest to earlier botanists. Aside from the present study's efforts, very few collectors visited the range repeatedly over a series of years. Most notable of those who did include LeRoy Abrams, Elbert Benjamine, Anstruther Davidson, F. Raymond Fosberg, Ralph Hoffmann, Marcus E. Jones, Philip A. Munz, Frank W. Peirson, Bonnie C. Templeton, Ernest C. Twissel-

mann, and Louis C. Wheeler. A complete listing of primary collectors and their associates is presented in Table 2.

A summary of collecting activity by decade, as expressed by the number of specimens collected, and number of primary collectors, is presented in Fig. 3 and 4 respectively. It is readily apparent from these graphs that, exclusive of the present study, greatest interest and activity in the range was during the 1920s and 1930s. Work and travel restrictions during the war years of the 1940s clearly had considerable impact, drastically reducing botanical activity in the range. A slight renewed interest during the 1950s, 1960s, and 1970s, was followed by another decline during the 1980s. Except for the collecting efforts associated with this project, the downward trend would have continued during the present decade.

VEGETATION

The vegetation of the Liebre Mountains region is a complex mosaic superimposed upon a backdrop of the area's diversity of geologic substrates, topography, and microclimate. The vegetation patterns of the range are further complicated by the past history of wildland fire and other disturbance, both natural and anthropogenic.

While a detailed circumscription of vegetation was beyond the scope of this study, a brief overview is appropriate to place subsequent discussion of the flora

Table 2. Summary of botanical collectors in the Liebre Mountains region.

Anonymous	1931
E. R.	1934
L. R. Abrams	1916, 1924, 1927
L. R. Abrams w/E. A. McGregor	1908
E. L. Adams	1924
H. J. Arnott	1955
E. K. Balls w/L. W. Lenz	1950
E. Benjamine	1929, 1933, 1946, 1947, 1949, 1951, 1953, 1958, 1959
L. Benson w/Robert Benson	1952
E. R. Blakley	1958, 1960, 1963
E. M. Bolton	1933
S. Boyd w/D. Kelly	1986
S. Boyd	1996, 1997, 1998
S. Boyd w/A. C. Sanders, R. T. Hawke, S. Hawke, S. Hobbs, P. Hobbs	1997
S. Boyd w/D. Bramlet, H. Spilman, N. Hanson, and S. Hobbs	1997
S. Boyd w/K. Hughes	1998
S. Boyd w/L. Moore, M. Wall	1997
S. Boyd w/L. Raz & M. Kinney	1998
S. Boyd w/L. Raz	1996, 1997
S. Boyd w/L. Raz, T. S. Ross	1997
S. Boyd w/M. Elvin, V. Jotikasthira	1996
S. Boyd w/M. Wall	1996
S. Boyd w/O. Mistretta	1993
S. Boyd w/O. Mistretta	1996
S. Boyd w/O. Mistretta, J. Dolan	1996
S. Boyd w/O. Mistretta, V. Soza	1996
S. Boyd w/T. S. Ross	1997
S. Boyd w/T. S. Ross, L. Moore, V. Soza	1997
S. Boyd w/T. S. Ross, L. Raz, and D. Hannon	1997
S. Boyd w/V. Soza	1998
S. Boyd w/V. Soza, M. Kinney, & J. M. Porter	1998
S. Boyd w/V. Soza, V. Jotikasthira, L. Raz	1996
K. Brandegee	s.d., 1910
T. S. Brandegee	1883, 1889(?)
L. Brice	1930
J. P. Broughton w/K. K. Muller	1971
K. Budlong	1947
T. Burch	1940
T. Burch w/Wilson & Munson	1940
J. Burt Davy	1896, 1901
G. Campbell	1946
M. Canby	1925
G. Cantwell	1930
D. Charlton	1988, 1989, 1991
D. Charlton w/R. Fishman	1991
D. Charlton w/R. Fishman, G. Pratt	1990
D. Charlton w/T. Martin	1991
T. Clare	1930, 1931
T. Clare w/McDougal	1930
C. Clark	1929
O. M. Clark	1928, 1929
I. W. Clokey	1930
I. W. Clokey w/B. C. Templeton	1930
I. W. Clokey w/C. B. Clokey, B. C. Tem- pleton	1930
J. T. Columbus w/C. R. Annable, C. dos Santos, J. M. Porter, M. E. Siqueiros D.	1996

Table 2. Continued.

N. C. Cooper	1943, 1948, 1949
T. Craig	1927, 1932, 1933
T. Craig w/M. Hilend	1927
C. C. Crampton	1941
? Crawford	1936
E. Crow	1929
K. Curran	1883
A. Davidson	s.d., 1889, 1890, 1892, 1893, 1895, 1896, 1916, 1920, 1921, 1928, 1929, 1930
C. Davidson	1973, 1975
G. Davis	1967
M. DeDecker	1959
F. Detmers	1931
J. Donahue	1983
J. Doty	1969
R. L. Dressler	1949
? Dronovitch	1940
W. R. Dudley w/F. H. Lamb	1896
A. N. Dunn	1931
D. B. Dunn w/C. Epling	1946
A. D. E. Elmer	1902
D. E. Emery	1958
C. Epling	1927, 1937
C. Epling w/L. C. Wheeler	1933
B. Ertter w/L. Heckard, T. Sholars, J. Hickman, et al.	1988
P. C. Everett	1935, 1936, 1937
P. C. Everett w/E. K. Balls	1959
P. C. Everett w/N. F. Lolonis	1962
J. Ewan	1930
F. R. Fosberg	1930, 1931, 1932, 1983
R. C. Frampton	1952
N. French	1934
A. D. Gifford	1935
G. Gluechaert	1937
H. Graham	1950
G. B. Grant	1903
V. Grant	1955
V. Grant w/A. Grant	1952
W. O. Griesel	1962, 1963
W. O. Griesel w/B. Miller	1963
R. Gustafson	1977, 1978
R. Gustafson w/C. Davidson	1977
R. Gustafson w/Gary Wallace	1982
H. M. Hall	1902
H. M. Hall w/G. R. Hall	1908
H. M. Hall w/H. P. Chandler	1902, 1906
C. B. Hardham	1959
? Hasse	1893, 1894, 1895
G. T. Hastings	1950
J. Henrickson	1966, 1972, 1979
M. Hilend	1928
J. Hirshberg w/T. Glenn	1990
C. L. Hitchcock	1928, 1952
L. E. Hoffman	1929, 1933
R. Hoffmann	1927, 1928, 1929, 1930, 1931
T. H. Holmes	1932
W. B. Holt	1941
M. Hood	1939
A. W. Howard	1926

Table 2. Continued.

D. F. Howe	1947
J. T. Howell	1927, 1931, 1950
S. W. Hutchinson	1921, 1923, 1931
L. E. James	1946, 1947
B. L. Johnson	1957
D. E. Johnson w/J. E. Eckenwalder	1974
G. R. Johnstone	1926, 1928, 1930
G. R. Johnstone w/John Raiselis	1933
M. E. Jones	1924, 1926, 1927, 1934
E. A. Kellogg w/E. L. Taylor	1980
E. Kline	1923, 1924, 1925
J. A. Kusche	1922
M. A. Lane	1986
L. F. LaPré	1988, 1990
A. Lewis	1933, 1934
H. Lewis	1957
R. S. Lieb	1969
E. G. L. w/J. W. McSwain	1960
F. A. Macfadden	1931
J. Mallory	1994
J. E. Marble	1894
W. Martin	1971
J. Massey	1966
E. A. McGregor	1964
L. McHargue w/B. Miller	1963
A. Menke	1953, 1955
M. D. Merilatt	1936
D. C. Michener	1980
B. Miller w/W. Griesel	1963
T. W. Minthorn	1924, 1925, 1927, 1928, 1958
O. Mistretta w/M. Hammitt	1991
G. L. Moxley	1913
K. K. Muller	1972
? Mullins	1931
B. Munson	1940
P. A. Munz	1921, 1923, 1925, 1926, 1927, 1947
P. A. Munz w/D. Keck	1924, 1926
P. A. Munz w/I. M. Johnston	1926, 1928
S. Myers	1988, 1989
S. Myers w/E. LaRue	1989
V. Newsom w/M. Hilend	1927
G. T. Nordstrom	1935
S. B. Parish	1887, 1888
M. W. Parratt	1963
T. Payne	1939
F. W. Peirson	1916, 1917, 1918, 1919, 1921, 1922, 1923, 1925, 1926, 1928, 1930
F. W. Pennell	1940
W. M. Pierce	1922
J. M. Porter	1998
J. M. Porter w/J. Travis Columbus, G. dos Santos	1996
B. Prigge	1986
H. J. Ramsey w/Mrs. H. J. Ramsey	1937, 1938
P. H. Raven	1959, 1961
L. Raz w/S. Boyd & M. Kinney	1998
L. Raz w/S. Boyd	1996
F. M. Reed	1926
J. L. Reveal	1988

Table 2. Continued.

R. E. Riefner	1996
H. D. Ripley w/R. C. Barneby	1942, 1944
L. S. Rose	1968
T. S. Ross	1992, 1993, 1995
T. S. Ross w/D. Banks	1994, 1995
T. S. Ross w/J. M. Porter	1995
T. S. Ross w/O. Mistretta & A. Quici	1990
T. S. Ross w/S. Boyd, O. Mistretta, P. Fritsch, & A. Quici	1990
T. S. Ross w/S. Boyd & L. Arnseth	1991
T. S. Ross w/S. Boyd	1990, 1992, 1993, 1994, 1995
T. S. Ross w/S. Boyd & P. Fritsch	1990
T. S. Ross w/S. Boyd & S. Burns	1994
T. S. Ross w/V. W. Steinmann	1995
G. B. Rossbach	1955
F. Runyan	1955, 1971, 1973
H. G. Rush	1948
V. Rutherford	1948
R. A. Schlising	1972
C. G. Schweitzer	1931
C. W. Sharsmith	1931
M. Shaw w/E. Spaulding, Mrs. C. L. Walton	1917
J. R. Shevock	1971, 1972
A. Simontacchi	1935
G. E. Sindel	1935
G. Sphon	1955, 1959
G. Sphon w/Diane Hearn	1956
E. E. Stanford	1926, 1927
B. D. Stark	1930, 1933
V. W. Steinmann w/T. S. Ross	1995
P. Stockwell	1935, 1936
H. H. Stone	1936
B. C. Templeton	1930, 1931, 1934, 1936, 1938, 1940, 1947, 1951, 1954, 1960
B. C. Templeton w/H. J. Andrews	1938
B. C. Templeton w/I. W. Clokey	1930
B. C. Templeton w/I. W. Clokey & C. B. Clokey	1930
D. Thomason	1987
D. M. Thompson	1992
H. J. Thompson	1951, 1954
W. Thompson	1963, 1964, 1965, 1968
R. F. Thorne	1963
R. F. Thorne w/C. W. Tilforth	1971
G. H. True	1931, 1935, 1936
E. C. Twisselmann	1955, 1959, 1964, 1965, 1966, 1970
S. R. Tyson	1940
? Venkatesh	1957
M. Vincent	1962
H. A. Wahl	1966
G. D. Wallace	1966, 1979
A. Watry	1931
W. G. Webb	1935
D. Weins	1953, 1960
L. C. Wheeler	1931, 1932, 1933, 1965, 1966, 1967, 1969, 1970

Table 2. Continued.

S. D. White w/P. Devries	1998
S. D. White w/S. Leatherman	1998
K. A. Wilson	1961, 1962
W. Wisura	1991
W. Wisura w/D. Kelly	1986
W. Wisura w/J. Dolan	1990
W. Wisura w/W. Steinmetz	1993
C. B. Wolf	1927, 1928, 1930, 1931, 1932, 1933, 1934, 1935, 1936, 1937, 1939, 1941
C. B. Wolf w/B. D. Stark	1933
K. C. Zakar	1969

in its proper context. In the most general sense, the vegetation of the Liebre Mountains region can be divided into three broad, physiognomic units—scrub, woodland, and grassland—depending on whether the dominant plants are shrub, tree, or herbaceous species respectively. Within each unit, major and minor sub-units may be recognized, and names have been variously assigned to these by botanists attempting to describe and classify California vegetation (e.g., Munz and Keck 1949, 1950; Thorne 1976; Holland 1986; Sawyer and Keeler-Wolf 1995). The most recent attempt at a state-wide vegetation classification, that of Sawyer and Keeler-Wolf (1995), is floristically based. Although highly detailed, it nevertheless provides a workable scheme which will be followed here in discussing characteristic vegetation series within the Liebre Mountains region.

Scrub Vegetation Series

Scrub is the most abundant and diverse kind of vegetation within the range, and is characterized by a predominance of one or more species of shrubs and subshrubs. Tree species are absent, or of only minor importance. Scrub vegetation may be relatively uniform physiognomically from stand to stand, but species composition can vary greatly depending on factors such as seral stage, exposure, slope, substrate, and moisture availability. Characteristic shrub-dominated series found in the range are presented in Table 3. For convenience, these have been grouped into four physiognomic/ecological categories—chaparral, sage and sagebrush scrub, desert scrub, and riparian scrub.

Chaparral.—The dominant components of chaparral vegetation series are hard-wooded, evergreen, sclerophyllous shrubs. The composition and relative dominance of shrub species is highly variable between different series; however, the unifying physiognomic characteristic is the relatively dense, frequently impen-

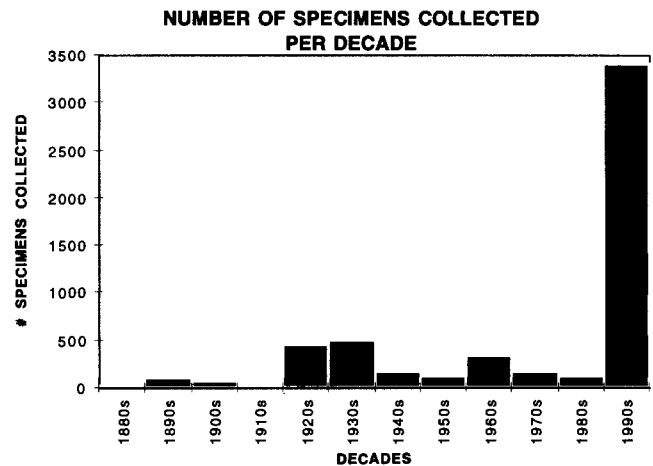


Fig. 3. Graph of number of specimens collected in the Liebre Mountains region by decade. Exclusive of the our work during the 1990s, peak collecting occurred during the 1920s and 1930s with renewed interest in the 1960s.

etrable overstory of intricately branched shrubs. Chaparral vegetation series are the most common and diverse type of scrub vegetation found in the Liebre Mountains region, occurring throughout the elevational range and on most geologic substrates.

The most common and widespread chaparral series are those where *Adenostoma fasciculatum* (chamise) is dominant or codominant. These include chamise, chamise-bigberry manzanita (with *Arctostaphylos glauca*), chamise-Eastwood manzanita (with *Arctostaphylos glandulosa* ssp. *glaucomollis*), chamise-black sage (with *Salvia mellifera*), chamise-white sage (with *S. apiana*), chamise-cupleaf ceanothus (with *Ceanothus greggii* var. *vestitus*), chamise-hoaryleaf ceanothus (with *C. crassifolius*), chamise-wedgeleaf ceanothus (with *C. cuneatus* var. *cuneatus*), and scrub oak-chamise series (with *Quercus berberidifolia*). Although not dominant, *Adenostoma* is also important in

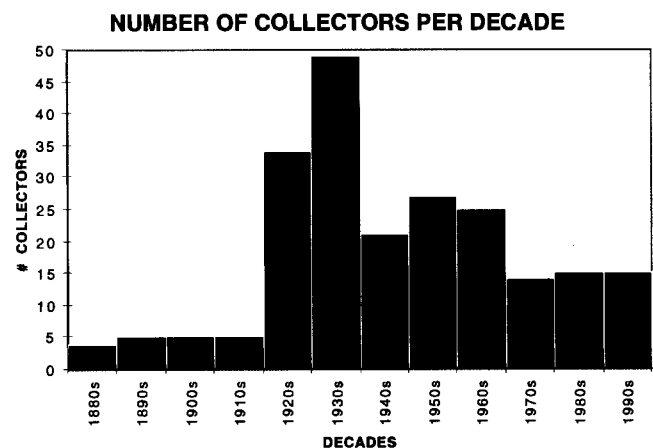


Fig. 4. Graph of number of collectors (based on primary collector and exclusive of associates) taking specimens in the Liebre Mountains region by decade. Greatest period of activity is during the 1920s and 1930s.

Table 3. Scrub vegetation series of the Liebre Mountains region.

Chaparral	Sage and sagebrush scrub	Desert scrub	Riparian scrub
Bigberry manzanita	big sagebrush	creosote bush	mulefat
Birchleaf mountain mahogany-California buckwheat	black sage	Joshua tree	narrowleaf willow
Brewer oak	California buckwheat		scalebroom
Canyon live oak shrub	California buckwheat-white sage		
Chamise	California sagebrush		
Chamise-bigberry manzanita	California sagebrush-California buckwheat		
Chamise-black sage	mixed sage		
Chamise-cupleaf ceanothus	purple sage		
Chamise-Eastwood manzanita	rubber rabbitbrush		
Chamise-hoaryleaf ceanothus	white sage		
Chamise-wedgeleaf ceanothus			
Chamise-white sage			
Chaparral whitethorn			
Eastwood manzanita			
Hoaryleaf ceanothus			
Interior live oak shrub			
Interior live oak-canyon live oak shrub			
Interior live oak-scrub oak			
Scrub oak			
Scrub oak-birchleaf mountain-mahogany			
Scrub oak-chamise			
Scrub oak-chaparral whitethorne			
Wedgeleaf ceanothus			

the birchleaf mountain-mahogany-California buckwheat series (with *Cercocarpus betuloides* and *Eriogonum fasciculatum*) and the scrub oak-birchleaf mountain-mahogany series. Although found throughout the range at nearly all elevations, series characterized by *Adenostoma* are most prevalent at the lower to mid-elevations, and on relatively xeric exposures.

Second in importance to chamise-dominated stands are those chaparral series where various shrub forms of *Quercus* species are dominant or codominant. These include Brewer oak (*Quercus garryana* var. *breweri*), canyon live oak shrub (*Q. chrysolepis*), interior live oak shrub (*Q. wislizeni* var. *frutescens*), interior live oak-canyon live oak shrub, interior live oak-chaparral whitethorn (with *Ceanothus leucodermis*), interior live oak-scrub oak, scrub oak, and scrub oak-chaparral whitethorn series, as well as the scrub oak-chamise series mentioned above. Oak-dominated series are most prevalent at mid- to upper elevations, especially across the southern flank of the Liebre-Sawmill-Sierra Pelona crest. At lower elevations, scrub oak-dominated series are restricted to relatively mesic exposures.

Series dominated by species of *Arctostaphylos* or *Ceanothus* are of more limited distribution within the range, generally appearing as localized stands adjacent to mixed chamise or oak series. Most frequent are stands of the Eastwood manzanita and wedgeleaf ceanothus series. Stands of the hoaryleaf ceanothus series are restricted to the south-central edge of the range, between the Agua Dulce area and Soledad Canyon. Conversely, stands dominated by cupleaf ceano-

thus are largely restricted to the northern edge of the range, along Portal Ridge.

The understory of chaparral series is equally variable with respect to the composition and abundance of annuals, perennial herbs, and suffrutescent species. Nevertheless, a characteristic suite of chaparral understory plants can be enumerated. Species generally associated with xeric exposures include *Lotus scoparius*, *L. strigosus*, *Helianthemum scoparium*, *Corethrogyne filaginifolia* var. *filaginifolia*, *Pellaea mucronata*, *Gutierrezia californica*, *G. sarothrae*, *Selaginella bigelovii*, *Stipa coronata*, *Chaenactis glabriuscula*, *Cryptantha muricata*, *C. intermedia*, *Lupinus hirsutissimus*, *L. sparsiflorus*, *L. truncatus*, *Phacelia cicutaria*, *P. distans*, *P. minor*, *Salvia columbariae*, *Camissonia californica*, *Mimulus brevipes*, *Galium angustifolium*, *Calystegia peirsonii*, *Helianthus gracilentus*, and *Solanum xanti*. Species generally associated with mesic exposures include *Sanicula crassicaulis*, *Gnaphalium californicum*, *Keckiella cordifolia*, *Erigeron foliosus*, *Cirsium occidentale* var. *californicum*, *Solidago californica*, *Lomatium dasycarpum*, *Acourtia microcephala*, *Pentagramma triangularis*, *Dryopteris arguta*, *Melica imperfecta*, *Poa secunda*, *Marah fabaceus*, *M. macrocarpus*, *Galium andrewsii*, *G. angustifolium*, *G. porrigens*, *Chenopodium californicum*, *Clarkia purpurea*, *C. unguiculata*, *C. cylindrica*, *Claytonia parviflora*, *C. perfoliata*, *Epilobium canum*, *Cryptantha microstachys*, *Erysimum capitatum*, *Phacelia ramosissima*, *Eucrypta chrysanthemifolia*, and *Tauschia arguta*.

Sage and sagebrush scrub.—Compared with chaparral series, the sage and sagebrush scrub series are a lower-statured vegetation, being dominated by relatively soft-wooded, malacophyllous, facultatively drought-deciduous shrubs and subshrubs. Within the Liebre Mountains region, these scrub series exhibit a patchy distribution, often in close association with areas of chaparral. Best-developed stands are found at lower elevations at the southwestern end of the range. The Santa Clarita Valley area, including Newhall, Saugus, Valencia, and Agua Dulce, probably supported the region's most extensive development of sage and sagebrush scrub prior to urbanization.

Five shrub species, in various combinations of presence and relative dominance, characterize the majority of the sage and sagebrush scrub series represented in the range (Table 3). These include *Salvia mellifera* (black sage), *Eriogonum fasciculatum* (California buckwheat), *Artemisia californica* (California sagebrush), *Salvia leucophylla* (purple sage), and *Salvia apiana* (white sage). The most common and widespread series are those where *Eriogonum fasciculatum* is dominant or codominant. These include the California buckwheat, California buckwheat-white sage, and California sagebrush-California buckwheat series. Stands of the California buckwheat series are especially prevalent on the southern flank of Liebre Mountain, and are associated with areas of deep, loose decomposed granite. Stands of the purple sage series are well developed on sedimentary substrates at the western edge of the range, especially about Castaic Lake.

The sage and sagebrush series discussed above are largely characterized by shrub taxa of cismontane Californian affinity. Two other important members of the sage and sagebrush series are dominated by shrubs of more interior, Great Basin affinity. These are the big sagebrush and rubber rabbitbrush series. The big sagebrush series is dominated by *Artemisia tridentata* and exhibits a scattered, patchy distribution across the northern edge of the range. Stands are often encountered in areas of deeper soil with cold air drainage. This series is particularly common on the northern flank of Sierra Pelona, and valleys of the San Andreas Rift zone. The rubber rabbitbrush series is dominated by *Chrysothamnus nauseosus*, often with more than one variety of the species being present within a given stand. This series is also best developed along the northern edge of the range, especially at the margin of the Antelope Valley.

The understory within sage and sagebrush scrub series is generally better developed than in the various chaparral series, although overall species composition is similar.

Desert scrub.—Two shrub-dominated vegetation types characteristic of the Mojave Desert, the creosote

bush and Joshua tree series, are represented within the Liebre Mountains region by small outlier stands (Table 3). The creosote bush series, with open stands of *Larrea tridentata*, occurs as scattered patches on xeric exposures of volcanic substrate at the northeastern end of the range, between Acton and Vincent. Associated with these stands are shrubs such as *Juniperus californica*, *Ephedra nevadensis*, *Encelia actoni*, *Ericameria cooperi*, *Hymenoclea salsola*, *Tetradymia axillaris* var. *longispina*, *Chrysothamnus nauseosus*, *Opuntia acanthocarpa*, *Krascheninnikovia lanata*, *Grayia spinosa*, *Salazaria mexicana*, *Eriogonum fasciculatum* var. *polifolium*, *Lycium cooperi*, and *Yucca whipplei*. Notably absent is *Ambrosia dumosa*, a frequent associate of *Larrea* throughout the California deserts.

Herbaceous perennial and annual understory taxa include *Chaenactis stevioides*, *Coreopsis bigelovii*, *Lasthenia californica*, *Layia glandulosa*, *Syntrichopappus fremontii*, *S. lemmonii*, *Xylorhiza tortifolia*, *Amsinckia tessellata*, *Cryptantha pterocarya*, *C. nevadensis*, *Pectocarya linearis* ssp. *ferocula*, *P. penicillata*, *P. recurvata*, *Caulanthus lasiophyllus*, *Descurainia pinnata*, *Lotus strigosus*, *L. wrangelianus*, *Lupinus sparsiflorus*, *Erodium cicutarium*, *Phacelia fremontii*, *P. distans*, *Pholistoma membranaceum*, *Salvia columbariae*, *Camissonia californica*, *Eschscholzia minutiflora*, *Gilia latiflora* ssp. *davyi*, *Linanthus bigelovii*, *Eriogonum angulosum*, *Dichelostemma pulchellum*, *Calochortus kennedyi*, *Bromus rubens*, *B. tectorum*, *Poa secunda*, *Schismus barbatus*, *Stipa speciosa*, *Vulpia myuros*, and *V. octoflora*.

The Joshua tree series is named for its most physiognomically distinctive species, *Yucca brevifolia*. Stands most closely approaching the shrub species composition typically associated with this series within the Mojave Desert proper are found at the northeastern base of the range, near Palmdale and Harold. Common shrub associates here include *Juniperus californicus*, *Opuntia echinocarpa*, *Tetradymia axillaris* var. *longispina*, *Salazaria mexicana*, *Eriogonum fasciculatum* var. *polifolium*, *Grayia spinosa*, *Yucca whipplei*, *Lycium cooperi*, and *Salvia dorrii*. *Yucca brevifolia* in this area is the typical variety, characterized by having a distinct monopodial growth form with well-branched crown.

Scattered stands of *Yucca brevifolia* occur across the northern edge of the range, where locally present within other vegetation series. Most of these small stands would probably not warrant mapping as Joshua tree series, however. An unusual manifestation of the Joshua tree series is found at the extreme northwestern end of the range. Here, *Yucca brevifolia* is strongly clonal, forming dense, impenetrable thickets. Even the largest "individuals" have poorly branched crowns. These plants represent the variety *herbertii*. Associated

shrubs are scarce within the thickets, but surrounding vegetation generally is a manifestation of the big sagebrush and rubber rabbitbrush series.

Understory taxa within the Joshua tree series, especially in the eastern stands, are similar to those of the creosote bush series.

Riparian scrub.—Vegetation associated with moist to wet soils of drainage courses, springs, and fluctuating lake margins, includes both shrub- and tree-dominated series. These are distributed across a variety of environmental gradients, including the nature and frequency of past flooding, fire, and other disturbance; the duration and reliability of surface water; the texture of alluvial overburden and depth to bedrock; and the stream gradient. As a general rule, areas with greater water availability, and less disturbance, tend to support tree-dominated vegetation. These will be addressed later in the context of woodland vegetation series. Portions of drainages with less reliable supplies of water, areas subject to more frequent scouring floods, and heavily or periodically disturbed situations are characterized by various shrub-dominated series, collectively treated here as riparian scrub.

Important kinds of riparian scrub in the Liebre Mountains region include the mulefat, narrowleaf willow, and scalebroom series (Table 3). The mulefat series, characterized by dense to open stands of *Baccharis salicifolia* (mulefat), is the most common and widespread of the three. It is common in the periodically flooded areas about the margins of lakes and reservoirs, frequently scoured wet areas in the larger drainages, and in minor drainages throughout the range. The narrowleaf willow series, characterized by *Salix exigua* (narrowleaf willow), is typically associated with locations with reliable sources of water near the soil surface, as about springs and along sluggish streams.

Stands of the scalebroom series, dominated by *Lepidospartum squamatum* (scalebroom), are generally restricted to relatively broad, low-gradient washes which are sandy and frequently scoured by seasonal floods. Historically, this was likely the predominant vegetation along portions of the Santa Clara River and the lower reaches of the Castaic, San Francisquito, Bouquet, Elizabeth Lake Canyon, and Mint Canyon drainages. Much of this habitat has been lost or radically altered by urbanization, sand and gravel mining, channelization, and agriculture. The best-developed remnants are now found in lower San Francisquito Canyon, and along the Santa Clara River downstream from the mouth of Soledad Canyon.

The scalebroom series is the most floristically diverse of the three basic kinds of riparian scrub found in the range. Common associates include *Brickellia californica*, *Ericameria linearifolia*, *Senecio flaccidus*

Table 4. Woodland vegetation series of the Liebre Mountains region.

Oak woodland	Conifer woodland	Riparian woodland
Black oak	big cone Douglas fir	arroyo willow
Blue oak	big cone Douglas fir-canyon live oak	California sycamore
Canyon live oak	California juniper	Fremont cottonwood
Coast live oak	foothill pine	mixed willow
Mixed oak	ponderosa pine	red willow
Valley oak	singleleaf pinyon	white alder

var. *douglasii*, *Lotus scoparius*, and *Eriogonum fasciculatum* var. *foliolosum*. Other shrub elements which are frequently present include *Juniperus californica*, *Sambucus mexicana*, *Rhus trilobata*, *Artemisia tridentata* var. *parishii*, *Chrysothamnus nauseosus*, *Ribes aureum*, *Eriodictyon crassifolium* var. *nigrescens*, *Salvia apiana*, *Prunus ilicifolia*, and *Yucca whipplei*. Occasionally, a few trees may be scattered on the drier benches, especially *Quercus agrifolia*, *Platanus racemosa*, and *Populus fremontii*.

The composition of herbaceous elements within stands of riparian scrub is variable, and closely associated with overall moisture and disturbance regimes. Common associates of drier benches include *Selaginella bigelovii*, *Asclepias fascicularis*, *Ambrosia psilostachya* var. *californica*, *Artemisia douglasiana*, *A. dracuncululus*, *Centaurea melitensis*, *Chaenactis glabriuscula*, *Conyza canadensis*, *Corethrogyne filaginifolia*, *Eriophyllum confertiflorum*, *Heterotheca grandiflora*, *Solidago californica*, *Cryptantha circumscissa*, *C. muricata*, *Pectocarya penicillata*, *Brassica geniculata*, *Lotus unifoliolatus*, *Lupinus bicolor*, *Erodium cicutarium*, *Camissonia bistorta*, *Oenothera californica* ssp. *californica*, *Eriastrum sapphirinum*, *Rumex hymenosepalus*, *Calyptridium monandrum*, *Dichelostemma pulchellum*, *Avena barbata*, *Bromus rubens*, *B. hordeaceus*, *Vulpia microstachys*, *V. myuros*, and *V. octoflora*. Herbaceous elements of wetter situations in riparian scrub include *Berula erecta*, *Xanthium strumarium*, *Heliotropium curassavicum* ssp. *oculatum*, *Rorippa nasturtium-aquaticum*, *Lotus heermannii*, *Melilotus indicus*, *Stachys albens*, *Oenothera elata* ssp. *hirsutissima*, *Polygonum lapathifolium*, *Rumex crispus*, *R. salicifolius*, *Mimulus cardinalis*, *M. guttatus*, *Urtica dioica* ssp. *holosericea*, and *Muhlenbergia rigens*.

Woodland Vegetation Series

Vegetation series dominated by arborescent species, although much less extensive in areal coverage than various types of scrub, nevertheless form an important part of the landscape throughout the Liebre Mountains region. Characteristic tree-dominated series found in the range are presented in Table 4. For convenience of

discussion, these may be grouped into three broad types—oak woodland, conifer woodland, and riparian woodland. I have excluded from the discussion of woodland series, those situations where conifers have been established in artificial plantations by the National Forest.

Oak woodland.—The Liebre Mountains are noteworthy in the diversity of oak-dominated series found in the range (Table 3, 4). Important arborescent species of oaks include *Quercus kelloggii* (black oak), *Q. douglasii* (blue oak), *Q. chrysolepis* (canyon live oak), *Q. agrifolia* (coast live oak), and *Q. lobata* (valley oak) (Table 4).

The black oak series is best developed along the crest of Liebre and Sawmill mountains, although small stands are present at higher elevations along Sierra Pelona. Within the range, this series is characterized by rather open and savannalike stands of *Quercus kelloggii*, with scattered *Q. chrysolepis*. The broader openings are often characterized by local stands of *Chrysothamnus nauseosus*, *Artemisia tridentata*, *Eriogonum fasciculatum*, *E. umbellatum* var. *munzii*, and *Ribes roezlii*. Areas between clusters of trees exhibit a rich assemblage of herbaceous species, including *Agoseris retrorsa*, *A. grandiflora*, *Athyrium pusillus*, *Bloomeria crocea*, *Bromus hordeaceus*, *B. rubens*, *Calochortus venustus*, *Camissonia campestris*, *Clarkia purpurea*, *Corethrogyne filaginifolia*, *Elymus glauca*, *E. elymoides*, *Epilobium brachycarpum*, *Erigeron foliosus*, *Eriogonum cithariforme*, *E. roseum*, *Eriophyllum confertiflorum*, *Gilia ochroleuca* ssp. *bizonata*, *Linanthus androsaceus* ssp. *micranthus*, *Nemophila menziesii*, *Penstemon centranthifolius*, *P. labrosus*, *P. rostriflorus*, *Phacelia davidsonii*, *Platystemon californicus*, *Thysanocarpus curvipes*, *T. laciniatus*, and *Vulpia microstachys*. On northerly slopes, black oak woodland grades into mixed oak, canyon live oak, and big cone Douglas fir woodland, while on the southerly slopes it generally gives way to chaparral dominated by shrub species of *Quercus*, especially *Q. wislizeni*.

Stands of the blue oak series are limited to the northwestern end of the range, especially at the western end of Portal Ridge and in the vicinity of Sandberg on the northwestern foot of Liebre Mountain. Within the study area, this series is typically found on mesic exposures of gentle to moderately sloping hills and ridges, and is relatively open and savannalike. In addition to *Quercus douglasii*, the dominant tree, scattered individuals of *Q. lobata* and *Pinus sabiniana* are frequently present.

Most of the best-developed stands of the blue oak series are found on private ranch lands that were not accessible during the course of this study. Although similar overall to that of black oak woodlands, the herbaceous understory of the blue oak series remains

poorly sampled within the range. Common shrub associates include *Juniperus californica*, *Aesculus californica*, *Artemisia tridentata*, *Chrysothamnus nauseosus*, and *Quercus john-tuckeri*.

Those stands of the blue oak series found in the range are among the most southerly known in California. I suspect the understory may support a number of additional taxa common to this vegetation association further north, but otherwise absent from the study area. Trees and arborescent shrubs suggesting intergradation between *Quercus douglasii*, *Q. john-tuckeri*, and *Q. lobata* are not uncommon at the northwestern end of the range, and were included in studies by Benson et al. (1967) of hybrid swarms in oaks.

The canyon live oak series is dominated by tree forms of *Quercus chrysolepis*, and is generally found within the Liebre Mountains at elevations above 1000 m. Best development within the range is on steep slopes with mesic exposures, particularly across the northern flank of Liebre-Sawmill-Sierra Pelona crest, and in upper Cold Canyon at the western end of Liebre Mountain. Within the range, the canyon live oak series is typically part of a complex vegetation mosaic which includes the black oak and big-cone Douglas fir series on mesic exposures, and various chaparral series on xeric slopes. Boundaries between the different vegetation assemblages are indistinct with considerable overlap in component species. Physiognomy of these woodland series is controlled by the relative abundance of the three principal tree species, *Quercus chrysolepis*, *Q. kelloggii*, and *Pseudotsuga macrocarpa*.

The canyon live oak series is characterized by dense stands of *Quercus chrysolepis*, with only scattered *Q. kelloggii*, or *Pseudotsuga macrocarpa*. The herbaceous understory is frequently rather poorly developed in stands with dense overstory crown cover, but may be diverse in relatively open stands. In general, shade-tolerant taxa, including *Bromus grandis*, *Claytonia exiguua*, *C. perfoliata*, *C. rubra*, *Cystopteris fragilis*, *Delphinium patens* ssp. *montanum*, *Dryopteris arguta*, *Erysimum capitatum*, *Heterogaura heterandra*, *Lithophragma bolanderi*, *L. heterophyllum*, *L. parviflorum*, *Melica imperfecta*, and *Osmorhiza brachypoda*. Understory shrubs, although frequently lacking, include *Rhamnus tomentella*, *Ribes roezlii*, and *Symphoricarpos albus* var. *laevigatus*.

The coast live oak series is dominated by dense to open stands of *Quercus agrifolia*. Examples of this series may be found scattered across the southwestern quarter of the range, particularly in the larger, broader drainages, such as San Francisquito, Bouquet, and Mint canyons. The best-developed examples of the coast live oak series are most often found on deeper alluvial soils, at elevations below 1000 m. In many areas, trees have been thinned by cutting or clearing to produce open, parklike stands. These are often the

sites of rural residences. Other areas still support dense stands with nearly continuous crown cover. Depending on the frequency and intensity of past and present disturbance, the understory may be relatively depauperate and weedy, or support a rich assemblage of understory shrubs, perennial herbs, and annuals.

In the most-disturbed woodlands, especially those subjected to intense grazing, the understory is densely invaded by introduced annual grasses and forbs, especially *Bromus diandrus*, *B. hordeaceus*, *B. rubens*, *Avena barbata*, *Vulpia myuros*, *Centaurea melitensis*, *Brassica geniculata*, and *Erodium cicutarium*. In less-disturbed situations, especially those stands on mesic slopes, an open to relatively dense shrub understory may be present. Frequent shrub associates include *Sambucus mexicana*, *Rhus trilobata*, *Toxicodendron diversilobum*, *Eriodictyon crassifolium* var. *nigrescens*, *Rhamnus ilicifolia*, *Heteromeles arbutifolia*, *Prunus ilicifolia*, *Galium angustifolium*, *Keckiella cordifolia*, *Solanum xanti*, *Lonicera interrupta*, *Symphoricarpos albus* var. *laevigatus*, *Salvia apiana*, *S. mellifera*, *Eriogonum fasciculatum*, and *Yucca whipplei*.

The composition and diversity of the herbaceous understory is equally variable, but may be quite rich in less-disturbed woodlands on mesic slopes. Common ferns include *Adiantum jordanii*, *Pellaea andromedifolia*, *Pentagramma triangularis*, and *Dryopteris arguta*. Among the frequently encountered perennial grasses are *Elymus condensatus*, *E. glaucus*, *Melica imperfecta*, and *Poa secunda*. Other common perennial herbs include *Osmorhiza brachypoda*, *Sanicula crassicaulis*, *Tauschia arguta*, *Ambrosia psilostachya* var. *californica*, *Artemisia douglasiana*, *Cirsium occidentale*, *Corethrogyne filaginifolia*, *Erigeron foliosus* var. *stenophyllus*, *Eriophyllum confertiflorum*, *Gnaphalium californicum*, *Solidago californica*, *Chenopodium californicum*, *Marah macrocarpus*, *Penstemon centranthifolius*, and *P. grinnellii* var. *scrophularioides*. Characteristic annuals include *Thysanocarpus curvipes*, *T. laciniatus*, *Nemophila menziesii*, *Monardella lanceolata*, *Salvia columbariae*, *Clarkia purpurea*, *C. unguiculata*, *Claytonia* spp., *Galium aparine*, *Collinsia heterophylla*, and *Cordylanthus rigidus* ssp. *setiger*.

Valley oak woodland, like blue oak woodland, is best developed at the northwestern end of the study area, although historically well-developed stands ranged southward along the western edge of the range into the Valencia and Saugus area. Typically, stands dominated by *Quercus lobata* are characterized by gentle relief and deep, often alluvial soils. The herbaceous and shrub understory of valley oak woodland is virtually identical to blue oak woodland, and to a lesser extent, black oak woodland.

Conifer woodland.—Relative to woodland series characterized by species of *Quercus*, natural vegetation

dominated by arborescent conifers is limited in both areal and geographic extent within the range. Nevertheless, several distinctive series are locally important components in the Liebre Mountains vegetation mosaic (Table 4). The important coniferous trees include *Pseudotsuga macrocarpa* (big cone Douglas fir), *Juniperus californica* (California juniper), *Pinus sabiniana* (foothill pine), *P. ponderosa* (ponderosa pine), and *P. monophylla* (singleleaf pinyon).

Woodlands of the big cone Douglas fir and big cone Douglas fir-canyon live oak series are best developed in the steep, moist canyons draining the northern flank of Liebre and Sawmill mountains, but occur at scattered sites throughout the range in areas of similar habitat. In addition to *Pseudotsuga*, and to varying degrees, *Quercus chrysolepis*, other trees which are sometimes present include *Pinus sabiniana*, *P. ponderosa*, *Q. kelloggii*, and *Acer macrophyllum*. Across the northern flank of Liebre and Sawmill mountains, these woodlands are intimately associated with the canyon live oak and black oak series at the upper elevations, and the valley oak series near the foot of the slopes. Understory composition is virtually identical to that found in canyon live oak woodlands.

The California juniper series is found in the southeastern end of the Liebre Mountains region, but is best developed in the region between Agua Dulce and Acton. The dominant overstory species, *Juniperus californica*, is most often found as an arborescent shrub in the study area. It is discussed here, vs. with other shrub-dominated series, only because Sawyer and Keeler-Wolf (1995) specifically grouped this vegetation type with other tree-dominated series. Stands of the California juniper series are typically somewhat open and savannalike, with considerable open areas between clusters of *Juniperus*. The areas between junipers support an open, low scrub of *Eriogonum fasciculatum*, *Artemisia tridentata*, and *Chrysothamnus nauseosus*. The herbaceous understory may be fairly diverse, with numerous wildflowers, such as *Amsinckia menziesii*, *A. tessellata*, *Nemophila menziesii*, *Phacelia distans*, *Camissonia bistorta*, *Oenothera californica*, *Gilia* spp., *Eriastrum sapphirinum*, *Layia glandulosa*, *Lasthenia californica*, *Salvia columbariae*, *Cryptantha* spp., and *Plagiobothrys arizonicus*, as well as native grasses, such as *Melica imperfecta*, *Poa secunda*, *Elymus elymoides*, and *Stipa speciosa*. Other areas have a more depauperate herbaceous understory, having been degraded by past human activity and subsequently invaded by weedy annual grasses, such as *Bromus hordeaceus*, *B. rubens*, *Avena barbata*, *A. fatua*, and *Schismus barbatus*.

The California juniper series seems to be especially vulnerable to repeated fires with short return intervals. Most of the areas supporting this vegetation series within the study area occur outside of the National

Forest boundaries and are being rapidly degraded by fragmentation and fires associated by low-density semirural development.

The Foothill pine series, like the floristically related blue oak and valley oak series, reaches the southern limit of its distribution within the Liebre Mountains region. Vegetation dominated by *Pinus sabiniana* is confined to the northern edge of the range, along Portal Ridge and the northerly flank of Liebre and Sawmill mountains. In well-developed stands, the overstory may be dense to relatively open, but rarely forming the deeply shaded conditions seen in big cone Douglas fir and canyon live oak woodlands. Understory composition of the foothill pine series within the range is virtually identical to that of the blue oak and valley oak series.

The most limited conifer-dominated vegetation type in the range is the ponderosa pine series. Compared with the higher San Gabriel Mountains to the southeast, and Mount Pinos region to the northwest, native stands of *Pinus ponderosa* in the Liebre Mountains are small and floristically depauperate. Within the study area, this vegetation series is limited to the highest portions of the Sawmill Mountain summit, surrounded by more extensive stands of the black oak and big cone Douglas fir-canyon live oak series. Understory shrubs include *Chrysothamnus nauseosus*, *Ribes roezlii*, *Rhamnus tomentella*, *Eriogonum umbellatum*, *E. wrightii* var. *subscaposum*, and *E. fasciculatum*. The herbaceous understory is similar to that of the adjacent black oak series.

Singleleaf pinyon, *Pinus monophylla*, is found in two widely separated areas of the Liebre Mountains region, the northerly flank of Sierra Pelona south of Palmdale, and the steep, sedimentary hills at the northwestern corner of the range. Vegetation dominated by singleleaf pinyon is only found at the northwestern area, however. In addition to *Pinus monophylla*, common associated arborescent and shrub species include *Juniperus californica*, *Quercus john-tuckeri*, *Arctostaphylos glauca*, *Artemisia tridentata*, *Ephedra viridis*, *Salvia dorrii*, *Yucca whipplei*, *Y. brevifolia*, and *Cercocarpus betuloides*. Common herbaceous understory elements include *Lasthenia californica*, *Thysanocarpus laciniatus*, *T. curvipes*, *Poa secunda*, *Coreopsis bigelovii*, *Layia glandulosa*, *Phacelia distans*, *Claytonia* spp., and *Calochortus kennedyi*.

Riparian woodland.—Several tree-dominated vegetation series occur within the Liebre Mountains region (Table 4). As with riparian scrub, the riparian woodland series occur across a variety of environmental gradients. The floristic composition and relative dominance of component taxa may be correlated with the nature and frequency of past flood events and the duration and reliability of surface water, as well as the

effects of fire and past anthropogenic disturbance. Collectively, the best development of riparian woodland series in the range may be found in the larger drainage systems, such as Castaic, Elizabeth Lake, San Francisco, Bouquet, and Soledad canyons and their major tributaries. Riparian vegetation remains relatively intact within the portion of the range administered by the Angeles National Forest, but at lower elevations, especially near the confluence of the principal drainages with the Santa Clara River, there has been extensive clearing and channelization with subsequent loss of woodland.

Grassland Vegetation Series

Within the Liebre Mountains, there is less diversity of vegetation dominated by grasses and other herbaceous taxa as compared with the scrub and woodland series discussed above. Only four series are of regional importance in the range, the California annual grassland, nodding needle grass, common reed, and giant reed series.

California annual grassland is a floristically heterogeneous series, characterized by the physiognomic prevalence of annual grasses, especially introduced species. This broad category doubtless includes both natural, herb-dominated vegetation, and stands resulting from anthropogenic degradation of other scrub and woodland vegetation.

The most extensive development of California annual grassland within the range is found along the northern border of the study area, at the southern edge of the Antelope Valley, on Portal Ridge, Bald Mountain, and across the summits of the Liebre-Sawmill-Sierra Pelona crest. Although introduced taxa, such as *Avena barbata*, *A. fatua*, *Bromus hordeaceus*, *B. rubens*, *Schismus barbatus*, and *Erodium cicutarium*, are important in these stands, there is a noteworthy diversity of native taxa. Common native elements include *Coreopsis bigelovii*, *Lasthenia californica*, *Eschscholzia californica*, *Lupinus bicolor*, *Dichelostemma pulchellum*, *Tropidocarpum gracile*, *Chaenactis xantiana*, *Phacelia tanacetifolia*, *Salvia columbariae*, *S. carduacea*, *Gilia latiflora* ssp. *davyi*, *G. ochroleuca* ssp. *bizonata*, *Holocarpa heermannii*, *Lotus wrangelianus*, *Eriogonum roseum*, *E. cithariforme*, *Camissonia campestris*, *C. graciliflora*, *Plagiobothrys arizonicus*, and *Pectocarya penicillata*.

In contrast, the more anthropogenically disturbed stands of California annual grassland are concentrated in the southern half of the range, particularly in the Santa Clarita Valley. Here, only the most hardy and vigorous of the native elements, such as *Lupinus bicolor*, *Eschscholzia californica*, *Cryptantha muricata*, and *Dichelostemma pulchellum* are able to compete favorably with the aggressive exotics.

Grasslands dominated by nodding needle grass, *Stipa cernua*, are small and uncommon within the range. The most intact examples are found at the western edge of the study area, in Osito Canyon. Here they are developed on deposits of locally weathered heavy soil within a broader matrix of better-drained sandstone-derived soils which support various chaparral and sage scrub series. Although exotic annual grasses have invaded these areas, as elsewhere, *Stipa cernua* is still dominant. Common herbaceous elements associated with these grasslands include *Plantago erecta*, *Lotus wrangelianus*, *Cryptantha microstachys*, *Hemizonia fasciculata*, *Microseris lindleyi*, *Dichelostemma pulchellum*, *Astragalus gambelianus*, *Ancistrocarphus filagineus*, *Poa secunda*, and *Calystegia peirsonii*.

The common reed series, characterized by nearly pure stands of *Phragmites australis*, is restricted to low-gradient portions of the Apple Canyon drainage, just east of Interstate 15. This area is periodically inundated when Pyramid Lake is filled to capacity, perhaps accounting for the abundance of this coarse grass at the site. The giant reed series, characterized by nearly pure stands of *Arundo donax*, is limited to the floodplain of the Santa Clara River at the eastern edge of the study area.

FLORA

Numerical summary and phytogeography

The inventory of the Liebre Mountains flora presented here is limited to "naturally" occurring taxa, that is, indigenous natives and those nonnatives thought to be growing and reproducing without direct, conscious human intervention (i.e., outside of cultivation). In this context, I have excluded long-persistent plantings of trees and shrubs, unless there was a clear indication that there has been subsequent adventive establishment. On the other hand, waifs of exotic annuals and short-lived perennial herbs were included, although I recognize that some will no doubt be transitory participants in the dynamic floristic diversity of the region.

Based on fieldwork conducted to date, as well as examination of specimens housed at RSA-POM and elsewhere, 1010 vascular plant taxa (species, subspecies, varieties, and natural hybrids) are documented from the Liebre Mountains region. These represent 104 families and 400 genera (Table 5). The largest families include Asteraceae (68 genera/150 species), Poaceae (40/96), Fabaceae (17/71), Scrophulariaceae (12/49), Polygonaceae (9/47), Brassicaceae (17/41), Polemoniaceae (9/39), Onagraceae (6/31), and Boraginaceae (6/26). Other important families include, Apiaceae, Caryophyllaceae, Chenopodiaceae, Convolvulaceae, Cyperaceae, Fagaceae, Hydrophyllaceae, Lamiaceae, Ranunculaceae, Rhamnaceae, Rosaceae, and

Table 5. Numerical summary of the flora of the Liebre Mountains region.

Major groups	Families	Genera	Species and lower taxa*		
			Native	Nonnative	Total
Pteridophytes	8	13	17	0	17
Gymnosperms	3	6	9	2	11
Dicotyledones	78	317	711	109	820
Monocotyledones	15	64	110	52	162
Total	104	400	847	163	1010

* Includes species, subspecies, varieties, and interspecific hybrids.

Solanaceae. The nine largest families account for nearly 55% of the total flora of the range. The largest genera include *Eriogonum* (26 taxa), *Lupinus* (23), *Bromus* (13), *Camissonia* (14), *Phacelia* (14), *Quercus* (14), *Gilia* (13), *Lotus* (13), *Chenopodium* (12), *Cryptantha* (12), and *Mimulus* (10). Additional well-represented genera include *Allium*, *Astragalus*, *Atriplex*, *Calochortus*, *Calystegia*, *Carex*, *Ceanothus*, *Clarkia*, *Claytonia*, *Collinsia*, *Elymus*, *Galium*, *Gnaphalium*, *Hordeum*, *Juncus*, *Linanthus*, *Lomatium*, *Salvia*, *Scirpus*, *Trifolium*, and *Vulpia*.

A complete listing of the taxa is presented below in the annotated catalogue. Several taxa were excluded from the present enumeration of the flora, although voucher specimens at RSA suggest they were collected within the boundaries of the Liebre Mountains study area. In all instances, I questioned the veracity of the records because the locality information on the specimen is vague and the characteristic habitat of the taxa involved is different from that inferred by the purported collection station. Nevertheless, I have included references to these excluded taxa as an addendum to the annotated catalogue so their status may be re-examined should the taxa be encountered during future floristic work in the range.

The flora of the Liebre Mountains region is comparable to other areas of southern California in exhibiting a ratio of native to nonnative taxa of approximately 4:1 (Table 6). Although the percentage of natives is the highest of those areas compared, this may reflect a certain sampling bias, as field efforts of the present study were largely focused on relatively less-disturbed public lands. It is likely that further floristic documentation of habitats in the wildland-urban interface within the Liebre Mountains region will increase the number of adventive and naturalized exotic taxa.

A comparison of percentage distribution of taxa among life-forms within the Liebre Mountains and other selected regions is presented in Table 7. A typical floristic feature of areas with Mediterranean-type climate is the preponderance of annual and herbaceous perennial taxa (Thorne 1967; Shmida 1981). The Liebre Mountains region conforms to this general pattern, although the representation of native annuals is slight-

Table 6. Comparison of native vs. nonnative taxa reported for various areas of southern California.

Geographic area	Native # taxa (%)	Nonnative # taxa (%)
Liebre Mountains region	847 (84)	163 (16)
San Mateo Canyon Wilderness Area (Boyd et al. 1995)	500 (80)	126 (20)
Santa Rosa Plateau (Lathrop and Thorne 1985*)	463 (80)	117 (20)
Santa Ana Mountains (Boyd, et al. 1995, Boyd, Ross, & Roberts, 1995)	793 (78)	230 (22)
Gavilan Hills (Boyd 1983)	353 (82)	177 (18)
Santa Monica Mountains (Raven, et al. 1986; Wishner 1997)	667 (75)	224 (25)
Santa Catalina Island (Thorne 1967)	393 (70)	166 (30)
San Clemente Island (Raven 1963)	233 (78)	66 (22)
Orange County (Roberts 1989)	806 (70)	351 (30)
San Diego County (Beauchamp 1986)	1741 (78)	469 (22)

* Based on Lathrop and Thorne (1985), adjusted to conform to taxonomy used here for the Liebre Mountains region flora.

ly higher than documented in either the Santa Ana or Santa Monica mountains. In part this may reflect greater the climatic diversity of the Liebre Mountains region which includes considerably more xeric conditions along the southwestern margin of the Mojave Desert.

The Similarity Index (SI) of Soerensen ($SI = 2C/A + B \times 100\%$; where A = number of taxa in one area, B = number of taxa in a second area, and C = number of taxa common to both areas), provides a simple method of comparing relative floristic similarity of two areas (Balgooy 1971). Two southern California regions suitable for comparison with the Liebre Mountains are the Santa Ana and Santa Monica mountains. These ranges are of generally similar size and topographic diversity to the Liebre Mountains region, and have relatively well-documented floras (Lathrop and Thorne 1978, 1985; Boyd et al. 1995, Boyd, Ross, and Roberts 1995, Raven et al. 1986; Wishner 1997; Ross 1996).

The total floras of the Liebre and Santa Ana mountains exhibit a SI of 56.5%. A comparison of both the native and nonnative elements of these areas exhibit similar SI values, 56.6% and 56.1% respectively. Comparison of the Liebre Mountains with the Santa Monica Mountains gives a SI of 53.3% for the total flora, 53.7% for the native component, and 51.8% for nonnative elements. As a point of further comparison, SI calculated for the Santa Ana vs. Santa Monica mountains is higher than for either range compared with the Liebre Mountains (SI = 64.4% for total flora; 67.9% for native flora).

As with life-forms, climatic diversity likely plays an important role in shaping the similarities and differences observed among the floras of these three areas. The Santa Ana and Santa Monica ranges are similar in having climatically disparate coastal and interior cismontane slopes (Lathrop and Thorne 1978; Raven et al. 1986). Although the drier interior slopes support a number of "desert" taxa, both ranges lack the strong Mojave Desert influence present in the Liebre Mountains region. Conversely, the Liebre Mountains lack

the lowland, coastal influences found in the Santa Ana, and especially, Santa Monica mountains.

A major impetus for selecting the Liebre Mountains region for study was its proximity to the borders of several major physiographic and phytogeographic units of southern California. The area is situated at the nexus of the Transverse Ranges, Coast Ranges, Sierra Nevada, Mojave Desert, and coastal plains (Hickman 1993; McLaughlin 1992). Ecotone areas such as this are often characterized by higher biological diversity than similar-sized areas within the core of a physiographic region. This pattern seems to hold for the Liebre Mountains region when compared with the Santa Ana or Santa Monica ranges, especially with respect to the native elements (Table 6).

A logical extension of the floristic analysis discussed above would be comparison of the Liebre Mountains with the somewhat larger, but closely juxtaposed San Gabriel, Pine Mountain, and Tehachapi ranges. Unfortunately, such analysis must await formal enumeration of the flora of those regions.

Sensitive taxa

Another goal of this study was to provide better documentation of plant taxa of conservation concern within the Liebre Mountains region. Much of the upland portions of the range are public lands managed by the Angeles National Forest. A baseline account of the resources being managed is required for establishing effective, long-term management plans. Large, ecologically intact units such as the Liebre Mountain uplands represent critical refugia for long-term conservation of southern California's low- and mid-elevation native flora. Areas which exhibit exceptional biological diversity are of even greater importance in this context.

Plants of conservation concern are those which have been designated "special plants" by California Department of Fish and Game, Natural Diversity Database (CDFG-NDDDB 1998). The term "special plants"

Table 7. Comparison of life-form spectra for the Liebre Mountains region and other selected regions of southern California.

Floristic unit	No. of taxa	Percentage distribution of taxa among life-forms*											
		Tr	Shl	Shs	Li	SFP	PH	G	An	Ep	Pa	Su	Aq
Liebre Mountains region													
Native taxa	847	3	6	9	>1	5	24	7	41	0	3	1	1
Total taxa	1010	4	6	8	>1	5	23	6	44	0	2	1	1
San Mateo Cyn Wilderness													
Native taxa	500	3	7	8	1	7	23	9	39	0	1	1	1
Total taxa	626	3	6	7	<1	6	22	7	44	0	<1	2	1
Santa Rosa Plateau													
Native taxa	463	3	6	7	<1	7	24	8	38	0	<1	1	5
Total taxa	580	3	6	5	<1	6	24	7	43	0	<1	1	4
Santa Ana Mtns s.l.													
Native taxa	793	2	6	10	<1	8	24	7	36	0	1	2	3
Total taxa	1023	3	6	8	<1	7	24	6	39	0	<1	2	3
Santa Monica Mtns													
Native taxa	667	2	5	8	<1	9	29	5	36	0	2	<1	2
Total taxa	891	2	4	7	<1	8	28	4	42	0	<1	<1	2
Santa Catalina Is.													
Native taxa	391	2	7	9	1	5	27	2	41	0	1	2	3
Total taxa	557	1	6	8	1	3	27	2	48	0	1	1	2
California mediterranean areas (Shmida 1981)													
	307	4	7	13	2	14	29	3	27	0	<1	0	0
Raunkiaer's Normal Spectrum (Raunkiaer 1934)													
	400	6	17	20	0	9	27	3	13	3	0	1	1

* Tr = trees (mesophanerophytes, 8–25 m tall); Shl = large shrubs (microphanerophytes, 2–8 m tall); Shs = small shrubs (nanophanerophytes, 0.5–2 m tall); Li = lianas (climbing phanerophytes with persistent stems); SFP = suffrutescent perennials (chamaephytes, vegetative buds not over 0.5 m above the ground); PH = perennial herbs (hemicryptophytes, vegetative buds at or just below soil surface); G = geophytes (herbaceous, vegetative buds well below soil surface); An = annuals (therophytes, including facultative biennials); Ep = epiphytes (nonparasitic); Pa = strict parasites (depending on other plants for much or all of their sustenance); Su = succulents (including stem succulents, leaf succulents, and rosette-leaved shrubs); Aq = aquatic plants (obligate hydrophytes, submersed or floating).

is a broad reference to all plant taxa inventoried by CDFG-NDDB, without regard to their legal or protection status (CDFG-NDDB 1998). Other common terms used to refer to such plants (e.g., rare, threatened, endangered, or sensitive) have taken on specific legal connotations in the highly politicized and litigious arena of species conservation. In the subsequent discussion, my use of the term “sensitive plants” should be interpreted as equivalent to CDFG-NDDB’s “special plants” as opposed to other narrower definitions.

A total of 32 sensitive plant taxa have been documented within the Liebre Mountains region (Table 8). Four are formally listed under the federal Endangered Species Act (ESA)—*Berberis nevinnii* (Endangered), *Dodecahema leptoceras* (Endangered), *Navarretia fossalis* (Threatened), and *Orcuttia californica* (Endangered). The *Berberis*, *Dodecahema*, and *Orcuttia* are also listed as Endangered under the California ESA. *Castilleja gleasonii* is listed by the State as Rare. The majority of sensitive plants documented from the range are taxa considered by the California Native Plant Society (CNPS) as rare, threatened, or endangered (Skinner and Pavlik 1994).

Several of the sensitive plant taxa of the range are

phytogeographically noteworthy. *Berberis nevinnii*, *Orcuttia californica*, *Dodecahema leptoceras*, and *Harpagonellapalmeri* reach the northern limits of their range within the Liebre Mountains region. *Navarretia fossalis* may also share this distinction, depending upon interpretation of an anomalous collection from San Luis Obispo County (Boyd and Sanders, in press).

ANNOTATED CATALOGUE OF THE VASCULAR FLORA

The following list includes all vascular plant taxa documented during fieldwork in the Liebre Mountains region, and through herbarium specimens deposited at RSA-POM and elsewhere. A representative voucher specimen is cited for each taxon listed, including collector name(s), number, and collection date. Unless otherwise cited, voucher specimens are deposited at RSA-POM. Herbarium acronyms follow *Index Herbariorum*, 8th ed. (Holmgren, et al. 1990).

An alphabetical arrangement has been followed for families within subdivisions, classes, or subclasses, as well as for genera within families, and species within genera. Nomenclature used in this list largely follows Hickman (1993). Family nomenclature is that of Thorne

Table 8. Sensitive plant taxa documented within the Liebre Mountains region.

<i>Acanthomintha obovata</i> ssp. <i>cordata</i> —CNPS 4
<i>Allium howellii</i> var. <i>clokeyi</i> —CNPS 4
<i>Androsace elongata</i> ssp. <i>acuta</i> —CNPS 4
<i>Arenaria macradenia</i> var. <i>kushei</i> —Fsoc; CNPS 3
<i>Aster greatae</i> —CNPS 4
<i>Berberis nevini</i> —FE, SE, CNPS 1B
<i>Calochortus clavatus</i> var. <i>clavatus</i> —CNPS 4
<i>Calochortus clavatus</i> var. <i>gracilis</i> —Fsoc, CNPS 1B
<i>Calochortus plummerae</i> —Fsoc, CNPS 1B
<i>Calystegia peirsonii</i> —Fsoc, CNPS 4
<i>Castilleja gleasonii</i> —Fsoc, SR, CNPS 1B
<i>Castilleja plagiotoma</i> —CNPS 4
<i>Chorizanthe breweri</i> —CNPS 1B
<i>Chorizanthe parryi</i> var. <i>fernandina</i> —CNPS 1A
<i>Chorizanthe parryi</i> var. <i>parryi</i> —Fsoc, CNPS 3
<i>Cupressus arizonica</i> ssp. <i>nevadensis</i> —CNPS 1B
<i>Dodecahema leptoceras</i> —FE, SE, CNPS 1B
<i>Gilia latiflora</i> ssp. <i>cuyamensis</i> —CNPS 4
<i>Harpagonella palmeri</i> —Fsoc, CNPS 2
<i>Hordeum intercedens</i> —CNPS 3
<i>Juglans californica</i> var. <i>californica</i> —CNPS 4
<i>Juncus acutus</i> ssp. <i>leopoldii</i> —CNPS 4
<i>Lilium humboldtii</i> ssp. <i>ocellatum</i> —Fsoc, CNPS 4
<i>Lupinus excubitus</i> var. <i>johnstonii</i> —CNPS 4
<i>Navarretia fossalis</i> —FT, CNPS 1B
<i>Navarretia jaredii</i> —CNPS 4
<i>Orcuttia californica</i> —FE, SE, CNPS 1B
<i>Perideridia pringlei</i> —CNPS 4
<i>Sidalcea neomexicana</i> ssp. <i>thurberi</i> —CNPS 2
<i>Stylocline masonii</i> —Fsoc, CNPS 1B
<i>Syntrichopappus lemmonii</i> —CNPS 4
<i>Thermopsis californica</i> var. <i>argentata</i> —CNPS 4

FE = federal listed endangered; Fr = federal listed threatened; Fsoc = federal species of concern; SE = California State listed endangered; SR = CA State listed rare; CNPS = California Native Plant Society listed (see Skinner & Pavlik [1994] for discussion of list ranking).

(1992) for the flowering plants, and Crabbe, et al. (1975) for ferns.

Nonnative taxa are indicated by an asterisk (*) before the name. Plants considered sensitive by the Angeles National Forest, California Native Plant Society, California Department of Fish and Game, and/or United States Fish and Wildlife Service are indicated by a dagger.

LYCOPODIAE

SELAGINELLACEAE

SELAGINELLA BIGELOVII Underw. Perennial herb. Common, crevices of rock outcrops, xeric rocky slopes, and open, stabilized alluvial benches. Ross & Boyd 7951, 25 May 1994.

EQUISETAE

EQUISETACEAE

EQUISETUM HYEMALE L. ssp. *AFFINE* (Engelm.) Calder & Roy L. Taylor Perennial herb. Uncommon, moist soil along stream in Cien-

aga Canyon above confluence with Fish Canyon. Boyd et al. 8921, 11 Jul 1996.

EQUISETUM TELMATEIA Ehrh. ssp. *BRAUNII* (Milde) Hauke Perennial herb. Uncommon, shaded streamside benches at head of Cienaga Canyon. Boyd 10042, 17 Sep 1997.

FILICAE

ADIANTACEAE

ADIANTUM CAPILLUS-VENERIS L. Perennial herb. Uncommon, seepage near Plum Spring, Clearwater Canyon. Ross, Boyd, & Burns 8108, 6 Jul 1994.

ADIANTUM JORDANI Müll. Berol. Perennial herb. Infrequent, rocky mesic slopes in understory of chaparral. Ross & Banks 7530, 13 Apr 1994.

CHEILANTHES COVILLEI Maxon Perennial herb. Occasional about rock outcrops. Ross & Boyd 8627, 28 Jun 1995.

PELLAEA ANDROMEDIFOLIA (Kaulf.) Fee Perennial herb. Occasional, rocky mesic slopes in understory of chaparral and oak woodland. Ross & Porter 8430, 4 May 1995.

PELLAEA MUCRONATA (D. C. Eaton) D. C. Eaton var. *MUCRONATA* Perennial herb. Common, crevices of rock outcrops, xeric rocky slopes, and open, stabilized alluvial benches. Boyd & Raz 9318, 25 Mar 1997.

PENTAGRAMMA TRIANGULARIS (Kaulf.) Yatskievych, Windham, & Woolenweber ssp. *MAXONII* (Weath.) Yatskievych, Windham, & Woolenweber Perennial herb. Uncommon, steep rocky slopes of Parker Mtn. Ross, Boyd, & Arnseth 4858, 29 Apr 1991.

PENTAGRAMMA TRIANGULARIS (Kaulf.) Yatskievych, Windham, & Woolenweber ssp. *TRIANGULARIS* Perennial herb. Common in understory of scrub, generally mesic rocky slopes. Ross & Boyd 7681, 4 May 1994.

ASPLENIACEAE

CYSTOPTERIS FRAGILIS (L.) Bernh. Perennial herb. Occasional, generally on steep, shaded slopes, especially in understory of oak woodland. Boyd & Mistretta 8757, 1 May 1996.

DRYOPTERIS ARGUTA (Kaulf.) Maxon Perennial herb. Occasional, mesic slopes in understory of chaparral and oak woodland. Ross, Boyd, & Burns 8110, 6 Jul 1994.

AZOLLACEAE

AZOLLA FILICULOIDES Lam. Aquatic perennial herb. Local on surface of standing water and spring outflow, as at Knapp Ranch. Boyd 8693, 25 Apr 1996.

DENNSTAEDTIACEAE

PTERIDIUM AQUILINUM (L.) Kuhn var. *PUBESCENS* Underw. Perennial herb. Scattered throughout the range in shaded, mesic sites. Locally abundant at Atmore Meadows. Ross & Boyd 8652, 28 Jun 1995.

MARSILEACEAE

MARSILEA VESTITA Hook. & Grev. Aquatic perennial herb. Scarce, documented from Bouquet Reservoir, but to be expected along margins of other water bodies, such as Lake Hughes, Elizabeth Lake, and other sag ponds along the San Andreas Fault Rift. Raven 16748, 24 Sep 1961.

PILULARIA AMERICANA A. Braun Aquatic herb. Locally common, drying mud of vernal pool, Plum Canyon. Boyd, Raz, & Kinney 10104, 17 Mar 1998.

POLYPODIACEAE

POLYPODIUM CALIFORNICUM Kaulf. Perennial herb. Scarce, mesic rocky slope in Spunky Canyon, upstream from confluence with Bouquet Reservoir. *Ross & Banks 7551, 13 Apr 1994.*

CONIFERAE

CUPRESSACEAE

**CALOCEDRUS DECURRENS* (Torr.) Florin Tree. Introduced at scattered sites throughout the range in Forest Service plantations and occasionally becoming adventive. Apparently no natural stands are present in the range. *Ross & Boyd 8319, 21 Sep 1994.*

**CUPRESSUS ARIZONICA* Greene ssp. *ARIZONICA* Tree. Introduced at scattered sites throughout the range, especially in Forest Service plantations and occasionally becoming adventive. *Ross & Boyd 8321, 21 Sep 1994.*

CUPRESSUS ARIZONICA Greene ssp. *NEVADENSIS* (Abrams) E. Murray Tree. Local in scrub along ridgeline of Warm Springs Mountain, west of the summit. *Boyd, Brummitt, & Moore 10232, 26 May 1998.* This population is composed of fewer than 50 nonreproductive juvenile plants, scattered about the vicinity of fire-killed parental trees. It is unclear whether this represents a natural population or adventive individuals derived from originally cultivated material. Although the plants observed were adjacent to a Forest Service road, given the overall isolated nature of the site, I have treated this as a presumably natural stand. To verify this interpretation, additional searches should be made for the taxon in the vicinity of Warm Springs and Red Rock mountains. If the population is natural, it represents a significant extension of the known range southward from the southern Sierra Nevada.

JUNIPERUS CALIFORNICA Carrière Large shrub. Widespread and locally common in more xeric areas, as at the northwest end of the range, and in the vicinity of Agua Dulce and Acton. *Ross & Boyd 2808, 6 Jun 1990.*

EPHEDRACEAE

EPHEDRA NEVADENSIS S. Watson Small shrub. Occasional on xeric, open slopes in the Agua Dulce-Acton region northeast to Vincent and westward along Ritter and Portal ridges. *Boyd & Mistretta 8741, 1 May 1996.*

EPHEDRA VIRIDIS Coville Small shrub. Occasional on sedimentary substrates north and west of the Castaic Creek drainage. *Ross 8385, 26 Apr 1995.*

PINACEAE

PINUS COULTERI D. Don Tree. A few occurrences along the north face of Liebre and Sawmill mountains appear to be natural populations. The species has been introduced at scattered sites throughout the range, however, especially in Forest Service plantations. *Clark 1205, 1 Oct 1928.*

PINUS MONOPHYLLA Torr. & Frém. Tree. Locally common in a limited area at the northwest end of the range, generally restricted to ridges of sedimentary substrate. *Boyd, Mistretta, & Dolan 8586, 18 Apr 1996.* A few individuals are found on the northeastern flank of Sierra Pelona and are noteworthy in possessing both single and two-needle leaves. *Boyd, Raz, & Kinney 10089, 17 May 1998.*

PINUS PONDEROSA Douglas ex Lawson & C. Lawson Tree. A few occurrences along the north face of Liebre and Sawmill mountains appear to be natural populations. The species has been introduced at scattered sites throughout the range, however, especially in Forest Service plantations. *Ross & Boyd 7809B.*

PINUS SABINIANA Douglas Tree. Locally common from the edge of the Antelope Valley southward across Portal and Ritter ridges to the northern flanks of Sawmill and Liebre Mountains, with iso-

lated individuals observed as far south as Red Rock Mountain. *Wolf 8310, 27 Jan 1937.*

PSEUDOTSUGA MACROCARPA (Vasey) Mayr Tree. Locally common in steep, shaded, mesic draws, especially along the northern flank of Liebre and Sawmill mountains and the Cold Canyon drainage. *Boyd et al. 10001, 8 Jul 1997.*

ANGIOSPERMAE-DICOTYLEDONES

ACERACEAE

ACER MACROPHYLLUM Pursh Tree. Local in mesic, shaded canyons at scattered sites throughout the range. *Boyd & Raz 9800, 20 May 1997.*

ADOXACEAE

SAMUCUS MEXICANA C. Presl ex DC. Large shrub. Widespread and locally common in more mesic situations. *Ross & Boyd 7707, 10 May 1994.*

AIZOACEAE

SESUVIUM VERRUCOSUM Raf. Perennial herb. Scarce. Documented from the margin of Elizabeth Lake, but to be expected in similar situations, as at Bouquet Reservoir, Lake Hughes, Quail Lake, and sag ponds along the San Andreas Fault Rift. *Boyd & Raz 9098, 29 Oct 1996.*

AMARANTHACEAE

**AMARANTHUS ALBUS* L. Annual. Local at widely scattered, seasonally moist disturbed sites. *Boyd et al. 8906, 11 Jul 1996.*

AMARANTHUS BLITOIDES S. Watson Annual. Infrequent, but widely scattered, generally in hard packed soil of disturbed areas, as along road edges. *Ross & Boyd 8257, 20 Sep 1994.*

**AMARANTHUS RETROFLEXUS* L. Annual. Scarce, disturbed, ruderal situations. *Charlton 5537, 30 Jul 1991.*

ANACARDIACEAE

MALOSMA LAURINA (Nutt.) Abrams Large shrub. Very scarce, known from a single historic collection in Elizabeth Lake Canyon south of Warm Springs. *Gifford 696, 8 May 1935.*

RHUS INTEGRIFOLIA (Nutt.) Brewer & S. Watson × *RHUS OVATA* S. Watson Large shrub. Infrequent at the southwestern edge of the range, as in Charlie and San Francisquito canyons. *Boyd & Wall 8536, 4 Apr 1996.*

RHUS OVATA S. Watson Large shrub. Scattered in chaparral across the range, and apparently more common in the south and west. *Ross 8365, 7 Apr 1995.*

RHUS TRILOBATA Nutt. ex Torr. & A. Gray ssp. *ANISOPHYLLA* (Greene) Jeps. Small shrub. Scarce, documented by an early collection from Mint Canyon. *Peirson 253, 15 Jun 1916.*

RHUS TRILOBATA Nutt. ex Torr. & A. Gray var. *ANISOPHYLLA* (Greene) Jeps. × *RHUS TRILOBATA* Nutt. ex Torr. & A. Gray var. *PILOSISSIMA* Engl. in DC. Small shrub. Scarce, documented from near confluence of Deer and Elizabeth Lake canyons. *Ross & Boyd 7747, 10 May 1994.*

RHUS TRILOBATA Nutt. ex Torr. & A. Gray var. *PILOSISSIMA* Engl. in DC. Small shrub. Scarce, documented from San Francisquito Canyon and near Sandberg. *Ross & Boyd 2832, 6 Jun 1990.*

RHUS TRILOBATA Nutt. ex Torr. & A. Gray var. *QUINATA* (Greene) Jeps. Small shrub. Apparently the most common form of the species, locally common in oak woodland, mesic chaparral, and riparian woodland throughout the range. *Ross & Banks 7534, 13 Apr 1994.*

**SCHINUS MOLLE* L. Tree. Widely planted, with adventive plants occurring sporadically throughout the range, generally in vicinity of habitations. *Ross, Boyd & Arnseth 4939, 30 Apr 1991.*

TOXICODENDRON DIVERSILOBUM (Torr. & A. Gray) Greene Small shrub or liana. Widespread and locally common on mesic slopes and in drainages. *Templeton 7702, 5 Aug 1951.*

APIACEAE

*ANTHRISCUS CAUCALIS M. Bieb. Annual. Widespread, but generally not common, grassy openings and understory of mesic chaparral. *Ross & Boyd 7678, 4 May 1994.*

APIASTRUM ANGUSTIFOLIUM Nutt. Annual. Common and widespread, especially on recently burned slopes. *Boyd, Mistretta, & Dolan 8564, 18 Apr 1996.*

*APIUM GRAVEOLENS L. Perennial herb. Infrequent, generally about areas of more reliable water supply in riparian woodland and other wetland situations. *Raz & Boyd 013, 23 Oct 1996.*

BERULA ERECTA (Huds.) Coville Perennial herb. Widespread, but generally not common, in sluggish water of riparian and other wetland situations. *Ross, Boyd, & Burns 8069, 6 Jul 1994.*

DAUCUS PUSILLUS Michx. Annual. Common and widespread, especially on recently burned slopes. *Boyd & Raz 9767, 6 May 1997.*

*FOENICULUM VULGARE Mill. Suffrutescent perennial. Uncommon, documented from a disturbed riparian area in lower Agua Dulce Canyon, but to be expected in ruderal situations throughout the range. *Boyd & Raz 9028, 14 Oct 1996.*

HERACLEUM LANATUM Michx. Perennial herb. Scarce along shaded, spring-fed streams at Atmore Meadows. *Ross & Boyd 7796, 11 May 1994.*

LOMATIUM CALIFORNICUM (Torr. & A. Gray) Mathias & Constance Perennial herb. Uncommon and local along the northern flanks of Liebre and Sawmill mountains. *Ross 7828, 11 May 1994.*

LOMATIUM CALIFORNICUM (Torr. & A. Gray) Mathias & Constance × LOMATIUM DISSECTUM (Torr. & A. Gray) Mathias & Constance var. MULTIFIDUM (Torr. & A. Gray) Mathias & Constance Perennial herb. Scarce, documented from western summit of Liebre Mountain. *Ross, Mistretta, & Quici 4003, 28 Jun 1990.*

LOMATIUM DASYCARPUM (Torr. & A. Gray) J. M. Coult. & Rose ssp. DASYCARPUM Geophyte. Widespread and locally common in open chaparral and native grassland, frequently on somewhat heavy soils. *Ross & Banks 7494, 12 Apr 1994.*

LOMATIUM DISSECTUM var. MULTIFIDUM Perennial herb. Uncommon, but widely scattered in mesic chaparral and oak woodland along the northern flanks of the Liebre, Sawmill, and Sierra Pelona ridges. *Boyd & Raz 9381, 26 Mar 1997.*

LOMATIUM MOHAVENSE (J. M. Coult. & Rose) J. M. Coult. & Rose ssp. LONGLOBUM W. L. Theob. Geophyte. Occasional in open scrub, areas of desert transition, as about Acton and Mint Canyon in the southeast and Peace Valley in the northwest. *Ross, Boyd & Arneth 4813, 29 Apr 1991.*

LOMATIUM MOHAVENSE (J. M. Coult. & Rose) J. M. Coult. & Rose ssp. MOHAVENSE Geophyte. Documented from desert transition area at northeast end of range. *Myers & LaRue s.n., 17 Mar 1989.*

LOMATIUM NEVADENSE (S. Watson) J. M. Coult. & Rose var. PARISHII (J. M. Coult. & Rose) Jeps. Geophyte. Occasional in rocky, grassy openings of ridge tops from Sierra Pelona north and west to Liebre Mountain and Portal Ridge. *Boyd & Raz 9161, 4 Mar 1997.*

LOMATIUM UTRICULATUM (Torr. & A. Gray) J. M. Coult. & Rose Geophyte. Occasional in grassy openings of mesic slopes and ridge tops, northern and western margins of the range. *Boyd & Raz 9383, 26 Mar 1997.*

OSMORHIZA BRACHYPODA Torr. Geophyte. Widespread and locally common in understory of oak woodlands. *Boyd & Mistretta 8756, 1 May 1996.*

PERIDERIDIA PRINGLEI (J. M. Coult. & Rose) A. Nelson & J. F. Macbr. Geophyte. Generally infrequent and scattered in open chaparral and grassland on the higher ridges, but locally common in clay-

rich openings on the north face of Sawmill Mountain. *Ross & Boyd 7912, 25 May 1994.*

SANICULA CRASSICAULIS DC. Geophyte. Widespread and often common in understory of chaparral on mesic slopes. *Boyd, Raz, & Ross 9468, 1 Apr 1997.*

SANICULA GRAVEOLENS Poepp. ex DC. Geophyte. Infrequent, margins of oak woodland across summit of Liebre Mountain. *Ross & Boyd 7901, 25 May 1994.*

SANICULA TUBEROSA Torr. Geophyte. Widespread, but generally not common, openings in scrub, grassland, and open oak woodland. *Ross & Boyd 7277, 23 May 1993.*

TAUSCHIA ARGUTA (Torr. & A. Gray) J. F. Macbr. Geophyte. Widespread and common in understory of scrub and oak woodland, generally on more mesic exposures. *Boyd & Raz 9282, 25 Mar 1997.*

TAUSCHIA HARTWEGII (A. Gray) J. F. Macbr. Geophyte. Infrequent in understory of scrub and oak woodland, generally on more mesic exposures in the western half of the range. *Ross 8366, 7 Apr 1995.*

TAUSCHIA PARISHII (J. M. Coult. & Rose) J. F. Macbr. Geophyte. Locally common in scrub and woodland openings, granitic soils across summit of Liebre Mountain. *Ross & Boyd 7902, 25 May 1994.*

YABEA MICROCARPA (Hook. & Arn.) Koso-Pol. Annual. Uncommon, mesic openings in scrub and woodland, Sawmill and Liebre mountains. *Ross & Boyd 8070, 23 Jun 1994.*

APOCYNACEAE

APOCYNUM CANNABINUM L. Perennial herb. Scarce, edge of wetland at Knapp Ranch, upper Cienaga Canyon. *Boyd & Raz 9842, 28 May 1997.*

ASCLEPIAS CALIFORNICA Greene Perennial herb. Occasional at scattered sites throughout the range in grassland and openings in scrub and oak woodland. *Boyd & Raz 9803, 20 May 1997.*

ASCLEPIAS ERIOCARPA Benth. Perennial herb. Occasional at scattered sites throughout the range in grassland and openings in scrub and oak woodland. *Ross, Mistretta, & Quici 4007, 28 Jun 1990.*

ASCLEPIAS EROSA Torr. Perennial herb. Known from a single historic collection from the Ritter Ridge-Leona Valley region east of Elizabeth Lake. *Peirson 258, 2 Aug 1921.*

ASCLEPIAS FASCICULARIS Decne. Perennial herb. Widespread and common, openings in scrub and woodland, as well as about seeps, springs, and other wetland situations. *Boyd, Elvin, & Jotikasthira 8879, 25 Jun 1996.*

ASCLEPIAS VESTITA Hook. & Arn. Perennial herb. Known from a single historic collection from Kings Canyon, Portal Ridge. *Dudley & Lamb 4352, 8 Jun 1896.*

ASTERACEAE

ACHYRACHAENA MOLLIS Schauer Annual. Locally common in patches of clay soil, Grasshopper Canyon. *White & Leatherman 6521, 19 May 1998.*

ACOURTIA MICROCEPHALA DC. Perennial herb. Widespread and common in chaparral openings. *Boyd & Raz 9899, 28 May 1997.*

AGOSERIS GRANDIFLORA (Nutt.) Greene Perennial herb. Locally common in open oak woodland across summit of Liebre Mountain. *Boyd, Elvin, & Jotikasthira 8882, 25 Jun 1996.*

AGOSERIS RETRORSA (Benth.) Greene Perennial herb. Occasional in grassland, chaparral openings and open oak woodland across the higher ridges. *Ross & Boyd 7677, 4 May 1994.*

AMBROSIA ACANTHICARPA Hook. Annual. Widespread and locally common in disturbed and sandy places. *Fosberg 7195, 11 Jul 1931.*

AMBROSIA PSILOSTACHYA DC. var. CALIFORNICA (Rydb.) S. F. Blake Perennial herb. Common in understory of riparian and oak wood-

- land in drainages throughout the range. *Boyd & Raz 8926, 24 Sep 1996.*
- ANCISTROCARPHUS FILAGINEUS A. Gray Annual. Local on open, low competition sites, especially heavy soils, low to mid-elevation areas in the western half of the range. *Boyd, Mistretta, & Dolan 8548, 18 Apr 1996.*
- ANISOCOMA ACAULIS Torr. & A. Gray Annual. Occasional in sandy openings on Liebre Mountain and Portal Ridge. *Ross & Boyd 7891, 25 May 1994.*
- *ANTHEMIS COTULA L. Annual. Scarce, disturbed stream bed, Castaic Creek above Elderberry Forebay of Castaic Lake. *Boyd & Mistretta 8814, 23 May 1996.*
- ARTEMISIA CALIFORNICA Less. Small shrub. Widespread in areas of sage scrub and locally common on certain exposures in the southern margin of the range. *Ross & Boyd 8219, 20 Sep 1994.*
- ARTEMISIA DOUGLASIANA Besser in Hook. Suffrutescent perennial. Common on drier benches in understory of riparian woodland. *Ross & Boyd 8261, 20 Sep 1994.*
- ARTEMISIA DRACUNCULUS L. Suffrutescent perennial. Widespread and locally common, especially on drier benches in drainages. *Raz & Boyd 059, 23 Oct 1996.*
- ARTEMISIA TRIDENTATA Nutt. ssp. PARISHII (A. Gray) H. M. Hall & Clem. Small shrub. Widespread, but particularly common in the floodplain of the Santa Clara River and on the more xeric slopes bordering the Antelope Valley. *Ross & Boyd 8239, 20 Sep 1994.*
- ARTEMISIA TRIDENTATA Nutt. ssp. TRIDENTATA Small shrub. Locally common on the northern flank of Sierra Pelona, and at scattered sites westward along the higher ridges. *Boyd & Raz 9011, 8 Oct 1996.*
- ASTER FRONDOSUS Torr. & A. Gray Annual. Known from a single collection at Lake Hughes, but to be expected about other bodies of water along the San Andreas Rift Zone. *Charlton 4115, 7 Oct 1989.*
- ASTER GREATAE Parish Perennial herb. Local about springs in understory of oak woodland, near Cienaga Campground in Fish Canyon; also documented by an early collection from Acton. *Raz & Boyd 063, 23 Oct 1996.*
- ASTER SUBULATUS Michx. var. LIGULATUS Shinn. Annual. Known from a single collection at Quail Lake, but to be expected about other bodies of water along the San Andreas Rift Zone. *Boyd & Raz 9085, 14 Oct 1996.*
- BACCHARIS DOUGLASII DC. Suffrutescent perennial. Local, springy situations in riparian woodland openings in Bouquet, San Francisco, and Cienaga canyons. *Boyd & Raz 8934A, 24 Sep 1996.*
- BACCHARIS EMORYI A. Gray Large shrub. Uncommon, documented from Agua Dulce Canyon and Barrel Spring. *Wheeler s.n., 18 Nov 1967.*
- BACCHARIS PILULARIS DC. Large shrub. Widespread, but rather infrequent, generally in or near drainages. *Wheeler s.n., 18 Nov 1967.*
- BACCHARIS SALICIFOLIUS (Ruiz & Pav.) Pers. Large shrub. Widespread and common along streams, springs, and seasonally moist disturbed areas. *Ross & Banks 7518, 13 Apr 1994.*
- BALSAMORHIZA DELTOIDEA Nutt. Perennial herb. Local in oak woodland and scrub openings, northern flank of Liebre, Sawmill, and Sierra Pelona ridges. *Boyd, Mistretta, & Dolan 8590, 18 Apr 1996.*
- BRICKELLIA CALIFORNICA (Torr. & A. Gray) A. Gray Small shrub. Widespread and common locally on xeric, rocky slopes and open alluvial benches. *Raz & Boyd 026, 23 Oct 1996.*
- BRICKELLIA NEVINII A. Gray Small shrub. Local on steep, xeric slopes and cliffs, western and southwestern parts of the range. *Boyd & Raz 8992, 8 Oct 1996.*
- *CENTAUREA MELITENSIS L. Annual. Widespread and locally common in grassland and openings in scrub and oak woodland. Especially prevalent in degraded and over-grazed habitats. *Porter, Columbus, & dos Santos 10926, 5 Jun 1996.*
- *CENTAUREA REPENS L. Perennial herb. Locally common in wet bottom land pastures in Pine and Leona valleys, locally established elsewhere, as along the Old Ridge Route south of Castaic Lake. *Boyd, Elvin, & Jotikasthira 8866, 25 Jun 1996.*
- *CENTAUREA SOLSTITIALIS L. Annual. Uncommon, disturbed road edges and type converted fuel breaks along the Old Ridge Route north of Castaic Lake. *Boyd, Elvin, & Jotikasthira 8867, 25 Jun 1996.*
- CHAENACTIS GLABRIUSCULA DC. var. GLABRIUSCULA Annual. Widespread and common in grassland and sandy openings within scrub and oak woodland, especially on granitic soils. *Ross, Boyd, & Arnseth 4925, 30 Apr 1991.*
- CHAENACTIS GLABRIUSCULA DC. var. LANOSA (DC.) H. M. Hall Annual. Apparently less common than the typical variety, alluvial benches along Soledad Canyon and tributaries. *Shevock 1051, 11 May 1971.*
- CHAENACTIS SANTOLINOIDES Greene Perennial herb. Scattered, but locally common openings in oak woodland and chaparral on the higher ridges, generally in loose soil or scree. *Boyd & Raz 9826, 20 May 1997.*
- CHAENACTIS STEVIOIDES Hook. & Arn. var. BRACHYPAPPA (A. Gray) H. M. Hall Annual. Infrequent, areas of desert transition at northeastern end of the range. *Ross, Boyd, & Arnseth 4795, 29 Apr 1991.*
- CHAENACTIS XANTIANA A. Gray Annual. Widespread and locally common across the northern edge of the range from the Antelope Valley to the summits of the higher ridges, especially in grassland and sandy openings on granitic substrate. *Ross 8378A, 26 Apr 1995.*
- CHRYSOETHAMNUS NAUSEOSUS (Pall.) Britton ssp. BERNARDINUS (H. M. Hall) H. M. Hall & Clem. Small shrub. Scarce, documented by an early collection from Acton. *Hasse s.n., Aug 1893.*
- CHRYSOETHAMNUS NAUSEOSUS (Pall.) Britton ssp. CONSIMILIS (Greene) H. M. Hall & Clem. Small shrub. Infrequent in xeric scrub, desert margins at the northeastern end of the range. *Boyd & Raz 9055, 14 Oct 1996.*
- CHRYSOETHAMNUS NAUSEOSUS (Pall.) Britton ssp. HOLOLEUCUS (A. Gray) H. M. Hall & Clem. Small shrub. Widespread and locally common in the northern half of the range, scattered elsewhere. *Fosberg 7057, 11 Jul 1931.*
- CHRYSOETHAMNUS NAUSEOSUS (Pall.) Britton ssp. MOHAVENSIS (Greene) H. M. Hall & Clem. Small shrub. Widespread and locally common in the northern half of the range, scattered elsewhere. *Boyd & Raz 9096, 14 Oct 1996.*
- CHRYSOETHAMNUS TERETIFOLIUS (Durand & Hilg.) H. M. Hall Small shrub. Uncommon, desert margin near Parker Mountain and head of Mint Canyon. *Ross, Boyd, & Arnseth 4861, 29 Apr 1991.*
- CIRSIMUM OCCIDENTALE (Nutt.) Jeps. var. CALIFORNICUM (A. Gray) D. J. Keil & C. Turner Biennial herb. Widespread and common in scrub, woodland, and grassland habitats. *Ross & Boyd 7946, 25 May 1994.*
- CIRSIMUM OCCIDENTALE (Nutt.) Jeps. var. OCCIDENTALE Biennial herb. Widespread, but uncommon in scrub and woodland habitats. *Ross & Porter 8508, 4 May 1995.*
- CIRSIMUM OCCIDENTALE (Nutt.) Jeps. var. VENUSTUM (Greene) Jeps. Biennial herb. Occasional in grassland and openings within scrub and oak woodland, northwestern portion of the range, especially from Castaic Lake northward to Liebre Mountain. *Ross & Boyd 8300, 21 Sep 1994.*
- *CIRSIMUM VULGARE (Savi) Ten. Perennial herb. Widespread and locally common in wetland situations, especially where there has been recent livestock grazing. *Boyd & Raz 8930, 24 Sep 1996.*
- *CNICUS BENEDICTUS L. Annual. Infrequent in disturbed and ruderal sites scattered throughout the range. *Ross & Boyd 7631, 4 May 1994.*
- CONYZA CANADENSIS (L.) Cronquist Annual (sometimes treated as introduced). Widespread in most habitats, but generally not com-

- mon, except locally in moist, disturbed places. *Ross & Boyd 8325, 21 Sep 1994.*
- CONYZA COULTERI A. Gray Annual. Uncommon, seasonally flooded sag pond in the San Andreas Rift near Cow Spring Canyon. *Boyd & Raz 9080, 14 Oct 1996.*
- COREOPSIS BIGELOVII (A. Gray) H. M. Hall Annual. Widespread and locally common, especially in grassland and sandy openings on granitic substrate. *Ross 8376, 26 Apr 1995.*
- CORETHROGYNE FILAGINIFOLIA (Hook. & Arn.) Nutt. var. PEIRSONII M. L. Canby Suffruticose perennial. Widespread and common, xeric openings in scrub, open oak woodland, grassland, and various areas recovering from past disturbance. *Munz 7785, 7 Oct 1923 (Holotype).*
- CORETHROGYNE FILAGINIFOLIA (Hook. & Arn.) Nutt. var. PINETORUM I. M. Johnst. Suffruticose perennial. Uncommon, west summit of Liebre Mountain. *Ross & Boyd 8283, 21 Sep 1994.*
- ECLIPTA PROSTRATA (L.) L. Annual. Locally common on mud along the shores of Elizabeth Lake and to be expected in other bodies of water along the San Andreas Fault Rift. *Boyd & Raz 9097, 29 Oct 1996.*
- ENCELIA ACTONI (Elmer) D. D. Keck Small shrub. Scattered in xeric scrub, mostly along the northern third of the range. *Ross & Porter 8403, 4 May 1995.*
- *ENCELIA CALIFORNICA Nutt. × ENCELIA FARINOSA Torr. & A. Gray var. FARINOSA Small shrub. Populations of hybrid origin found on fill slopes along Lake Hughes Road east of Castaic Lake. Apparently both parent species originally introduced as slope stabilizers. *Boyd & Ross 9190B, 21 Mar 1997.*
- *ENCELIA FARINOSA Torr. & A. Gray var. FARINOSA Small shrub. Local on fill slopes along Lake Hughes Road east of Castaic Lake, and other scattered areas, apparently originally introduced as a slope stabilizer. *Boyd & Ross 9190A, 21 Mar 1997.*
- ERICAMERIA COOPERI (A. Gray) H. M. Hall ssp. COOPERI Small shrub. Local in xeric scrub on the desert margin westward through the Antelope Valley and southwest into the head of Soledad and Mint canyons. *Everett & Balls 23803, 22 May 1959.*
- ERICAMERIA COOPERI (A. Gray) H. M. Hall ssp. COOPERI × ERICAMERIA LINEARIFOLIA (DC.) Urbatsch & Wussow Small shrub. Locally common at the northern base of Portal Ridge at the mouth of Myrick Canyon. All plants here were uniform in overall morphology, and neither putative parent species was readily apparent in the immediate vicinity. *Boyd & Raz 9365, 26 Mar 1997.*
- ERICAMERIA CUNEATA (A. Gray) McClatchie Small shrub. Scarce, rocky cliff-face in Castaic Canyon near confluence with Fish Canyon. *Boyd, Mistretta, & Soza 8842B, 12 Jun 1996.*
- ERICAMERIA LINEARIFOLIA (DC.) Urbatsch & Wussow Small shrub. Widespread and locally common in open scrub and oak woodland. *Boyd & Raz 9257, 25 Mar 1997.*
- ERICAMERIA PALMERI (A. Gray) H. M. Hall var. PACHYLEPIS (H. M. Hall) G. L. Newsom Small shrub. Uncommon, low elevations at the southwestern end of the range. *Munz 7789, 7 Oct 1923.*
- ERICAMERIA PINIFOLIA (A. Gray) H. M. Hall Small shrub. Infrequent in scrub, scattered sites in the southern and central portions of the range, locally common on the lower slopes in the vicinity of Lake Hughes. *Gifford 419, 24 Jan 1935.*
- ERIGERON PHOLIOSUS Nutt. var. STENOPHYLLUS (Nutt.) A. Gray Perennial herb. Widespread and common, openings within scrub and oak woodland. *Ross, Boyd, & Burns 8125, 7 Jul 1994.*
- ERIOPHYLLUM CONFERTIFLORUM (DC.) A. Gray var. CONFERTIFLORUM Suffruticose perennial. Widespread and common in xeric scrub, openings in oak woodland, and margins of grassland. *Ross & Porter 8431, 4 May 1995.*
- ERIOPHYLLUM CONFERTIFLORUM (DC.) A. Gray var. LAXIFLORUM A. Gray Suffruticose perennial. Widespread and common in xeric scrub, openings in oak woodland, and margins of grassland. *Ross & Boyd 7244, 23 May 1993.*
- ERIOPHYLLUM CONFERTIFLORUM (DC.) A. Gray var. TRIFIDUM (Nutt.) A. Gray Suffruticose perennial. Widespread and common in xeric scrub, openings in oak woodland, and margins of grassland. *Ross & Boyd 7705, 10 May 1994.*
- ERIOPHYLLUM PRINGLEI A. Gray Annual. Uncommon, sandy benches in Soledad Canyon Wash near Acton. *Ross, Boyd, & Arnseth 4990, 30 Apr 1991.*
- ERIOPHYLLUM WALLACEI (A. Gray) A. Gray Annual. Uncommon, sandy benches in Soledad Canyon Wash near Acton. *Ross, Boyd, & Arnseth 4966, 30 Apr 1991.*
- EUTHAMIA OCCIDENTALIS Nutt. Perennial herb. Local along drainages and about springs throughout the range. *Raz & Boyd 005, 23 Oct 1996.*
- FILAGO CALIFORNICA Nutt. Annual. Widespread and common, open situations in scrub, grassland, and woodland habitats, especially common on recently burned slopes. *Boyd & Raz 9736, 6 May 1997.*
- FILAGO DEPRESSA A. Gray Annual. Scarce, collected once near Bouquet Junction at the southern edge of the range. *Wheeler 9215B, 30 Apr 1967.*
- *FILAGO GALLICA L. Annual. Uncommon, open situations in scrub. *Ross & Boyd 7227, 23 May 1993.*
- GNAPHALIUM BENEOLENS Davidson Suffruticose perennial. Widespread, but generally not common, openings in scrub and oak woodland, and open alluvial benches. *Ross & Boyd 6621, 5 Jul 1992.*
- GNAPHALIUM BICOLOR Bioletti Suffruticose perennial. Scarce, collected once in Soledad Canyon. *Mullins s.n., 1 Apr 1931.*
- GNAPHALIUM CALIFORNICUM DC. Suffruticose perennial. Widespread and common, openings in scrub and oak woodlands, drier benches in drainages, and margins of grassland. *Ross & Boyd 7954, 25 May 1994.*
- *GNAPHALIUM LUTEO-ALBUM L. Annual. Widespread, moist soil along streams and springs, generally not common except in more disturbed situations. *Ross & Boyd 8160, 7 Jul 1994.*
- GNAPHALIUM MICROCEPHALUM Nutt. Suffruticose perennial. Uncommon and local on open, rocky slopes, as in lower Fish and Ruby canyons. *Boyd et al. 8915, 11 Jul 1996.*
- GNAPHALIUM PALUSTRE Nutt. Annual. Widespread in areas with seasonally moist soil, generally not common. *Boyd et al. 8909, 11 Jul 1996.*
- GNAPHALIUM STRAMINEUM Kunth Annual or biennial herb. Uncommon, collected once in along stream in lower Red Fox Canyon. *Ross & Boyd 8649, 28 Jun 1995.*
- GNAPHALIUM THERMALE E. Nelson Suffruticose perennial. Uncommon and local about seepages, Atmore Meadows vicinity and in Castaic Canyon near confluence with Fish Canyon. *Boyd, Mistretta, & Soza 8847, 12 Jun 1996.*
- GRINDELIA CAMPORUM Greene var. BRACTEOSA (J. T. Howell) M. A. Lane Perennial herb. Uncommon, collected once along the Old Ridge Route. *Ramsey & Ramsey 950, 27 Jun 1937.*
- GRINDELIA CAMPORUM Greene var. CAMPORUM Perennial herb. Locally common in over-grazed pastures and intermittently cultivated grain fields in Leona Valley. *Lane 3093, 6 Sep 1986.*
- GUTIERREZIA CALIFORNICA (DC.) Torr. & A. Gray Suffruticose perennial. Widespread, occasional in openings in scrub, more common locally in old disturbed areas. *Boyd & Raz 8950, 24 Sep 1996.*
- GUTIERREZIA SAROTHRÆ (Pursh) Britton & Rusby Suffruticose perennial. Widespread, occasional in openings in scrub, more common locally in old disturbed areas. *Boyd & Raz 8958, 24 Sep 1996.*
- HAZARDIA SQUARROSA (Hook. & Arn.) Greene var. GRINDELIOIDES (DC.) W. D. Clark Small shrub. Infrequent, openings in scrub and oak woodland, mostly in the western half of the range. *Wolf 4353, 19 Oct 1932.*
- HAZARDIA SQUARROSA (Hook. & Arn.) Greene var. OBTUSA (Greene) Jeps. Small shrub. Uncommon, open scrub on steep, rocky slopes Ruby and Elizabeth Lake canyons. *Raz & Boyd 033, 23 Oct 1996.*

- HELIENIUM PUBERULUM** DC. Perennial herb. Infrequent about seeps and in marshy ground along drainages. *Ross & Boyd 8163, 7 Jul 1994.*
- HELIANTHUS ANNUUS** L. ssp. **LENTICULARIS** (Douglas) Cockerell Annual. Widespread and locally common along drainages, and especially in moist disturbed or heavily grazed areas. *Porter, Columbus, & dos Santos 10914, 5 Jun 1996.*
- HELIANTHUS CALIFORNICUS** DC. Perennial herb. Uncommon along drainages, as in Bouquet and Agua Dulce canyons. *Boyd & Raz 9047, 14 Oct 1996.*
- HELIANTHUS GRACILENTUS** A. Gray Perennial herb. Widespread and common, xeric openings in scrub, especially on recovering burns and areas of past disturbance. *Ross & Boyd 7247, 23 May 1993.*
- HEMIZONIA FASCICULATA** (DC.) Torr. & A. Gray Annual. Widespread, but generally uncommon, except locally in areas of heavy, seasonally moist soil, as in upper Osito Canyon and in the Cruzan Mesa area. *Boyd & Raz 9749, 6 May 1997.*
- HEMIZONIA KELLOGGII** Greene Annual. Uncommon, heavily grazed bottom lands in Leona Valley, also documented in Bouquet Canyon. *Boyd & Raz 9990, 18 Jun 1997.*
- HETEROTHECA GRANDIFLORA** Nutt. Biennial herb. Widespread, occasional on alluvial benches, more frequent in seasonally moist disturbed areas. *Ross & Porter 8465, 4 May 1995.*
- HETEROTHECA SESSILIFLORA** (Nutt.) Shinnery ssp. **ECHIOIDES** (Benth.) Semple Perennial herb. Scarce, documented by early collections from lower elevations in the Newhall-Saugus area. *Wolf 4081, 15 Sep 1932.*
- HETEROTHECA SESSILIFLORA** (Nutt.) Shinnery ssp. **FASTIGIATA** (Greene) Semple Perennial herb. Locally common at scattered sites in the northwestern part of the range, generally on well drained soils in grassland and open, xeric scrub. *Ross & Boyd 8287, 21 Sep 1994.*
- HOLOCARPHA HEERMANNII** (Greene) D. D. Keck Annual. Locally common in grassland at the edge of the Antelope Valley, north base of Portal Ridge near mouth of Broad Canyon. *Boyd & Raz 9984, 18 Jun 1997.*
- HULSEA HETEROCHROMA** A. Gray Biennial herb. Occasional in scrub openings, scattered sites in the Sawmill and Liebre mountains area. *Griesel & Miller s.n., 2 Jul 1963.*
- HYMENOCLEA SALSOLA** Torr. & A. Gray Small shrub. Occasional in open, xeric scrub, areas of desert transition at the northeastern corner of the range. *Cantwell s.n., May 1930.*
- ***HYPOCHOERIS GLABRA** L. Annual. Uncommon, grassy openings in Texas Canyon. *Ross & Porter 8483, 4 May 1995.*
- ISOCOMA MENZIESII** (Hook. & Arn.) G. L. Nesom var. **VERNONIOIDES** (Nutt.) G. L. Nesom Small shrub. Open scrub and formerly disturbed areas, southwestern corner of the range. *Munz & Johnston 11134, 4 Sep 1928.*
- IVA AXILLARIS** Pursh ssp. **ROBUSTIOR** (Hook.) Bassett Perennial herb. Local in seasonally moist openings in scrub and on benches along drainages, scattered sites in the western half of the range. *Boyd & Raz 9895, 28 May 1997.*
- ***LACTUCA SERRIOLA** L. Annual. Widespread, occasional to locally common on benches along drainages, and especially in moist, disturbed areas. *Ross & Boyd 8340, 21 Sep 1994.*
- LAGOPHYLLA RAMOSISSIMA** Nutt. ssp. **RAMOSISSIMA** Annual. Common in areas of grassland and open woodland, mostly in the northern half of the range. *Ross, Boyd, & Burns 8128, 7 Jul 1994.*
- LASTHENIA CALIFORNICA** DC. ex Lindl. Annual. Widespread and common in grassland and open areas in scrub and woodland, including recent burns. *Ross 8393, 26 Apr 1995.*
- LAYIA GLANDULOSA** (Hook.) Hook. & Arn. Annual. Widespread and common in grassland and open areas in scrub and woodland, especially on well drained soils. *Ross & Steinmann 8559, 8 May 1995.*
- LAYIA PLATYGLOSSA** (Fisch. & C. A. Mey.) A. Gray Annual. Uncommon, documented from the Saugus area, and in Anaverde Valley. *Myers & LaRue s.n., 27 Mar 1989.*
- LEPIDOSPARTUM SQUAMATUM** (A. Gray) A. Gray Small shrub. Locally common, sandy or gravelly alluvial benches, especially in the larger drainages. *Ross & Boyd 8252, 20 Sep 1994.*
- LESSINGIA GLANDULIFERA** A. Gray var. **GLANDULIFERA** Annual. Locally common, openings in xeric scrub and on alluvial benches, mostly in the southern half of the range. *Boyd & Raz 9058, 14 Oct 1996.*
- LESSINGIA LEMMONII** A. Gray var. **PEIRSONII** (J. T. Howell) Ferris Annual. Locally common, grassland, openings in woodland and xeric scrub, and on alluvial benches, mostly in the northern half of the range. *Peirson 3550, 9 Jun 1923 (Isotype).*
- LESSINGIA LEMMONII** A. Gray var. **RAMULOSISSIMA** (A. Nelson) Ferris Annual. Openings in xeric scrub and on alluvial benches, southeastern end of the range, as near Acton and Mint Canyon. *Wolf 4078, 15 Sep 1932.*
- MADIA ELEGANS** Lindl. ssp. **ELEGANS** Annual. Locally common in grassy openings in woodland along the crest of Sawmill and Liebre mountains. *Boyd, Elvin, & Jotikasthira 8883, 25 Jun 1996.*
- MADIA ELEGANS** Lindl. ssp. **VERNALIS** D. D. Keck Annual. Locally common in grassland and grassy openings in woodland, scattered sites across the northern half of the range. *Ross & Boyd 7847, 24 May 1994.*
- MADIA ELEGANS** Lindl. ssp. **WHEELERI** (A. Gray) D. D. Keck Annual. Locally common in grassy openings in scrub and woodland, upper slopes of Sawmill and Liebre mountains. *Boyd & Raz 8969, 24 Sep 1996.*
- MADIA EXIGUA** (Sm.) A. Gray Annual. Uncommon, openings in scrub, eastern flank of Red Mountain, and also known from an early collection near Newhall. *Ross & Boyd 7252B, 23 May 1993.*
- MADIA GRACILIS** (Sm.) D. D. Keck Annual. Uncommon, edge of chaparral in bottom of Red Fox Canyon. *Ross & Boyd 8619, 28 Jun 1995.*
- MALACOTHRIX CALIFORNICA** DC. Annual. Widespread, but apparently only locally common, open, sandy habitats. *Boyd & Raz 9369, 16 Apr 1997.*
- MALACOTHRIX CLEVELANDII** A. Gray Annual. Locally common in recently burned chaparral and occasional in undisturbed chaparral openings. *Boyd & Raz 9715, 6 May 1997.*
- MALACOTHRIX COULTERI** Harv. & A. Gray Annual. Known from a single collection in Bouquet Canyon. *Templeton, Clokey, & Clokey s.n., 13 May 1930.*
- MALACOTHRIX GLABRATA** (D. C. Eaton) A. Gray Annual. Known from early collections in Mint Canyon. *Templeton 1462, 19 May 1930.*
- MALACOTHRIX SAXATILIS** Nutt. ex Torr. & A. Gray var. **TENUIFOLIA** (Nutt.) A. Gray Perennial herb. Widespread and locally common, relatively open, steep rocky slopes, less frequent on open alluvial benches. *Charlton 5509, 5 Jul 1991.*
- ***MATRICARIA MATRICARIOIDES** (Less.) Porter Annual. Widespread, generally in somewhat disturbed situations, especially on compacted soil, as along dirt roads or foot trails. *Ross & Boyd 7724, 10 May 1994.*
- MICROPUS CALIFORNICUS** Fisch. & C. A. Mey. var. **CALIFORNICUS** Annual. Infrequent, but locally common on heavy soils, openings in scrub. *Boyd & Wall 8775, 16 May 1996.*
- MICROSERIS DOUGLASII** (DC.) Sch.Bip. ssp. **DOUGLASII** Annual. Local in heavy clay soil, Grasshopper Canyon. *White & Leatherman 6540, 19 May 1998.*
- MICROSERIS HETEROCARPA** (Nutt.) K. L. Chambers Annual. Local in heavy clay soil, Plum and Grasshopper canyons. *Boyd & Soza 10160, 28 Apr 1998.*
- MICROSERIS LINDLEYI** (DC.) A. Gray Annual. Widespread and locally common, grassland, openings in scrub and woodland, and especially on recent burns. *Wheeler 9349, 8 May 1967.*
- MONOLOPIA LANCEOLATA** Nutt. Annual. Local in open habitats, lower elevations, northern and eastern edges of the range. *Epling & Wheeler 1843, 4 Jun 1933.*

- PSILOCARPHUS BREVISSIMUS** Nutt. Annual. Locally common on dry beds of vernal pools, Cruzan Mesa-Plum Canyon area. *Boyd & Raz 8979, 8 Oct 1996.*
- RAFINESQUIA CALIFORNICA** Nutt. Annual. Widespread and locally common in openings and understory of scrub and woodland, and especially on recent burns. *Boyd & Raz 9695, 6 May 1997.*
- RIGIOPAPPUS LEPTOCLADUS** A. Gray Annual. Locally common in openings of scrub and woodland along the crests of the higher ridges, and scattered elsewhere, as in upper Osito Canyon and Portal Ridge. *Boyd & Raz 9645, 1 May 1997.*
- SENECIO BREWERI** Burt Davy Perennial herb. Widespread, but uncommon in understory of chaparral. *Peirson 3088, 3 Jun 1922.*
- SENECIO CALIFORNICUS** DC. Annual. Uncommon, openings in xeric scrub at the southern edge of the range, as in Plum Canyon. *Boyd & Raz 9152, 4 Mar 1997.*
- SENECIO FLACCIDUS** Less. var. **DOUGLASII** (DC.) B. L. Turner & T. M. Barkley Small shrub. Widespread, infrequent in open scrub and woodland, locally common in sandy soil along drainages. *Ross & Boyd 8152, 7 Jul 1994.*
- SENECIO FLACCIDUS** Less. var. **MONOENSIS** (Greene) B. L. Turner & T. M. Barkley Small shrub. Infrequent in open scrub and woodland, locally common in sandy soil along drainages, northeastern end of the range. *Boyd & Raz 9061B, 14 Oct 1996.*
- ***SENECIO VULGARIS** L. Annual. Widespread, occasional in somewhat disturbed situations within grassland, scrub, and woodland, more frequent in recently burned areas. *Boyd & Raz 9142B, 4 Mar 1997.*
- ***SILYBUM MARIANUM** (L.) Gaertn. Annual or biennial. Scarce, established locally in formerly grazed wet meadow at Knapp Ranch. *Boyd & Raz 9866, 28 May 1997.*
- SOLIDAGO CALIFORNICA** Nutt. Perennial herb. Widespread and locally common on benches along drainages, about springs, and in mesic understory of scrub and woodland. *Ross, Boyd, & Burns 8107, 20 Sep 1994.*
- SOLIDAGO CONFINIS** A. Gray Perennial herb. Infrequent, but locally common about springs in lower Spunky Canyon and at Knapp Ranch. *Ross & Boyd 8270, 20 Sep 1994.*
- ***SONCHUS ASPER** (L.) Hill Annual. Widespread, most frequently in moist disturbed situations, but occasionally elsewhere in relatively undisturbed habitats. *Ross & Porter 8471, 4 May 1995.*
- ***SONCHUS OLERACEUS** L. Annual. Widespread, most frequently in moist disturbed situations, but occasionally elsewhere in relatively undisturbed habitats. *Porter, Columbus, & dos Santos 10927, 5 Jun 1996.*
- STEPHANOMERIA CICHORIACEA** A. Gray Perennial herb. Local on open, steep rocky slopes at scattered sites throughout the range, as in Spunky, Ruby, and Elizabeth Lake canyons, and about Knapp Ranch. *Ross & Boyd 8266, 20 Sep 1994.*
- STEPHANOMERIA EXIGUA** Nutt. ssp. **CORONARIA** (Greene) Gottlieb Annual. Widespread, occasional to locally common in grassland and openings in scrub and woodland. *Boyd & Raz 8967, 24 Sep 1996.*
- STEPHANOMERIA PAUCIFLORA** (Nutt.) A. Nelson Suffrutescent perennial. Widespread, but generally not common, mostly in xeric scrub. *Hall & Hall 8331, 4 Jul 1908.*
- STEPHANOMERIA VIRGATA** Benth. ssp. **PLEUROCARPA** (Greene) Gottlieb Annual. Widespread, but generally uncommon, in grassland and openings in scrub and woodland. *Raz & Boyd 019, 23 Oct 1996.*
- STEPHANOMERIA VIRGATA** Benth. ssp. **VIRGATA** Annual. Widespread, but generally uncommon, in grassland and openings in scrub and woodland. *Ross & Boyd 8309, 21 Sep 1994.*
- STYLOCLINE GNAPHALOIDES** Nutt. Annual. Widespread, locally common in open, low competition sites within grassland, scrub, and open woodland. *Ross, Boyd, & Arnseth 4908, 30 Apr 1991.*
- STYLOCLINE MASONII** Morefield Annual. Scarce, sandy benches of Soledad Canyon Wash near Acton. *Ross, Boyd, & Arnseth 4965A, 30 Apr 1991.*
- STYLOCLINE PSILOCARPHOIDES** M. Peck Annual. Scarce, sandy benches of Soledad Canyon Wash near Acton. *Ross, Boyd, & Arnseth 4965B, 30 Apr 1991.*
- SYNTRICHOPAPPUS FREMONTII** A. Gray Annual. Infrequent in open habitats, areas of desert transition, eastern end of the range. *Ross, Boyd, & Arnseth 4812, 29 Apr 1991.*
- SYNTRICHOPAPPUS LEMMONII** A. Gray Annual. Infrequent in open habitats, areas of desert transition, eastern end of the range. *Boyd & Mistretta 8738, 1 May 1996.*
- ***TARAXACUM OFFICINALE** Weber ex G. H. Wiggers Perennial herb. Locally established in wet meadows, Knapp Ranch. *Boyd 8694, 25 Apr 1996.*
- TETRADYMIA AXILLARIS** A. Nelson var. **LONGISPINA** (M. E. Jones) Strother Small shrub. Uncommon in xeric scrub, areas of desert transition at east end of range. *Cantwell s.n., May 1930.*
- TETRADYMIA CANESCENS** DC. Small shrub. Local in open woodland, summit of Sawmill Mountain. *Boyd & Raz 8974, 24 Sep 1996.*
- TETRADYMIA COMOSA** A. Gray Small shrub. Uncommon in open scrub along the southern edge of the range, generally seen in small colonies. *Wolf 4077, 15 Sep 1932.*
- XANTHIUM STRUMARIUM** L. Annual. Widespread and locally common along streams in the larger drainages, and occasionally in seasonally wet disturbed areas. *Raz & Boyd 001, 23 Oct 1996.*
- XYLORHIZA TORTIFOLIA** (Torr. & A. Gray) Greene Suffrutescent perennial. Uncommon, documented from rocky hillsides in Mint Canyon, presumably from the area of desert transition at the upper end. *Templeton 1456, 19 May 1931.*

BERBERIDACEAE

- BERBERIS NEVINII** A. Gray Large shrub. Local in San Francisquito Canyon, restricted to steep, shaded, rocky slopes and adjacent alluvial benches in the vicinity of Pump House No. 2. *Boyd & Kelly 1959, 20 Jun 1986.*

BETULACEAE

- ALNUS RHOMBIFOLIA** Nutt. Tree. Widespread and locally common in larger drainages with reliable water supply, especially in Casta Creek and its tributaries, and along the northern flank of Liebre and Sawmill mountains. *Raz & Boyd 030, 23 Oct 1996.*

BORAGINACEAE

- AMSIKIA MENZIESII** (Lehm.) A. Nelson & J. F. Macbr. var. **INTERMEDIA** (Fisch. & C. A. Mey.) Ganders Annual. Widespread and common, especially in grassland and on recent burns. *Boyd 8670, 25 Apr 1996.*
- AMSIKIA MENZIESII** (Lehm.) A. Nelson & J. F. Macbr. var. **MENZIESII** Annual. Widespread and common, especially in grassland and on recent burns. *Boyd 8651, 24 Apr 1996.*
- AMSIKIA TESSELLATA** A. Gray var. **TESSELLATA** Annual. Widespread and common, especially in grassland and open areas in scrub and woodland in the northern half of the range. *Boyd & Raz 9332, 26 Mar 1997.*
- CRYPTANTHA CIRCUMSCISSA** (Hook. & Arn.) I. M. Johnston Annual. Widespread and locally common in sandy openings in scrub and woodland, and especially on open alluvial benches. *Boyd & Raz 9818, 20 May 1997.*
- CRYPTANTHA CLEVELANDII** Greene Annual. Occasional in open habitats, scattered sites in the western half of the range. *Boyd & Raz 9719, 6 May 1997.*
- CRYPTANTHA DECIPIENS** (M. E. Jones) A. Heller Annual. Occasional in open habitats, scattered sites in the western half of the range. *Boyd & Raz 9594, 30 Apr 1997.*
- CRYPTANTHA INTERMEDIA** (A. Gray) Greene Annual. Widespread and common in open habitats, especially xeric slopes and on recent burns. *Ross & Boyd 8148, 7 Jul 1994.*
- CRYPTANTHA MICRANTHA** (Torr.) I. M. Johnston Annual. Uncommon,

BRASSICACEAE

- open alluvial benches of Soledad Canyon Wash near Acton. *Elmer* 3682, Jun 1902.
- CRYPTANTHA MICROSTACHYS (Greene ex A. Gray) Greene Annual. Widespread and locally common in mesic situations in open understory of chaparral and oak woodland. *Hoffmann s.n.*, 19 May 1930.
- CRYPTANTHA MURICATA (Hook. & Arn.) A. Nelson & J. F. Macbr. var. JONESII (A. Gray) I. M. Johnst. Annual. Occasional in open habitats, especially xeric slopes and on recent burns. *Boyd & Raz* 9717, 6 May 1997.
- CRYPTANTHA MURICATA (Hook. & Arn.) A. Nelson & J. F. Macbr. var. MURICATA Annual. Widespread and common in open habitats, especially xeric slopes and on recent burns. *Wolf* 687, 27 Jul 1927.
- CRYPTANTHA NEVADENSIS A. Nelson & Kennedy var. RIGIDA I. M. Johnst. Annual. Widespread in open habitats, but generally more common in the northern half of the range. *Ross & Boyd* 7950, 25 May 1994.
- CRYPTANTHA OXYGONA (A. Gray) Greene Annual. Uncommon, open woodland across the crest of Liebre Mountain. *Ross & Boyd* 7896, 25 May 1994.
- CRYPTANTHA PTEROCARYA (Torr.) Greene Annual. Occasional in open habitats in areas of desert transition at the eastern end of the range. *Ross, Boyd, & Arnseth* 4981, 30 Apr 1991.
- CRYPTANTHA SIMULANS Greene Annual. Uncommon, documented from xeric habitats at both the eastern and western ends of the range. *Ross, Boyd, & Arnseth* 4855, 29 Apr 1991.
- HARPAGONELLA PALMERI A. Gray Annual. Uncommon and very local, open clay soil in Plum Canyon near Cruzan Mesa, and historically near Saugus. This is the northern limit for the species. *Boyd & Raz* 9134, 4 Mar 1997.
- HELIOTROPIUM CURASSAVICUM L. ssp. OCULATUM (A. Heller) Thorne Perennial herb. Widespread and locally common in alkaline seepages, drying stream beds, and along margins of lakes and reservoirs. *Ross & Boyd* 8326, 21 Sep 1994.
- PECTOCARYA LINEARIS (Ruiz & Pav.) DC. ssp. FEROCULA (I. M. Johnst.) Thorne Annual. Widespread and common in grassland, sandy openings in scrub and woodland, and open alluvial benches. *Ross & Porter* 8463A, 4 May 1995.
- PECTOCARYA PENICILLATA (Hook. & Arn.) A. DC. Annual. Widespread and common in grassland, sandy openings in scrub and woodland, and open alluvial benches. *Ross & Steinmann* 8567, 8 May 1995.
- PECTOCARYA RECURVATA I. M. Johnst. Annual. Uncommon, open habitats, areas of desert transition at the eastern end of the range. *Ross, Boyd, & Arnseth* 4801, 29 Apr 1991.
- PECTOCARYA SETOSA A. Gray Annual. Widespread and locally common in grassland, sandy openings in scrub and woodland, and open alluvial benches. *Peirson* 1016, 13 May 1917.
- PLAGIOBOTHRYS ACANTHOCARPUS (Piper) I. M. Johnst. Annual. Local in vernal pool, Plum Canyon. *Boyd, Raz, & Kinney* 10099, 17 Mar 1998.
- PLAGIOBOTHRYS ARIZONICUS (A. Gray) Greene ex A. Gray Annual. Widespread and common in grassland, sandy openings in scrub and woodland, and open alluvial benches. *Ross & Steinmann* 8573, 8 May 1995.
- PLAGIOBOTHRYS ARIZONICUS (A. Gray) Greene ex A. Gray × PLAGIOBOTHRYS NOTHOFULVUS (A. Gray) A. Gray Annual. Plants of intermediate morphology have been documented from grassland and open areas in scrub along the crest of Sierra Pelona. *Boyd & Raz* 9653B, 1 May 1997.
- PLAGIOBOTHRYS CANESCENS Benth. Annual. Occasional in open habitats, mostly along the southern and western edges of the range. *Boyd* 8701, 25 Apr 1996.
- PLAGIOBOTHRYS NOTHOFULVUS (A. Gray) A. Gray Annual. Occasional in open habitats, mostly along the southern and western edges of the range. *Ross & Banks* 7500, 12 Apr 1994.
- ARABIS GLABRA (L.) Benth. var. GLABRA Biennial herb. Uncommon, openings in oak woodland, lower Ruby Canyon. *Boyd & Wall* 8783, 16 May 1996.
- ARABIS PULCHRA M. E. Jones var. GRACILIS M. E. Jones Perennial herb. Scarce, documented from near Saugus. *Cooper* 2715, 21 Apr 1948.
- ARABIS PULCHRA M. E. Jones var. PULCHRA Perennial herb. Infrequent, openings in scrub and woodland in the northern and eastern half of the range. *Boyd & Raz* 9623, 30 Apr 1997.
- ARABIS SPARSIFLORA Torr. & A. Gray var. ARCUATA (Nutt.) Rollins Perennial herb. Uncommon, about rock outcrops in open areas, crest of Liebre Mountain and Sierra Pelona. *Ross, Mistretta, & Quici* 3959, 28 Jun 1990.
- ARABIS SPARSIFLORA Torr. & A. Gray var. CALIFORNICA Perennial herb. Scarce, documented from Elizabeth Lake Canyon near Cottonwood Camp. *Thompson* 22, 8 Apr 1964.
- ATHYSANUS PUSILLUS (Hook.) Greene Annual. Widespread and locally common, mesic openings in scrub and woodland. *Boyd* 8723, 25 Apr 1996.
- BARBAREA ORTHOCERAS Ledeb. var. DOLICHOCARPA Fernald Biennial herb. Uncommon along streams and about seepages, as in Ruby and San Francisquito canyons. *Ross* 7565, 28 Apr 1994.
- *BRASSICA GENICULATA (Desf.) J. Ball Annual to short-lived perennial herb. Widespread and common, especially in disturbed situations. *Boyd & Raz* 9867, 28 May 1997.
- *BRASSICA NIGRA (L.) W. D. J. Koch Annual. Locally common on recent burn northwest of Castaic Lake, generally in somewhat disturbed areas, as along pipeline alignments. Perhaps originally introduced as a slope stabilizer following pipeline construction. *Boyd et al.* 9130, 11 Feb 1997.
- *CAPSELLA BURSA-PASTORIS (L.) Medikus Annual. Widespread, but generally uncommon, except in shaded areas with active or recent grazing activity. *Ross & Porter* 8480, 4 May 1995.
- CARDAMINE CALIFORNICA (Nutt. ex Torr. & A. Gray) Greene var. CALIFORNICA Geophyte. Uncommon, mesic shaded slopes and alluvial benches in the Elizabeth Lake, San Francisquito, and Bouquet canyon areas. *Boyd & Wall* 8545, 4 Apr 1996.
- CARDAMINE CALIFORNICA (Nutt. ex Torr. & A. Gray) Greene var. INTEGRIFOLIA (Nutt. ex Torr. & A. Gray) Rollins Geophyte. Uncommon, mesic shaded slopes and alluvial benches in the Elizabeth Lake, San Francisquito, and Bouquet canyon areas. *Ross & Boyd* 7275, 23 May 1993.
- *CARDARIA CHALEPENSIS (L.) Hand.-Mazz. Perennial herb. Locally common in heavily grazed bottom lands in Leona Valley. *Boyd & Raz* 9992, 18 Jun 1997.
- *CARDARIA PUBESCENS (C. A. Meyer) Rollins Perennial herb. Scarce, documented from ranch land in Anaverde Valley. *LaPré s.n.*, 13–15 May 1990.
- CAULANTHUS AMPLEXICAULIS S. Watson var. AMPLEXICAULIS Annual. Uncommon, openings in scrub on granitic substrates at scattered sites across the range. *Ross & Boyd* 7827, 11 May 1994.
- CAULANTHUS COOPERI (S. Watson) Payson Annual. Apparently scarce, xeric grassland at the northeast edge of Sierra Pelona. *Boyd, Raz, & Kinney* 10079, 17 Mar 1998.
- CAULANTHUS COULTERI S. Watson var. COULTERI Annual. Occasional to locally common in openings within scrub and woodland in the northwestern portion of the range. *Ross* 8382, 26 Apr 1995.
- CAULANTHUS LASIOPHYLLUS (Hook. & Arn.) Payson var. LASIOPHYLLUS Annual. Uncommon, recent burns and xeric open areas in chaparral in the northwestern part of the range. *Boyd, Raz, & Ross* 9476, 1 Apr 1997.
- CAULANTHUS LASIOPHYLLUS (Hook. & Arn.) Payson var. UTAHENSE (Rydb.) Payson Annual. Uncommon in areas of desert transition at the eastern end of the range. *Ross, Boyd, & Arnseth* 4820, 29 Apr 1991.

DESCURAINIA PINNATA (Walter) Britton ssp. GLABRA (Wootton & Standl.) Detling Annual. Widespread, but generally not common, mostly in open, sandy habitats. *Boyd & Raz 9506, 16 Apr 1997.*

DESCURAINIA PINNATA (Walter) Britton ssp. MENZIESII (DC.) Detling Annual. Widespread, but generally not common, mostly in open, sandy habitats. *Ross & Banks 7539, 13 Apr 1994.*

*DESCURAINIA SOPHIA (L.) Webb ex Prantl Annual. Uncommon, generally in somewhat disturbed situations at scattered sites across the range. *Boyd 8677, 25 Apr 1996.*

DRABA CUNEIFOLIA Torr. & A. Gray Annual. Scarce, moist soil along Pacific Crest Trail, Portal Ridge. *Boyd et al. 10124, 24 Mar 1998.*

DRABA VERNA L. Annual. Scarce, understory of woodland in San Andreas Fault Rift zone near Cow Springs Canyon. *Boyd & Raz 9901, 29 May 1997.*

ERYSIMUM CAPITATUM (Douglas) Greene ssp. CAPITATUM Biennial herb. Widespread and common in woodland understory and openings in scrub. *Ross 8388, 26 Apr 1995.*

LEPIDIUM FREMONTII S. Watson Small shrub. Uncommon, documented from Mint Canyon, probably at the upper end in an area of desert transition. *Templeton 1457, 19 May 1930.*

LEPIDIUM NITIDUM Torr. & A. Gray var. NITIDUM Annual. Uncommon and local, open situations in grassland and scrub, especially on clay soil, as in Plum Canyon near Cruzan Mesa. *Boyd & Raz 9135, 4 Mar 1997.*

LEPIDIUM VIRGINICUM L. var. PUBESCENS (Greene) C. L. Hitchc. Annual. Uncommon, documented along the southern edge of the range. *Craig 483, 19 Jun 1927.*

RORIPPA CURVISILIQUA (Hook.) Bessey ex Britton Annual or biennial herb. Scarce, marshy ground along Quail Lake. *Boyd & Raz 9088.*

RORIPPA NASTURTIUM-AQUATICUM (L.) Schinz & Thell. Perennial herb. Widespread and common in sluggish water of drainages and larger springs. *Ross & Banks 7512, 13 Apr 1994.*

*SISYMBRIUM ALTISSIMUM L. Annual. Widespread and common in grassland and openings in scrub and woodland, especially on recent burns and disturbed or grazed areas. *Boyd & Raz 9872, 28 May 1997.*

*SISYMBRIUM IRIO L. Annual. Infrequent, but locally common, generally in disturbed or grazed situations. *Ross & Porter 8467, 4 May 1995.*

*SISYMBRIUM ORIENTALE L. Annual. Widespread and common in grassland and openings in scrub and woodland, especially on recent burns and disturbed or grazed areas. *Boyd, Raz, & Ross 9465, 1 Apr 1997.*

STANLEYA PINNATA (Pursh) Britton Small shrub. Widely scattered, but generally infrequent, xeric rocky slopes along the western and northern margins of the range. *Boyd & Raz 10000, 18 Jun 1997.*

THYSANOCARPUS CURVIPES Hook. var. CURVIPES Annual. Widespread and locally common, grassland, openings in scrub and woodland. *Boyd & Raz 9358, 26 Mar 1997.*

THYSANOCARPUS CURVIPES Hook. var. ELEGANS Jeps. Annual. Locally common in grassland, scrub and woodland openings northwestern end of the range. *Boyd, Mistretta, & Dolan 8589, 18 Apr 1996.*

THYSANOCARPUS LACINIATUS Nutt. ex Torr. & A. Gray var. CRENATUS (Nutt.) Brewer Annual. Widespread and locally common, grassland, openings in scrub and woodland. *Ross & Banks 7544, 13 Apr 1994.*

THYSANOCARPUS LACINIATUS Nutt. ex Torr. & A. Gray var. HITCHCOCKII Munz Annual. Uncommon, Acton area and collected once near Redrock Mountain. *Ross, Boyd, & Arnseth 4824, 29 Apr 1991.*

THYSANOCARPUS LACINIATUS Nutt. ex Torr. & A. Gray var. LACINIATUS Annual. Uncommon, southwestern end of the range. *Ross, Boyd, & Arnseth 4923, 30 Apr 1991.*

TROPIDOCARPUM GRACILE Hook. var. DUBIUM (Davidson) Jeps. Annual. Widespread with typical variety in grassland and open, mesic understory of scrub and woodland. *Boyd & Ross 9240, 21 Mar 1997.*

TROPIDOCARPUM GRACILE Hook. var. GRACILE Annual. Widespread and locally common in grassland and open, mesic understory of scrub and woodland. *Boyd & Raz 9683, 1 May 1997.*

CACTACEAE

OPUNTIA ACANTHOCARPA Engelm. & J. M. Bigelow Succulent shrub. Occasional in open xeric scrub, areas of desert transition about the northeastern base of the range. *Boyd & Raz 9056, 14 Oct 1996.*

OPUNTIA BASILARIS Engelm. & J. M. Bigelow var. BASILARIS Succulent shrub. Widespread, but generally infrequent in open xeric scrub and xeric open woodland. More common along the crest of Sierra Pelona and at the extreme northwestern corner of the range. *Ross & Porter 8510, 4 May 1995.*

OPUNTIA ECHINOCARPA Engelm. & J. M. Bigelow Succulent shrub. Local in open, xeric scrub at low elevations, extreme northeast corner of the range. *Boyd & Raz 9064, 14 Oct 1996.*

OPUNTIA LITTORALIS (Engelm.) Cockerell Succulent shrub. Scarce, known from an early collection near Newhall. *Stark s.n., 24 Jan 1933.*

OPUNTIA PHAEACANTHA Engelm. Succulent shrub. Widespread, but infrequent in grassland, open scrub and woodland. *Ross & Boyd 7942, 25 May 1994.*

OPUNTIA VASEYI (J. M. Coul.) Britton & Rose Succulent shrub. Scarce, documented from the northeast end of the range. *Minthorn 23300, Jun 1958.*

CALLITRICHACEAE

CALLITRICH MARGINATA Torr. Aquatic annual. Common in drying mud and open water of vernal pool, Plum Canyon. *Boyd, Raz, & Kinney 10101, 17 Mar 1998.*

CAMPANULACEAE

GITHOPSIS DIFFUSA A. Gray ssp. DIFFUSA Annual. Uncommon, mesic chaparral understory, Red Mountain above Clearwater Canyon. *Ross & Boyd 7239, 23 May 1993.*

NEMAELADUS RAMOSISSIMA Nutt. Annual. Uncommon, documented from several widely scattered sites along the southern edge of the range. *Boyd & Raz 9709, 6 May 1997.*

NEMAELADUS SIGMOIDEUS G. T. Robbins Annual. Locally common in areas of open, decomposed granite on the crest of Liebre Mountain. *Ross & Boyd 8658, 29 Jun 1995.*

TRIODANIS BIFLORA (Ruiz & Pav.) Greene Annual. Uncommon, streamside bench in mesic chaparral, lower Red Fox Canyon. *Ross & Boyd 8622, 28 Jun 1995.*

CANNABACEAE

*CANNABIS SATIVA L. Annual. Cultivated in clandestine gardens within remote canyon areas of the range; occasionally encountered as a waif (generally seedlings) in more accessible areas, such as Soledad Canyon. *Mistretta & Hammit s.n., 20 Jun 1991.*

CAPPARACEAE

ISOMERIS ARBOREA Nutt. Small shrub. Widespread and locally common, generally in open, xeric scrub, especially on sedimentary substrates. *Boyd & Raz 9521, 16 Apr 1997.*

CAPRIFOLIACEAE

LONICERA INTERRUPTA Benth. Liana, sometimes a scandent shrub. Widespread and common in mesic scrub and woodland. *Boyd & Raz 9854, 28 May 1997.*

SYMPHORICARPOS ALBUS (L.) S. F. Blake var. LAEVIGATUS (Fernald) S. F. Blake Small shrub. Locally common, understory of oak woodland and shaded rocky outcrops in chaparral, upper slopes

and crest of Liebre and Sawmill mountains. *Ross, Mistretta, & Quici 3886, 27 Jun 1990.*

SYMPHORICARPOS MOLLIS Nutt. in Torr. & A. Gray Small shrub. Scarce, documented by an early collection from near Acton. *Hasse s.n., Aug 1893.*

CARYOPHYLLACEAE

ARENARIA MACRADENIA S. Watson var. *ARCUIFOLIA* Maguire Suffructicose perennial. Local on areas of open, decomposed granite on Sawmill and eastern Liebre mountains, and schist outcrops and scree, Sierra Pelona and adjacent areas of Mint Canyon. *Ross & Boyd 8022, 22 Jun 1994.*

ARENARIA MACRADENIA S. Watson var. *KUSCHEI* (Eastw.) Maguire Suffructicose perennial. Infrequent in scattered populations on the crest of Liebre Mountain on decomposed granite soils, open areas in oak woodland and scrub oak dominated chaparral. Found in mixed populations with var. *arcuifolia*, except in the westernmost populations. *Ross, Boyd, & Burns 8123, 7 Jul 1994.* Two collections from Soledad Canyon, one near Ravenna (*Johnstone s.n., 22 Jun 1930*) the other between Bee and Agua Dulce canyons (*White & Devries 6771, 23–24 Jun 1998*) approach var. *kuschei* in the glandularity of calyx, pedicels, and upper inflorescence branches.

**CERASTIUM GLOMERATUM* Thuill. Annual. Scarce, documented from near Saugus. *Wheeler 9305, 8 May 1967.*

**HERNARIARIA CINEREA* DC. in Lam. & DC. Annual. Scarce, documented from hard-packed soil at edge of dirt roads and trails Texas Canyon, south base of Red Mountain, and Grasshopper Canyon. *Ross & Porter 8489, 4 May 1995.*

LOEFLINGIA SQUARROSA Nutt. var. *SQUARROSA* Annual. Scarce, open sandy areas in Soledad Canyon Wash near Acton. *Ross, Boyd, & Arneth 4957, 30 Apr 1991.*

MINUARTIA DOUGLASII (Torr. & A. Gray) Mattf. Annual. Locally common, open sites with low competition at widely scattered sites. More common on the crest and upper flanks of Liebre Mountain. *Ross & Boyd 7884, 25 May 1994.*

MINUARTIA PUSILLA (S. Watson) Mattf. Annual. Inconspicuous, but locally common in areas of vernal moist, cryptogamic soil, open areas within oak woodland, crest and northern flank of Liebre Mountain, northward through Portal Ridge. *Boyd & Raz 9168, 14 Mar 1997.*

SILENE ANTIRRHINA L. Annual. Scarce, lower Red Fox Canyon. *Ross & Boyd 8639, 28 Jun 1995.*

SILENE CALIFORNICA Dur. Perennial herb. Occasional, openings in scrub and margins of woodland, generally mesic exposures, western half of the range. *Boyd & Mistretta 8134, 11 May 1993.*

**SILENE GALICA* L. Annual. Uncommon, disturbed alluvial benches in Castaic Canyon above Elderberry Forebay, and in disturbed grassland, Grasshopper Canyon. *Boyd et al. 8911, 11 Jul 1996.*

SILENE LEMMONII S. Watson Perennial herb. Infrequent in grassland and at margins of oak woodland on schist, crest of Sierra Pelona. *Boyd & Raz 9667, 1 May 1997.*

SPERGULARIA MARINA Griseb. Annual. Local on drying mud along Castaic Creek above Elderberry Forebay, and along stream in Grasshopper Canyon. *Boyd & Mistretta 8817, 23 May 1996.*

**STELLARIA MEDIA* (L.) Vill. Annual. Locally common in shaded oak woodland understory, especially disturbed or grazed areas. *Ross & Porter 8491, 4 May 1995.*

STELLARIA NITENS Nutt. Annual. Widespread, but inconspicuous, generally in open situations within scrub and woodland. *Ross & Banks 7507, 12 Apr 1994.*

CHENOPODIACEAE

ATRIPLEX CANESCENS (Pursh) Nutt. ssp. *CANESCENS* Small shrub. Widespread and locally common in xeric scrub, especially areas of sedimentary substrate along the southern and western edges of

the range, and in desert transition about the northeast corner. Also seeded on road cuts, pipeline scars and other disturbed sites. *Boyd & Raz 9040, 14 Oct 1996.*

**ATRIPLEX GLAUCA* L. Suffructicose perennial. Scarce, established in Crown Valley. Presumably introduced originally in seed mix for slope stabilization following electrical transmission line and transformer station construction. *Boyd & Raz 9156, 4 Mar 1997.*

**ATRIPLEX LENTIFORMIS* (Torr.) S. Watson Large shrub. Locally common on slopes and in drainages about the Castaic Power Plant facility and associated pipeline alignments. Presumably introduced originally as a slope stabilizer. *Boyd et al. 8908, 11 Jul 1996.*

ATRIPLEX POLYCARPA (Torr.) S. Watson Small shrub. Locally common in sedimentary badlands east of Bouquet Canyon and west of Cruzan Mesa. *Boyd & Raz 9020, 8 Oct 1996.*

**ATRIPLEX ROSEA* L. Annual. Scarce, known from a single early collection near Saugus. *Munz & Johnston 11131, 4 Sep 1928.*

**ATRIPLEX SEMIBACATA* R. Br. Suffructicose perennial. Occasional at scattered sites along the southern edge of the range, primarily in disturbed situations on sedimentary substrates. *Boyd et al. 8907, 11 Jul 1996.*

ATRIPLEX SERENANA A. Nelson var. *SERENANA* Annual. Scarce, dry rocky stream channel at mouth of Agua Dulce Canyon. *Boyd & Raz 9036, 14 Oct 1996.*

**BASSIA HYSSOPIFOLIA* (Pall.) Kuntze Annual. Locally established in disturbed periodically flooded alluvial flats along Castaic Creek just above Elderberry Forebay. *Boyd et al. 8914, 11 Jul 1996.*

**CHENOPODIUM ALBUM* L. Annual. Occasional, disturbed situations, especially along margins of roads. *Boyd & Raz 8973, 24 Sep 1996.*

**CHENOPODIUM AMBROSIODES* L. Annual. Locally common in moist soil along northern shore of Elizabeth Lake. *Boyd & Raz 9072, 14 Oct 1996.*

CHENOPODIUM BERLANDIERI Moq. Annual. Widespread and locally common, open situations in scrub and woodland, especially areas of recent disturbance and along margins of roads. *Ross & Boyd 8155, 7 Jul 1994.*

**CHENOPODIUM BOTRYS* L. Annual. Scarce, disturbed alluvial benches along Castaic Creek above Elderberry Forebay. *Boyd et al. 8901, 11 Jul 1996.*

CHENOPODIUM CALIFORNICUM (S. Watson) S. Watson Perennial herb. Widespread and common in mesic openings of scrub and woodland. *Ross & Boyd 7761, 10 May 1994.*

CHENOPODIUM DESSICATUM A. Nelson Annual. Uncommon, documented from somewhat disturbed alluvial benches in San Francisco Canyon near Green Valley Pasture, and Castaic Creek above Elderberry Forebay. *Boyd et al. 8900, 11 Jul 1996.*

CHENOPODIUM FREMONTII S. Watson Annual. Locally common, open woodland and grassland on western summit of Liebre Mountain. *Ross, Boyd, & Burns 8139B, 7 Jul 1994.*

CHENOPODIUM INCOGNITUM Wahl Annual. Local, open woodland and grassland on western summit of Liebre Mountain. *Ross, Boyd, & Burns 8139A, 7 Jul 1994.*

CHENOPODIUM LEPTOPHYLLUM Moq. Annual. Local, open woodland and grassland on western summit of Liebre Mountain, especially on recently cleared fuelbreak. *Boyd 10030, 10 Sep 1997.*

**CHENOPODIUM MURALE* L. Annual. Uncommon, margin of dirt road in Texas Canyon. *Ross & Porter 8516, 4 May 1995.*

CHENOPODIUM PRATERICOLA Rydb. Annual. Occasional, roadsides and disturbed alluvial benches at scattered sites, western half of the range. *Ross & Boyd 8276, 20 Sep 1994.*

**CHENOPODIUM RUBRUM* L. var. *RUBRUM* Annual. Locally common on drying mud about lake margins and in sag ponds along the San Andreas Fault Rift zone. *Ross & Boyd 8334B, 21 Sep 1994.*

GRAYIA SPINOSA (Hook.) Moq. Small shrub. Occasional in xeric scrub, areas of desert transition at the northeastern end of the range. *Boyd & Raz 9159, 4 Mar 1997.*

KRASCHENINNIKOVIA LANATA (Pursh) Gludenstaedt Small shrub. Scattered in xeric scrub, areas of desert transition at the head of Soledad Canyon. *Boyd & Raz 9158, 4 Mar 1997.*

*SALSOLA TRAGUS L. Annual. Widespread, generally in areas of recent disturbance where it may be abundant. *Boyd & Raz 8972, 24 Sep 1996.*

CISTACEAE

*CISTUS INCANUS L. ssp. CRETICUS (L.) Heywood Small shrub. Established in scrub along the Old Ridge Route near Templin Highway. *Ross 8356, 7 Apr 1995.*

*CISTUS LADANIFER L. Small shrub. Established in scrub along the Old Ridge Route near Templin Highway and the historic site of Tumble Inn, also along the Leona Divide Road above Dowd Canyon at the western end of Sierra Pelona. *Ross 8357, 7 Apr 1995.*

HELIANTHEMUM SCOPARIUM Nutt. var. VULGARE Jeps. Suffrutescent perennial. Scattered locally about rock outcrops and xeric scrub openings on Red Mountain near the head of Clearwater and Ruby canyons. *Ross & Boyd 7220, 23 May 1993.*

CLUSIACEAE

HYPERICUM FORMOSUM Kunth var. SCOULERI (Hook.) J. M. Coulter. Perennial herb. Scarce, about seep in tributary of Clearwater Canyon near Plum Spring. *Ross, Boyd, & Burns 8105, 6 Jul 1994.*

CONVOLVULACEAE

CALYSTEGIA LONGIPES (S. Watson) Brummitt Perennial herb. Locally common on recent burn, north base of Portal Ridge near mouth of Cow Spring Canyon, and steep rocky slopes on Red Mountain. *Boyd & Raz 9936, 29 May 1997.*

CALYSTEGIA MACROSTEGIA (Greene) Brummitt ssp. INTERMEDIA (Abrams) Brummitt Perennial herb. Uncommon, lower San Francisco Canyon. *Ross & Banks 7482, 12 Apr 1994.*

CALYSTEGIA MALACOPHYLLA (Greene) Munz ssp. PEDICELLATA (Jeps.) Munz Perennial herb. Uncommon, lower Spunky Canyon near confluence with Bouquet Reservoir. *Ross & Steinmann 8545, 8 May 1995.*

CALYSTEGIA MALACOPHYLLA (Greene) Munz ssp. PEDICELLATA (Jeps.) Munz × CALYSTEGIA PEIRSONII (Abrams) Brummitt Perennial herb. Plants of intermediate morphology between the putative parents are locally common in grassland and open oak woodland at western crest of Liebre Mountain. *Ross et al. 3897, 27 Jun 1990.*

CALYSTEGIA OCCIDENTALIS (A. Gray) Brummitt ssp. FULCRATA (A. Gray) Brummitt Perennial herb. Locally common, summit of Sawmill Mountain. *Ross & Boyd 8036, 23 Jun 1994.*

CALYSTEGIA OCCIDENTALIS (A. Gray) Brummitt ssp. FULCRATA (A. Gray) Brummitt × CALYSTEGIA PEIRSONII (Abrams) Brummitt Perennial herb. Plants of intermediate morphology between the putative parents are locally common in grassland and at margins of chaparral on the summit of Grass Mountain. *Ross & Boyd 7850, 24 May 1994.*

CALYSTEGIA PEIRSONII (Abrams) Brummitt Perennial herb. Widespread and locally common in grassland and open situations in scrub and woodland. *Munz 6796, 25 May 1923.*

*CONVOLVULUS ARVENSIS L. Perennial herb. Abundantly established as field and pasture weed in Leona Valley. *Boyd & Raz 9993, 18 Jun 1997.*

CRESSA TRUXILLENSIS Kunth Perennial herb. Locally common, alkaline soil of fault sag in Peace Valley, west of Quail Lake. *Boyd, Elvin, & Jotikashira 8875, 25 Jun 1996.*

CUSCUTA CALIFORNICA Hook. & Arn. var. BREVIFLORA Engelm. Parasitic annual. Locally common on low shrubs, suffrutescent perennials and some herbs, western summit of Liebre Mountain. *Ross & Boyd 8286, 21 Sep 1994.*

CUSCUTA CALIFORNICA Hook. & Arn. var. CALIFORNICA Parasitic an-

nual. Widespread and locally common, especially on *Eriogonum fasciculatum* and other coastal sage scrub shrubs. *Ross, Boyd, & Arneth 4942, 30 Apr 1991.*

CUSCUTA DENTICULATA Engelm. Parasitic annual. Local on *Artemisia tridentata*, vicinity of Acton. *Ross & Boyd 8226, 20 Sep 1994.*

CUSCUTA SUBINCLUSA Durand & Hilg. Parasitic annual. Widespread and locally common, generally on woody shrubs of chaparral and riparian woodland. *Ross & Boyd 8260, 20 Sep 1994.*

CORNACEAE

CORNUS GLABRATA Benth. Large shrub. Local about spring in shaded oak woodland, northern base of Grass Mountain near head of Burns Canyon. *Ross & Boyd 8076, 23 Jun 1994.*

CORNUS SERICEA L. ssp. SERICEA Large shrub. Local at margin of intermittent stream, upper Shake Canyon, north flank of Sawmill Mountain. *Thompson s.n., 5 Sep 1968.*

CRASSULACEAE

CRASSULA CONNATA (Ruiz & Pav.) A. Berger Annual. Widespread and locally common in relatively undisturbed open habitats, especially old formation alluvial benches. *Ross 8351, 7 Apr 1995.*

DUDLEYA CYMOSA (Lem.) Britton & Rose ssp. PUMILA (Rose) K. M. Nakai Succulent perennial herb. Local on shaded rocky slopes, cliffs, and outcrops, generally on schist and gneiss, western edge of the range. *Ross & Boyd 7832, 11 May 1994.*

DUDLEYA LANCEOLATA (Nutt.) Britton & Rose Succulent perennial herb. Widespread and locally common, rocky openings in scrub, shaded cliffs, steep rocky slopes, etc. *Ross & Boyd 7265, 23 May 1993.*

DUDLEYA PULVERULENTA (Nutt.) Britton & Rose Succulent perennial herb. Local, shaded rocky slopes and cliffs, as in lower Red Fox Canyon at confluence with Elizabeth Lake Canyon. *Ross & Boyd 8653, 28 Jun 1995.*

SEDUM SPATHULIFOLIUM Hook. Succulent perennial herb. Locally common on steep, shaded, gneiss outcrops in Elizabeth Lake Canyon between Warm Springs and Ruby canyons. *Ross & Boyd 7831, 11 May 1994.*

CUCURBITACEAE

*CITRULLUS LANATUS (Thunb.) Mansf. Annual. Documented as a waif, edge of dirt road in lower Ruby Canyon. *Raz & Boyd 053, 23 Oct 1996.*

CUCURBITA FOETIDISSIMA Kunth Geophyte. Widespread, mostly in deep alluvial soil of valley bottoms and benches along larger drainages. Often associated with grazing. *Boyd & Raz 9896, 28 May 1997.*

MARAH FABACEUS (Naudin) Greene Geophyte. Locally common in scrub and open woodland across the western and northern edges of the range. *Boyd, Raz, & Ross 9450, 1 Apr 1997.*

MARAH HORRIDUS (Congdon) M. T. Dunn Geophyte. Documented from scrub and open woodland on Portal Ridge near Troedel Spring. *Boyd & Ross 9218, 21 Mar 1997.*

MARAH MACROCARPUS (Greene) Greene Geophyte. Widespread and locally common in scrub and woodland, especially in the southern half of the range. *Hood s.n., 13 May 1939.*

DATISCEAE

DATISCA GLOMERATA (C. Presl) Baill. Perennial herb. Widespread and common in wet drainages and about seeps. *Ross, Boyd, & Burns 8114, 6 Jul 1994.*

ELATINACEAE

ELATINE CHILENSIS C. Gay Aquatic annual. Locally common, wet mud in vernal pool, Plum Canyon. *Boyd & Soza 10165, 28 Apr 1998.*

ERICACEAE

- ARCTOSTAPHYLOS GLANDULOSA Eastw. ssp. GLAUCOMOLLIS P. V. Wells
Large shrub. Widespread and locally common in chaparral, especially on mesic exposures; occasional in understory of woodland on Liebre and Sawmill mountains. *Boyd & Mistretta* 8760, 1 May 1996.
- ARCTOSTAPHYLOS GLAUCA Lindl. Large shrub. Widespread and locally common in chaparral, especially more xeric exposures; frequent in understory of pinyon and foothill pine woodlands. *Ross & Boyd* 7243, 23 May 1993.
- ARCTOSTAPHYLOS PARRYANA Lemmon Large shrub. Scarce, documented by an early collection at Sprague's. *Dudley & Lamb* 4345, 5 Jun 1896.

EUPHORBACEAE

- CHAMAESYCE ALBOMARGINATA (Torr. & A. Gray) Small Perennial herb. Widespread but only locally common, grassland and open situations in scrub and woodland. *Ross & Porter* 8436, 4 May 1995.
- CHAMAESYCE SERPYLLIFOLIA (Pers.) Small var. SERPYLLIFOLIA Annual. Scarce, hard-packed soil in campground area, Atmore Meadows and an early collection near Saugus. *Boyd & Raz* 9115, 29 Oct 1996.
- EREMOCARPUS SETIGER (Hook.) Benth. Annual. Widespread and common, grassland, open situations in scrub and woodland, and especially areas disturbed by grazing. *Ross & Boyd* 8248, 20 Sep 1994.
- EUPHORBIA SPATHULATA Lam. Annual. Locally common on clay soil, upper Osito and Plum canyons. *Boyd, Raz, & Ross* 9479, 1 Apr 1997.
- STILLINGIA LINEARIFOLIA S. Watson Suffrutescent perennial. Scarce, xeric scrub in upper Bee Canyon near Agua Dulce. *Ross & Boyd* 8225, 20 Sep 1994.

FABACEAE

- *ACACIA RETINODES Schldl. Large shrub. Adventive in San Francisco Canyon near Powerhouse No. 2. *Ross & Banks* 7511, 12 Apr 1994.
- AMORPHA CALIFORNICA Nutt. var. CALIFORNICA Large shrub. Local in riparian woodland, Charlie, Warm Springs, and Red Fox canyons. *Boyd & Wall* 8767, 16 May 1996.
- ASTRAGALUS DIDYMOCARPUS Hook. & Arn. var. DIDYMOCARPUS Annual. Infrequent, but common locally on clay soil deposit in upper Osito Canyon, Plum Canyon, and near Knapp Ranch. *Boyd, Raz, & Ross* 9484, 1 Apr 1997.
- ASTRAGALUS DIDYMOCARPUS Hook. & Arn. var. DISPERMUS (A. Gray) Jeps. Annual. Infrequent, as in Soledad Canyon and near Agua Dulce, and Grasshopper. *James* 1752, 13 Apr 1947.
- ASTRAGALUS DOUGLASII (Torr. & A. Gray) A. Gray var. DOUGLASII Perennial herb. Widespread and locally common, openings in woodland, alluvial benches, and areas disturbed by grazing. *Ripley & Barneby* 5857, 16 May 1994.
- ASTRAGALUS GAMBELIANUS E. Shel. Annual. Infrequent in the western half of the range; locally common on clay soil deposits in upper Osito and Plum canyons. *Boyd, Raz, & Ross* 9485, 1 Apr 1997.
- ASTRAGALUS PACHYPUS Greene var. PACHYPUS Suffrutescent perennial. Scarce, xeric scrub and foothill pine woodland at the northwest end of the range. *Webb s.n.*, 19 Apr 1935.
- ASTRAGALUS PURSHII Douglas var. TINCTUS M. E. Jones Perennial herb. Occasional in grassland and scrub openings about outcrops of schist, Sierra Pelona and Burnt Peak. *Boyd & Raz* 9672, 1 May 1997.
- ASTRAGALUS TRICHOPODUS (Nutt.) A. Gray var. PHOXUS (M. E. Jones) Barneby Perennial herb. Widespread and locally common in

openings in scrub, mostly on sedimentary substrates, western half of the range. *Ross* 8348, 7 Apr 1995.

- *CAESALPINIA GILLIESII (Hook.) D. Dietr. Large shrub. Adventive along road in lower Soledad Canyon and elsewhere, generally near habitations. *Ross & Boyd* 2791, 1 Jun 1990.
- GLYCYRRHIZA LEPIDOTA Pursh Perennial herb. Local on benches in riparian woodland and about seeps at scattered sites across the range. *Boyd & Wall* 8782, 16 May 1996.
- HOITA MACROSTACHYA (DC.) Rydb. Perennial herb. Infrequent on benches in riparian woodland Castaic and Bouquet canyon drainages. Locally common in extensive wetland at head of Cienaga Canyon near Knapp Ranch. *Boyd, Mistretta, & Soza* 8834, 12 Jun 1996.
- HOITA ORBICULARIS (Lindl.) Rydb. Perennial herb. Scarce, documented by a single early collection from Soledad Canyon west of Ravenna. *Craig* 2019, 9 Oct 1933.
- LATHYRUS VESTITUS Nutt. ssp. LAEVICARPUS Broich Perennial herb. Widespread, occasional to locally common in grassland, scrub and woodland. *Griesel & Miller s.n.*, 2 Jul 1963.
- LOTUS CRASSIFOLIUS (Benth.) Greene var. CRASSIFOLIUS Perennial herb. Local on decomposed granite, openings in oak chaparral upper south-facing flank of Liebre Mountain. *Boyd & Raz* 9822, 20 May 1997.
- LOTUS GRANDIFLORUS (Benth.) Greene var. GRANDIFLORUS Perennial herb. Occasional to locally common in open, xeric scrub, generally on decomposed granite, northwestern end of the range. *Ross & Boyd* 7683, 4 Apr 1994.
- LOTUS HAMATUS Greene Annual. Scarce, southeastern end of the range. *Ross & Banks* 7505, 12 Apr 1994.
- LOTUS HEERMANNII (Durand & Hilg.) Greene ssp. HEERMANNII Perennial herb. Widespread and common on alluvial benches and about seeps. *Macfadden* 2654, 22 Apr 1931.
- LOTUS HUMISTRATUS Greene Annual. Widespread, but generally uncommon in scattered sites across the southern and western edges of the range. *Ross & Boyd* 7914, 25 May 1994.
- LOTUS OBLONGIFOLIUS (Benth.) Greene var. OBLONGIFOLIUS Perennial herb. Common in moist soil along streams and about seeps. *McHargue & Miller s.n.*, 6 Jul 1963.
- LOTUS PROCUMBENS (Greene) Greene var. PROCUMBENS Perennial herb. Locally common in grassland and open situations in scrub and woodland, summits of Liebre and Sawmill mountains northward to the edge of the Antelope Valley. *Boyd & Raz* 9932, 29 May 1997.
- LOTUS SALSUGINOSUS Greene var. SALSUGINOSUS Annual. Widespread and common in openings of scrub and woodland, especially plentiful on recent burns. *Boyd, Raz, & Ross* 9452, 1 Apr 1997.
- LOTUS SCOPARIUS (Nutt.) Ottley var. SCOPARIUS Suffrutescent perennial. Widespread, occasional in xeric openings in scrub, locally common on recent burns, old fuelbreaks, etc. *Ross & Porter* 8422, 4 May 1995.
- LOTUS STRIGOSUS (Nutt.) Greene var. HIRTELLUS (Greene) Ottley Annual. Widespread and common in grassland and openings in scrub and woodland. Especially common on recent burns. *Boyd & Raz* 9917, 29 May 1997.
- LOTUS STRIGOSUS (Nutt. in Torr. & A. Gray) Greene var. STRIGOSUS Annual. Widespread and common in grassland and openings in scrub and woodland. Especially common on recent burns. *Ross & Boyd* 2823, 6 Jun 1990.
- LOTUS UNIFOLIOLATUS (Hook.) Benth. Annual. Widespread, common on alluvial benches and drying stream beds; occasional in mesic situations in open scrub and woodland *Ross* 6786, 26 Jul 1992.
- LOTUS WRANGELIANUS Fisch. & C. A. Mey. Annual. Widespread and common in grassland and openings in scrub and woodland. Especially common on recent burns. *Boyd, Raz, & Ross* 9453, 1 Apr 1997.
- LUPINUS AGARDHIANUS A. Heller Annual. Scattered in open habitats, eastern half of the range. *Ross & Porter* 8464, 4 May 1995.

- LUPINUS ALBIFRONS Benth. var. EMINENS (Greene) C. P. Sm. Small shrub. Uncommon, documented from low elevations near Newhall and Valencia. *Wisura & Kelly 4109, 16 Apr 1986.*
- LUPINUS ANDERSONII S. Watson Perennial herb. Occasional in grassland and woodland openings, Liebre and Sawmill mountains. *Ross & Boyd 8043, 23 Jun 1994.*
- LUPINUS BENTHAMII A. Heller Annual. Uncommon, documented from the base of the range at the extreme western end of the Antelope Valley and adjacent Peace Valley. *Abrams 11728, 20 Apr 1927.*
- LUPINUS BICOLOR Lindl. ssp. MARGINATUS D. B. Dunn Annual. Widespread and common in grassland, open scrub and woodland, and especially recent burns. *Boyd 8646, 24 Apr 1996.*
- LUPINUS BICOLOR Lindl. ssp. MICROPHYLLUS (S. Watson) D. B. Dunn Annual. Widespread and common in grassland, open scrub and woodland, and especially recent burns. *Ross & Boyd 7765, 11 May 1994.*
- LUPINUS BICOLOR Lindl. ssp. TRIDENTATUS (Eastw. ex C. P. Sm.) D. B. Dunn Annual. Widespread and common in grassland, open scrub and woodland, and especially recent burns. *Clokey & Templeton 4716, 8 Apr 1930.*
- LUPINUS CONCINNUS J. G. Agardh ssp. CONCINNUS Annual. Locally common on recent burn, eastern base of Red Mountain in San Francisquito Canyon. *Boyd & Raz 9713, 6 May 1997.*
- LUPINUS CONCINNUS J. G. Agardh ssp. OPTATUS (C. P. Sm.) D. B. Dunn Annual. Widespread and locally common, open situations in grassland and scrub, especially on loose, decomposed granite soil. *Boyd & Raz 9287B, 25 Mar 1997.*
- LUPINUS CONCINNUS J. G. Agardh ssp. ORCUTII (S. Watson) D. B. Dunn Annual. Scarce, sandy alluvial benches in Soledad Canyon Wash near Acton. *Ross, Boyd, & Arnseth 4984, 30 Apr 1991.*
- LUPINUS EXCUBITUS M. E. Jones var. AUSTROMONTANUS (A. Heller) C. P. Sm. Suffrutescent perennial. Widespread and common, grassland, open woodland, and rocky outcrops in scrub. *Boyd & Raz 9424, 31 Mar 1997.*
- LUPINUS EXCUBITUS M. E. Jones var. HALLII (Abrams) C. P. Sm. Small shrub. Occasional in canyon bottoms, southwestern quarter of the range. *Ross & Steinmann 8532, 8 May 1995.*
- LUPINUS EXCUBITUS M. E. Jones var. JOHNSTONII C. P. Sm. in Jeps. Suffrutescent perennial. Plants approaching this variety have been documented from grassland and open woodland on the central summit area of Liebre Mountain. *Ross & Boyd 7768, 11 May 1994.*
- LUPINUS FORMOSUS Greene ssp. FORMOSUS Perennial herb. Occasional in grassland and openings in scrub and woodland, northern half of the range. *Ross & Banks 7549, 13 Apr 1994.*
- LUPINUS FORMOSUS Greene ssp. ROBUSTUS (C. P. Sm.) Conrad Perennial herb. Infrequent in grassland and openings in scrub and woodland, scattered sites in the northern half of the range. *Everett & Balls 23800, 22 May 1959.*
- LUPINUS HIRSUTISSIMUS Benth. Annual. Widespread and locally common, open situations in grassland, scrub, and woodland, especially on loose, decomposed granite soil and recent burns. *Boyd, Mistretta, & Dolan 8570, 18 Apr 1996.*
- LUPINUS LATIFOLIUS J. Agardh ssp. PARISHII (C. P. Sm.) Kenney & D. B. Dunn Perennial herb. Scarce, documented in Bouquet Canyon near Saugus and near Acton. *Munz 6922, 9 Jun 1923.*
- LUPINUS MICROCARPUS Sims var. DENSIFLORUS (Benth.) Jeps. Annual. Occasional to locally common, open situations in grassland, scrub, and woodland, western half of the range. *Ross & Porter 8474, 4 May 1995.*
- LUPINUS MICROCARPUS Sims var. MICROCARPUS Annual. Widespread, occasional in open situations in grassland, scrub, and woodland, especially on loose, decomposed granite soil and recent burns. *Boyd & Raz 9778, 6 May 1997.*
- LUPINUS SPARSIFLORUS Benth. Annual. Widespread and locally common, open situations in grassland, scrub, and woodland, especially on loose, decomposed granite soil and recent burns. *Ross & Porter 8437, 4 May 1995.*
- LUPINUS SPARSIFLORUS Benth. × LUPINUS TRUNCATUS Hook. & Arn. Annual. Scarce, documented from margin of chaparral in lower Clearwater Canyon. *Ross & Banks 7538B, 13 Apr 1994.*
- LUPINUS SUCCULENTUS Douglas ex Koch Annual. Occasional to locally common, especially on heavy soil, western edge of the range. *Boyd, Raz, & Ross 9475, 1 Apr 1997.*
- LUPINUS TRUNCATUS Nutt. ex Hook. & Arn. Annual. Widespread and locally common, open situations in grassland, scrub, and woodland, especially on loose, decomposed granite soil and recent burns. *Ross & Banks 7537, 13 Apr 1994.*
- *MEDICAGO LUPULINA L. Perennial herb. Occasional in damp soil along streams and other moist disturbed places, scattered sites throughout the range. *Ross, Boyd, & Burns 8096, 6 Jul 1994.*
- *MEDICAGO POLYMORPHA L. var. BREVISPIA (Benth.) Heyn. Annual. Apparently scarce, documented from Grasshopper Canyon, where present with the typical variety. *White & Leatherman 6631, 4–5 Jun 1998.*
- *MEDICAGO POLYMORPHA L. var. POLYMORPHA Annual. Widespread in grassland and alluvial benches, generally uncommon except in moist, disturbed situations. *Ross & Porter 8478, 4 May 1995.*
- *MEDICAGO SATIVA L. Perennial herb. Sporadically established along roads. *Ross 6781, 26 Jul 1992.*
- *MELILOTUS ALBUS Medikus. Annual to perennial herb. Occasional in moist disturbed situations and along streams. *Ross & Boyd 8007, 22 Jun 1994.*
- *MELILOTUS INDICUS (L.) All. Annual. Widespread and locally common along streams, about seeps, and especially in moist disturbed areas. *Wheeler 9252, 2 May 1967.*
- *PARKINSONIA ACULEATA L. Tree or large shrub. Locally adventive in generally disturbed situations, scattered across the southern half of the range. *White & Devries 6778, 23–24 Jun 1998.*
- *ROBINIA PSEUDOACACIA L. Tree. Locally established in Bouquet and Texas canyons, but widely planted. *Ross & Porter 8506, 4 May 1995.*
- *SPARTIUM JUNCEUM L. Large shrub. Occasional to locally common on road cuts and fill slopes, less frequent along drainages. *Boyd & Wall 8776, 16 May 1996.*
- THERMOPSIS CALIFORNICA S. Watson var. ARGENTATA (Greene) C. J. Chen & B. L. Turner Perennial herb. Local in grassland and open woodland, summit of Liebre Mountain and near Tweedy Lake on Portal Ridge. *Boyd et al. 9786, 10 May 1997.*
- TRIFOLIUM ALBOPURPUREUM Torr. & A. Gray var. ALBOPURPUREUM Annual. Widespread and locally common in openings in scrub and woodland, and especially in grassland. *Runyan 27, 7 Apr 1955.*
- TRIFOLIUM CILIOLATUM Benth. Annual. Apparently scarce in the southwestern end of the range, documented from Grasshopper Canyon and the Saugus area. *White & Leatherman 6533, 19 May 1998.*
- TRIFOLIUM GRACILENTUM Torr. & A. Gray ssp. GRACILENTUM Annual. Widespread, but generally uncommon in grassland and open situations in scrub and woodland. *Boyd, Raz, & Ross 9482, 1 Apr 1997.*
- *TRIFOLIUM HIRTUM All. Annual. Locally established along roads and on fuelbreaks, infrequently in less disturbed habitats. An unfortunate introduction in seed mixes used for soil stabilization. *Ross & Steinmann 8531, 8 May 1995.*
- TRIFOLIUM MICROCEPHALUM Pursh Annual. Rather uncommon, moist soil of streamside benches as in lower Red Fox and Bear canyons. *Ross & Boyd 8640, 28 Jun 1995.*
- TRIFOLIUM OBTUSIFLORUM Hook. & Arn. Annual. Widespread, but generally rather infrequent, moist soil along streams and about seeps. *Boyd & Raz 9616, 30 Apr 1997.*
- TRIFOLIUM VARIEGATUM Nutt. Annual. Uncommon, moist soil along

stream, Castaic Creek near confluence with Fish Creek. *Boyd, Mistretta, & Soza* 8844, 12 Jun 1996.

TRIFOLIUM WILLDENOVII Spreng. Annual. Widespread, occasional in grassland, openings in scrub and woodland, and especially on recent burns. *Boyd & Raz* 9632, 30 Apr 1997.

VICIA AMERICANA Willd. var. *AMERICANA* Perennial herb. Infrequent in open woodland and on alluvial benches, northwestern quarter of the range. *Boyd et al.* 9787, 10 May 1997.

VICIA HASSEI S. Watson Annual. Locally common in grassland on clay soil, upper Osito and Plum canyons. *Boyd, Raz, & Ross* 9483, 1 Apr 1997.

**VICIA VILLOSA* Roth ssp. *VARIA* (Host) Corb. Annual. Uncommon, grassland and open foothill pine woodland, head of Liebre Gulch. *Ross* 8396, 26 Apr 1995.

FAGACEAE

QUERCUS AGRIFOLIA Née var. *AGRIFOLIA* Tree. Locally common in canyon bottoms and about springs, southern half of the range. *Ross & Boyd* 8265, 20 Sep 1994.

QUERCUS AGRIFOLIA Née var. *AGRIFOLIA* × *QUERCUS WISLIZENI* A. DC. var. *FRUTESCENS* Engelm. Large shrub. Scattered plants exhibiting characters intermediate between putative parents encountered in Texas, Mint, and Bear canyons. *Boyd & Raz* 9624, 30 Apr 1997.

QUERCUS BERBERIDIFOLIA Nutt. Large shrub. Widespread and locally common in scrub and woodland, especially in the southern half of the range. *Boyd & Raz* 9016, 8 Oct 1996.

QUERCUS CHRYSOLEPIS Lieb. Tree or large shrub. Widespread, forming dense woodlands on mesic exposures of the Liebre, Sawmill, and Sierra Pelona ridge complexes; also abundant as arborescent shrubs in dense oak chaparral on more xeric exposures of these and other ridges. An exceptionally large individual can be found crowning the western summit of Liebre Mountain and other notably large individuals are present on the crest of Sierra Pelona west of Mt. McDill. *Ross & Boyd* 7877, 25 May 1994.

QUERCUS DOUGLASII Hook. & Arn. Tree. Locally common in open woodlands at the northwestern end of the range and sporadically southward along the western edge of the range near Oak Flat. *Ross & Boyd* 8315, 21 Sep 1994.

QUERCUS DOUGLASII Hook. & Arn. × *QUERCUS JOHN-TUCKERI* Nixon & C. H. Müll. Tree. Plants of intermediate morphology between the putative parents are occasional in the northwestern corner of the range and at the western edge near Oak Flat. *Ross et al.*, 28 Jun 1990.

QUERCUS DOUGLASII Hook. & Arn. × *QUERCUS LOBATA* Née Tree. Plants of intermediate morphology between the putative parents are occasional in the northwestern corner of the range and at the western edge near Oak Flat. *Benson* 14291, 17 Nov 1949.

QUERCUS GARRYANA Hook. var. *BREWERI* (Engelm.) Jeps. Large shrub. Locally common on the upper western end of Liebre Mountain, northeast slope of Grass Mountain, and across the upper north flank of Sierra Pelona. Apparently the Liebre Mountains represent the southern limit for the taxon. *Ross & Boyd* 8307, 21 Sep 1994.

QUERCUS JOHN-TUCKERI Nixon & C. H. Müll. Large shrub. Widespread and locally common in scrub and woodland, especially in the northern half of the range. *Boyd & Ross* 9219, 21 Mar 1997.

QUERCUS KELLOGGII Newb. Tree. Common on the crest and upper northerly slopes of Liebre and Sawmill mountains and forming dense to open woodlands; occasional on the northern flank of Sierra Pelona near Mt. McDill. *Ross & Boyd* 8297, 21 Sep 1994.

QUERCUS KELLOGGII Newb. × *QUERCUS WISLIZENI* A. DC. var. *FRUTESCENS* Engelm. Large shrub to tree. Plants of intermediate morphology between the putative parents are occasionally encountered where the two parental taxa occur together, especially on Liebre and Sawmill Mountains. *Boyd* 10029, 10 Sep 1997.

QUERCUS LOBATA Née Tree. Locally common in open woodlands at

the northwestern end of the range and sporadically southward along the western edge of the range, especially near Valencia and Newhall. *Ross & Boyd* 8316, 21 Sep 1994.

QUERCUS WISLIZENI A. DC. var. *FRUTESCENS* Engelm. Large shrub. Widespread and locally common, especially in dense oak chaparral on the upper southern flanks of Liebre and Sawmill mountains. *Ross & Boyd* 8245, 20 Sep 1994.

QUERCUS WISLIZENI A. DC. var. *WISLIZENI* Tree. Uncommon in oak woodland along drainages, Atmore Meadows and lower Deer Canyon. *Boyd & Raz* 9100, 29 Oct 1996.

FRANKENIACEAE

FRANKENIA SALINA (Molina) I. M. Johnst. Perennial herb. Scarce, Anaverde Valley. *Myers s.n.*, 28 Jun 1989.

GARRYACEAE

GARRYA FLAVESCENS S. Watson var. *PALLIDA* (Eastw.) Bacig. ex Ewan Large shrub. Widespread in scrub and open woodland, generally not common at any particular locality. *Ross & Banks* 7542, 13 Apr 1994.

GENTIANACEAE

CENTAURIUM EXALTATUM (Griseb.) Piper Annual. Local in drying stream bed along Castaic Creek, upstream from Elderberry Forebay, and at edge of drying fault sag, north base of Liebre Mountain at Cow Spring Canyon. *Ross & Boyd* 8328, 21 Sep 1994.

CENTAURIUM VENUSTUM (A. Gray) B. L. Rob. Annual. Uncommon, drying stream bed along Castaic Creek, upstream from Elderberry Forebay, and at edge of drying vernal pool, Plum Canyon near Cruzan Mesa. *Boyd & Mistretta* 8822A, 23 May 1996.

GERANIACEAE

**ERODIUM BOTRYS* (Cav.) Bertol. Annual. Widespread, but generally infrequent in grassland, openings in scrub and woodland, and especially ruderal situations. *Ross & Banks* 7508, 12 Apr 1994.

**ERODIUM BRACHYCARPUM* (Godr.) Thell. Annual. Widespread, but generally infrequent in grassland, openings in scrub and woodland, and especially ruderal situations. *Wheeler* 9205, 30 Apr 1967.

**ERODIUM CICUTARIUM* (L.) L'Her. Annual. Widespread and common in almost all open habitats, excluding saturated soils. *Boyd & Ross* 9215, 21 Mar 1997.

ERODIUM MACROPHYLLUM Hook. & Arn. Annual. Scarce, documented by an early collection from near Elizabeth Lake. *Parish* 1906, Jun 1888 (JEPS).

**ERODIUM MOSCHATUM* (L.) L'Her. ex Aiton Annual. Scarce, documented from the Saugus area. *Wheeler* 9206, 30 Apr 1967.

GROSSULARIACEAE

RIBES AUREUM Pursh var. *GRACILLIMUM* (Coville & Britton) Jeps. Small shrub. Local on alluvial benches and mesic exposures in scrub, southern edge of the range. *Boyd & Raz* 9154, 4 Mar 1997.

RIBES MALVACEUM Sm. var. *MALVACEUM* Small shrub. Uncommon in scrub, summit of Red Mountain and along the Old Ridge Route, north of Templin Highway. *Ross* 8371, 7 Apr 1995.

RIBES QUERCETORUM Greene Small shrub. Locally common in scrub and woodland on alluvial benches and slopes with mesic exposures, northern half of the range. Particularly common at the northwestern end of the range and often forming dense thickets on certain slopes. *Boyd & Raz* 9348, 26 Mar 1997.

RIBES ROEZLII Regel var. *ROEZLII* Small shrub. Common in woodland understory and edges of scrub across the crests of the Liebre, Sawmill, and Sierra Pelona ridge systems. *Ross & Boyd* 8063, 23 Jun 1994.

HIPPOCASTANACEAE

AESCULUS CALIFORNICA (Spach) Nutt. Tree. Locally common in oak and foothill pine woodlands across Portal Ridge and the northern flank of Liebre and Sawmill mountains, eastward to the vicinity of Elizabeth Lake Canyon. Natural populations observed south of Hiatt Canyon in the east and upper Liebre Gulch and the Gillette Mine area of Bear Canyon in the west. *Boyd, Ross, & Burns 8140, 7 Jul 1994*. Plants found further south, in the vicinity of Powerhouse No. 2 in San Francisquito Canyon, are presumed to be derived from former plantings.

HYDROCOTYLACEAE

BOWLESIA INCANA Ruiz & Pav. Annual. Apparently scarce, documented in understory of scrub, Bouquet Canyon. *Wheeler 8704, 16 May 1965*.

HYDROPHYLLACEAE

EMMENANTHE PENDULIFLORA Benth. var. *PENDULIFLORA* Annual. Widespread, occasional in xeric openings in scrub, but especially common on recent burns. *Boyd & Raz 9745, 6 May 1997*.

ERIODICTYON CRASSIFOLIUM Benth. var. *CRASSIFOLIUM* Large shrub. A single collection from Kings Canyon appears to be this taxon, otherwise, the variety is not known from the range. *Dudley & Lamb 4343, 8 Jun 1896*.

ERIODICTYON CRASSIFOLIUM Benth. var. *NIGRESCENS* Brand Large shrub. Widespread and common in scrub and open woodland, especially on recovering burns, old fuelbreaks, and open alluvial benches. *Ross & Porter 8511, 4 May 1995*.

ERIODICTYON TRICHOCALYX A. Heller var. *TRICHOCALYX* Small shrub. Scarce, known from a single collection near Schwartz Ranch, Pine Canyon west of Elizabeth Lake. *Thompson 53, 16 Jun 1964*.

EUCRYPTA CHRYSANTHEMIFOLIA (Benth.) Greene var. *CHRYSANTHEMIFOLIA* Annual. Widespread and locally common, mesic openings and understory of chaparral and woodland, often about shaded bases of boulder outcrops, especially common on recent burns. *Ross & Porter 8406, 4 May 1995*.

LEMMONIA CALIFORNICA A. Gray Annual. Scarce, open areas of decomposed granite, west summit of Liebre Mountain. *Ross & Boyd 7883, 25 May 1994*.

NEMOPHILA MENZIESII Hook. & Arn. var. *INTEGRIFOLIA* Parish Annual. Widespread and locally common in grassland, openings in scrub, and woodland understory. Especially common on recent burns. *Ross & Boyd 7800, 11 May 1994*.

NEMOPHILA MENZIESII Hook. & Arn. var. *MENZIESII* Annual. Occasional to locally common in grassland, openings in scrub, and woodland understory across the northern third of the range. *Boyd & Raz 9180, 14 Mar 1997*.

PHACELIA BRACHYLOBA (Benth.) A. Gray Annual. Generally scarce except on recent burns in scrub, where locally common, western half of the range. *Ross & Boyd 2820, 6 Jun 1990*.

PHACELIA CUCUTARIA Greene var. *HISPIDA* (A. Gray) J. T. Howell Annual. Widespread and locally common in grassland, openings in scrub, and woodland understory. Especially common on recent burns. *Munz 6931, 9 Jun 1923*.

PHACELIA CILIATA Benth. Annual. Local in heavy soil near Quail Lake. *Balls & Lenz 14473, 8 Mar 1950*.

PHACELIA DAVIDSONII A. Gray Annual. Locally common in grassland and open understory of pine and oak woodlands from the edge of the Antelope Valley to the crests of the Liebre, Sawmill, and Sierra Pelona ridge systems. *Davidson 2559, 25 May 1975*.

PHACELIA DISTANS Benth. Annual. Widespread and locally common in grassland, openings in scrub, and woodland understory. Especially common on recent burns. *Ross & Steinmann 8562, 8 May 1995*.

PHACELIA DOUGLASII (Benth.) Torr. Annual. Uncommon, scattered

sites in the eastern half of the range, including Leona Valley and upper Soledad Canyon. *Ross & Steinmann 8564, 8 May 1995*.

PHACELIA EGENA (Greene ex Brand) J. T. Howell Suffrutescent perennial. Locally common in grassland and open woodland, especially about low rock outcrops, Portal Ridge south to the crest of the Liebre, Sawmill, and Sierra Pelona Ridge systems. *Ross & Boyd 8044, 23 Jun 1994*.

PHACELIA FREMONTII Torr. Annual. Occasional to locally common in xeric, open habitats along the edge of the Antelope Valley and northeastern end of the range. *Ross, Boyd, & Arnseth 4790, 29 Apr 1991*.

PHACELIA IMBRICATA Greene ssp. *IMBRICATA* Perennial herb. Local on rocky slopes and alluvial benches in scrub and woodland openings, scattered sites across the range. *Boyd & Wall 8778, 16 May 1996*.

PHACELIA LONGIPES A. Gray Annual. Uncommon, rocky slopes and scree deposits, western edge of the range, especially in the Castaic Creek drainage. *Boyd & Raz 9735, 6 May 1997*.

PHACELIA MINOR (Harv.) Thell. Annual. Widespread and locally common on recent burns, occasional in unburned scrub in xeric openings. *Boyd & Raz 9692, 6 May 1997*.

PHACELIA RAMOSISSIMA Douglas ex Lehm. var. *LATIFOLIA* (Torr.) Cronquist Perennial herb. Widespread and common in understory of scrub and woodland, especially about rock outcrops. *Ross & Boyd 8019, 22 Jun 1994*.

PHACELIA TANACETIFOLIA Benth. Annual. Locally common in grassland, edge of the Antelope Valley along Ritter and Portal ridges, infrequent elsewhere, as in Bouquet Canyon. *Boyd & Raz 9366, 26 Mar 1997*.

PHACELIA VISCIDA (Benth.) Torr. Annual. Locally common on recent chaparral burns, western edge of the range. Apparently scarce or absent in unburned situations. *Boyd & Raz 9722, 6 May 1997*.

PHOLISTOMA MEMBRANACEUM (Benth.) Constance Annual. Occasional, areas of desert transition at the northeastern end of the range. *Broughton & Muller 1350, 21 Apr 1971*.

TURRICULA PARRYI (A. Gray) J. F. Macbr. Small shrub. Widespread, but generally uncommon, except locally on recent burns. *Ross & Boyd 6610, 5 Jul 1992*.

JUGLANDACEAE

JUGLANS CALIFORNICA S. Watson var. *CALIFORNICA* Tree or large shrub. Occasional in scrub and woodland of lower Bouquet Canyon, scarce at other sites in lower elevations to the west and south. *Boyd & Raz 8991, 8 Oct 1996*.

**JUGLANS CALIFORNICA* S. Watson var. *HINDSII* Jeps. Tree. Locally established at edges of wet meadows below Knapp Ranch, upper Cienega Canyon. Presumably derived from seeds produced by grafted root stock of *Juglans regia* cultivated at the ranch. *Boyd & Raz 8928, 24 Sep 1996*.

LAMIACEAE

ACANTHOMINTHA OBOVATA Jeps. ssp. *CORDATA* Jester Annual. Scarce on moist, low competition sites on clay soil deposit in upper Osito Canyon. Likely present in other islands of clay soil lower in Osito Canyon and adjacent areas at the western edge of the range. *Boyd, Mistretta, & Dolan 8558, 18 Apr 1996*.

**LAMIUM AMPLEXICAULE* L. Annual. Uncommon, somewhat disturbed understory of oak woodland in Bouquet and Clearwater canyons. *Ross & Steinmann 8544, 8 May 1995*.

LEPECHINIA sp. nov. Small shrub. Occasional in chaparral, documented in the Liebre Mountains region only from the summit and northern flank of Red Mountain in upper Clearwater and Ruby canyons. *Boyd & Raz 9733, 6 May 1997*. A paper describing this shrub is in preparation and will be presented elsewhere. It combines floral and vegetative characters of *L. calycina* and *L. cardiophylla*, but differs from those taxa in its floral bracts and in-

florescence architecture, among other characters. Another population of this putative new species occurs approximately 35–40 km to the southwest in the Topa Topa Mountains of Ventura County, in the vicinity of Tar Canyon near its confluence with Sespe Canyon.

**MARRUBIUM VULGARE* L. Suffrutescent perennial. Widespread, but generally only common in areas of past disturbance, and especially intensive grazing. *Boyd & Raz 8944, 24 Sep 1996.*

MENTHA ARVENSIS L. Perennial herb. Local in moist soil along streams in understory of riparian woodland, such as lower Ruby Canyon, central San Francisquito Canyon, and Soledad Canyon near Ravenna. *Raz & Boyd 003, 23 Oct 1996.*

**MENTHA* × *PIPERITA* L. Perennial herb. Locally established in Bouquet Canyon, moist soil along stream in understory of riparian woodland. *Boyd & Raz 8988, 8 Oct 1996.*

**MENTHA SUAVEOLENS* Ehrh. Perennial herb. Scarce, open wet meadow south of Knapp Ranch, upper Cienega Canyon. *Boyd & Raz 8941, 24 Sep 1996.*

MONARDELLA BREWERI A. Gray Annual. Scarce, northwest end of the range at the edge of the Antelope Valley. *Epling s.n., 9 May 1937.*

MONARDELLA LANCEOLATA A. Gray Annual. Widespread and locally common in grassland and openings of scrub and woodland. *Ross & Boyd 8024, 22 Jun 1994.*

PYCNANTHEMUM CALIFORNICUM Torr. Perennial herb. Scarce, documented from lower Bouquet Canyon and near Newhall. *Raven 16755, 24 Sep 1961.*

**ROSMARINUS OFFICINALIS* L. Small shrub. A prostrate selection of this species has been introduced as a roadside planting/slope stabilizer along the Old Ridge Route and other roads in the National Forest. Apparently capable of spreading locally, but not aggressively so. *Ross 8358, 7 Apr 1995.*

SALAZARIA MEXICANA Torr. Small shrub. Occasional in xeric scrub, areas of desert transition at the northeastern end of the range. *Cantwell s.n., May 1930.*

SALVIA APIANA Jeps. Small shrub. Widespread and common in scrub and woodland, especially rocky and xeric openings. *Ross & Boyd 8009, 22 Jun 1994.*

SALVIA CARDUACEA Benth. Annual. Locally common in well-drained soils, northwestern end of the range and areas bordering the Antelope Valley; infrequent and scattered elsewhere throughout the range, especially in the vicinity of Acton. *Boyd 8707, 25 Apr 1996.*

SALVIA COLUMBARIÆ Benth. Annual. Widespread and common in grassland and openings in scrub and woodland; especially common on recent burns. *Ross & Steinmann 8553, 8 May 1995.*

SALVIA DORRII (Kellogg) Abrams var. *PILOSA* (A. Gray) Strachan & Reveal Small shrub. Occasional in xeric scrub and open woodland across the northern edge of the range in areas adjacent to the Antelope Valley. *Boyd & Raz 9262, 25 Mar 1997.*

SALVIA LEUCOPHYLLA Greene Small shrub. Locally common in scrub, southwestern quarter of the range. *Doty 672, 16 May 1969.*

SALVIA LEUCOPHYLLA Greene × *SALVIA MELLIFERA* Greene Small shrub. Apparently scarce natural hybrid, Plum Canyon. *Boyd & Soza 10167, 28 Apr 1998.*

SALVIA MELLIFERA Greene Small shrub. Widespread and locally common in scrub and woodland openings. *Ross & Banks 7503, 12 Apr 1994.*

SATUREJA MIMULOIDES (Benth.) Briq. Suffrutescent perennial. Scarce, documented from an early collection near Acton. *Hasse s.n., Jul 1895.*

SCUTELLARIA SIPHOCAMPYLOIDES Vathek Perennial herb. Local in understory of scrub and woodland, scattered sites in the western half of the range. *Ross & Boyd 8631, 28 Jun 1995.*

STACHYS ALBENS A. Gray Perennial herb. Widespread and common, moist soil along streams and seepages. *Ross, Boyd, & Burns 88097, 6 Jul 1994.*

TRICHOSTEMA LANATUM Benth. Small shrub. Widespread, occasional

to locally common in scrub and woodland, especially on recovering burns. *Reveal 6777, 17 May 1988.*

TRICHOSTEMA LANCEOLATUM Benth. Annual. Widespread, locally common in grassland and ruderal areas subjected to heavy grazing. *Boyd & Raz 8957, 24 Sep 1996.*

LAURACEAE

**UMBELLULARIA CALIFORNICA* (Hook. & Arn.) Nutt. Tree. Documented from an early collection near Sandberg, where possibly planted. Not observed during our surveys. *Clare s.n., 7 Apr 1930.*

LINACEAE

HEPEROLINON MICRANTHUM A. Gray Annual. Scarce, documented by an early collection from near Newhall. *Davidson s.n., 20 May 1893.*

LOASACEAE

MENTZELIA AFFINIS Greene Annual. Uncommon, open areas in xeric scrub and woodland, northwestern corner of the range. *Boyd, Mistretta, & Dolan 8581, 18 Apr 1996.*

MENTZELIA DISPERSA S. Watson Annual. Local in understory of oak woodland, northern flank of Sawmill and Grass mountains. *Ross & Boyd 7872, 24 May 1994.*

MENTZELIA GRACILENTA Torr. & A. Gray Annual. Scarce, widely scattered sites including Saugus, Acton, and upper San Francisquito Canyon. *Ross, Boyd, & Arnseth 4805, 29 Apr 1991.*

MENTZELIA LAEVICAULIS (Hook.) Torr. & A. Gray Biennial herb. Local in San Francisquito Canyon on open rocky slopes and scree deposits. *Ross, Boyd, & Burns 8092, 6 Jul 1994.*

MENTZELIA MICRANTHA (Hook. & Arn.) Torr. & A. Gray Annual. Widespread and locally common, openings in scrub and woodland; especially common on recent burns. *Craig 470, 19 Jun 1927.*

MENTZELIA VEATCHIANA Kellogg Annual. Widespread and locally common, openings in scrub and woodland; especially common on recent burns. *Sphon 339, 10 May 1959.*

PETALONYX THURBERI A. Gray ssp. *THURBERI* Small shrub. Local on sandy alluvial benches, lower San Francisquito Canyon, and at the northeastern end of the range in upper Mint Canyon. *Ross & Boyd 6632, 5 Jul 1992.*

LYTHRACEAE

LYTHRUM CALIFORNICUM Torr. & A. Gray Perennial herb. Local in moist soil along stream, Castaic Creek upstream from Elderberry Forebay, and about a fault sag, Peace Valley just west of Quail Lake. *Boyd, Mistretta, & Soza 8838, 12 Jun 1996.*

MALVACEAE

**ALCEA ROSEA* L. Perennial herb. Scarce and probably a waif, documented by an early collection from Elizabeth Lake Canyon. *Ramsey & Ramsey 942, 27 Jun 1937.*

MALACOTHAMNUS FREMONTII A. Gray Small shrub. Widespread but generally uncommon in scrub and woodland, except in areas recovering from a recent burn. *Boyd & Raz 9751, 6 May 1997.*

MALACOTHAMNUS MARRUBIODES (Durand & Hilg.) Greene Small shrub. Southern and western edge of the range, generally uncommon in scrub and woodland, except in areas recovering from a recent burn. *Wolf 686, 27 Jul 1927.*

**MALVA PARVIFLORA* L. Annual. Scarce, disturbed alluvial benches near confluence of Castaic and Fish Creeks. *Ross, Boyd, & Arnseth 4892, 30 Apr 1991.*

MALVELLA LEPROSA (Ort.) Krapov. Perennial herb. Locally common in drying beds of sag ponds along the San Andreas Rift zone. *Boyd, Elvin, & Jotikasthira 8880, 25 Jun 1996.*

SIDALCEA MALVAEFLORE (DC) A. Gray ex Benth. ssp. *MALVAEFLORE*

Perennial herb. Scarce, Bouquet Canyon. *Clokey s.n., 13 May 1930.*

SIDALCEA MALVAEFLOA (DC) A. Gray ex Benth. ssp. SPARSIFLOA C. L. Hitchc. Perennial herb. Local in grassland and moist openings in scrub, Bouquet Canyon and across the northern edge of the range. *Hitchcock 19565, 2 Jun 1952.*

SIDALCEA NEOMEXICANA A. Gray ssp. THURBERI (Rob. ex A. Gray) C. L. Hitchc. Perennial herb. Scarce, documented by early collections near Elizabeth Lake and head of San Francisquito Canyon. *Davidson s.n., May 1920.*

SPHAERALCEA EMORYI Torr. var. VARIABILIS (Cockerell) Kearney Suffrutescent perennial. Scarce, areas of desert transition, upper Mint Canyon. *Templeton 1460, 19 May 1931.*

NYCTAGINACEAE

MIRABILIS CALIFORNICA A. Gray Suffrutescent perennial. Occasional, open situations in xeric scrub, lower elevations at the southern and western ends of the range. *Ross & Porter 8475, 4 May 1995.*

MIRABILIS MULTIFLORA (Torr.) A. Gray var. PUBESCENS S. Watson Perennial herb. Scarce, documented by early collections from near Manzanita, Neenach, and Elizabeth Lake. *Simontacchi 45, 26 May 1935.*

OLEACEAE

FORESTIERA PUBESCENS Nutt. Large shrub. Uncommon on alluvial benches and about springs, scattered sites including Bouquet, Mint, and Clearwater canyons, etc. *Henrickson 2262, 17 Apr 1966.*

FRAXINUS DIPETALA Hook. & Arn. Large shrub. Locally common on mesic exposures in scrub and woodland, western end of the range. *Ross 8387, 26 Apr 1995.*

*FRAXINUS UHDEI (Wenz.) Lingelsh. Tree. Scarce, wetland area in San Francisquito Canyon at east base of Red Mountain. Widely cultivated in southern California as a street tree. Adventive occurrences are likely to increase in riparian situations at the urban-wildland interface. *Ross & Boyd 7835, 24 May 1994.*

FRAXINUS VELUTINA Torr. var. CORIACEA (S. Watson) Jeps. Tree. Uncommon in drainages at the northern base of Sawmill Mountain and Elizabeth Lake Canyon. *Ross & Boyd 8366, 28 Jun 1995.*

ONAGRACEAE

CAMISSONIA BISTORTA (Nutt. ex Torr. & A. Gray) P. H. Raven Annual. Widespread and locally common in sandy, open situations on slopes and alluvial benches, especially recent burns. *Gifford 485, 16 Mar 1935.*

CAMISSONIA BOOTHII (Douglas) P. H. Raven ssp. DECORTICANS (Hook. & Arn.) P. H. Raven Annual. Local on open, shaley or clayey outcrops in xeric scrub; most frequent in the western end of the range, but scattered eastward to the Agua Dulce area. *Boyd, Raz, & Ross 9457, 1 Apr 1997.*

CAMISSONIA CALIFORNICA (Torr. & A. Gray) P. H. Raven Annual. Widespread and locally common, openings in xeric scrub and recent burns. *Raven 13906, 1 Apr 1959.*

CAMISSONIA CAMPESTRIS (Greene) P. H. Raven ssp. CAMPESTRIS Annual. Widespread and locally common in grassland and open woodland understory. *Ross & Boyd 7770, 11 May 1994.*

CAMISSONIA CLAVIFORMIS (Torr. & Frém.) P. H. Raven Annual. Local on xeric rocky slopes of Ritter Ridge at the northeastern end of the range. *Boyd, Raz, & Kinney 10089, 17 May 1998.*

CAMISSONIA CONFUSA P. H. Raven Annual. Scarce, recent burn on slope between Leona and Lost valleys. *Ross & Steinmann 8561, 8 May 1995.*

CAMISSONIA GRACILIFLOA (Hook. & Arn.) P. H. Raven Annual. Widespread, but inconspicuous and generally never common, low competition sites in grassland, alluvial benches, and openings in scrub and woodland. *Boyd & Raz 9132, 4 Mar 1997.*

CAMISSONIA HIRTELLA (Greene) P. H. Raven Annual. Widespread, occasional in grassland and xeric openings of scrub and woodland; locally common on recent burns. *Craig 480, 19 Jun 1927.*

CAMISSONIA IGNOTA (Jeps.) P. H. Raven Annual. Widespread, occasional in grassland and xeric openings of scrub and woodland; locally common on recent burns. *Ross & Porter 8493, 4 May 1995.*

CAMISSONIA INTERMEDIA P. H. Raven Annual. Widespread, occasional in grassland and xeric openings of scrub and woodland; locally common on recent burns. *Boyd & Raz 9964, 17 Jun 1997.*

CAMISSONIA MICRANTHA (Spreng.) P. H. Raven Annual. Scarce, Castaic Canyon above Elderberry Forebay. *Ross, Boyd, & Arnseth 4893, 30 Apr 1991.*

CAMISSONIA PALLIDA (Abrams) P. H. Raven ssp. PALLIDA Annual. Infrequent, open habitats, as in Soledad Canyon Wash and on Parker Mountain near Acton. *Ross, Boyd, & Arnseth 4948, 30 Apr 1991.*

CAMISSONIA PALMERI (S. Watson) P. H. Raven Annual. Local on open, xeric slope of sedimentary substrate, extreme northwest corner of the range. *Boyd 10127, 1 Apr 1998.*

CAMISSONIA STRIGULOSA (Fisch. & C. A. Mey.) P. H. Raven Annual. Widespread and locally common in grassland, scrub and woodland openings, and especially on alluvial benches. *Ross & Porter 8457, 4 May 1995.*

CLARKIA BOTTAE (Spach) F. H. Lewis & M. R. Lewis Annual. Uncommon, Soledad Canyon region. *Runyan 66, 24 May 1973.*

CLARKIA CYLINDRICA (Jeps.) F. H. Lewis & M. R. Lewis ssp. CYLINDRICA Annual. Widespread and locally common, openings in scrub and woodland, but especially on rocky slopes with more mesic exposures. *Boyd & Raz 9622, 30 Apr 1997.*

CLARKIA EPILOBIODES (Nutt.) A. Nelson & J. F. Macbr. Annual. Uncommon, mesic openings in scrub and woodland, San Francisquito and Texas canyons. *Ross & Banks 7488, 12 Apr 1994.*

CLARKIA PURPUREA (Curtis) A. Nelson & J. F. Macbr. ssp. QUADRIVULNERA (Douglas ex Lindl.) F. H. Lewis & M. R. Lewis Annual. Widespread and locally common in grassland and mesic openings in scrub and woodland. *Boyd & Raz 9643, 1 May 1997.*

CLARKIA RHOMBOIDEA Douglas Annual. Locally common, understory of woodland on crest and northern flanks of Liebre and Sawmill mountains. *Ross & Boyd 8052, 23 Jun 1994.*

CLARKIA PUNICULATA Lindl. Annual. Widespread and locally common, mesic openings in scrub and woodland. *Ross & Porter 8500, 4 May 1995.*

CLARKIA XANTIANA A. Gray ssp. XANTIANA Annual. Locally common, open areas on steep slopes with mosaic of woodland and grassland, Cold Canyon at east end of Liebre Mountain. *Ross & Boyd 8656, 28 Jun 1995.*

EPILOBIUM BRACHYCARPUM C. Presl Annual. Widespread, occasional, open areas in scrub and woodland; locally common, margins of sag ponds along San Andreas Rift zone. *Ross & Boyd 8327, 21 Sep 1997.*

EPILOBIUM CANUM (Greene) P. H. Raven ssp. CANUM Suffrutescent perennial. Widespread, occasional in mesic situations within scrub and woodland; locally common on open, rocky slopes with mesic exposures. *Peirson 758, 31 Aug 1916.*

EPILOBIUM CANUM (Greene) P. H. Raven ssp. LATIFOLIUM (Hook.) P. H. Raven Suffrutescent perennial. Infrequent on open, rocky slopes with mesic exposures and mesic situations within scrub and woodland, northern half of the range. *Raz & Boyd 9123, 29 Oct 1996.*

EPILOBIUM CILIATUM Raf. ssp. CILIATUM Perennial herb. Widespread and common in moist soil along streams and seeps. *Ross & Boyd 8010, 22 Jun 1994.*

EPILOBIUM FOLIOSUM (Torr. & A. Gray) Suksdorf Annual. Infrequent in mesic chaparral openings, north face of Red Mountain, and along ephemeral stream near Pacific Crest Trail, Portal Ridge. *Ross, & Boyd 7240, 23 May 1993.*

EPILOBIUM PYGMAEUM (Speg.) P. Hoch & P. H. Raven Annual. Locally common in drying bed of vernal pools, Plum Canyon and Cruzan Mesa. *Porter, Columbus, & dos Santos 10916, 5 Jun 1996.*

GAYOPHYTUM DIFFUSUM Torr. & A. Gray ssp. PARVIFLORUM F. H. Lewis & M. R. Lewis Annual. Locally common in woodland openings and understory, crest of Liebre and Sawmill mountains. *Ross, Boyd, & Burns 8136, 7 Jul 1994.*

HETEROGAURA HETERANDRA (Torr.) Coville Annual. Locally common, understory of woodland on crest and northern flanks of Liebre and Sawmill mountains. *Boyd & Raz 9795, 20 May 1997.*

OENOTHERA CALIFORNICA S. Watson ssp. CALIFORNICA Perennial herb. Local in open sandy situations, as at head of San Francisquito Canyon, Castaic Valley, and in Bouquet Canyon. *Ross & Boyd 7616, 4 May 1994.*

OENOTHERA ELATA Kunth ssp. HIRSUTISSIMA (A. Gray ex S. Watson) W. Dietr. Perennial herb. Widespread, but generally infrequent, moist soil along streams, and about larger seeps. *Ross, Boyd, & Burns 8101, 6 Jul 1994.*

PAEONIACEAE

PAEONIA CALIFORNICA Nutt. ex Torr. & A. Gray Perennial herb. Locally common in open scrub, upper Cienaga Canyon about Knapp Ranch, also documented from Newhall area by early collections. *Boyd 8678, 25 Apr 1996.*

PAPEVERACEAE

ARGEMONE CORYMBOSA Greene Perennial herb. Uncommon, documented from Mint, Soledad, and Bouquet canyons by early collections. *Cantwell s.n., May 1930.*

ARGEMONE MUNITA Durand & Hilg. Annual to perennial herb. Widespread, generally infrequent except in overgrazed pastures and on recent burns. *Ross & Boyd 7645, 4 May 1994.*

DENDROMECON RIGIDA Benth. Large shrub. Widespread, occasional in chaparral, especially areas recovering from burns. *Boyd & Raz 9326, 26 Mar 1977.*

DICENTRA CHRYSANTHA (Hook. & Arn.) Walp. Suffrutescent perennial. Widespread, at least in western half of the range. Generally rather infrequent, locally disturbed sites in scrub, but locally common in areas recovering from recent burns. *Boyd & Raz 9775, 6 May 1997.*

ESCHSCHOLZIA CALIFORNICA Cham. var. CROCEA (Benth.) Jeps. Perennial herb. Common to locally abundant in grassland, northern half of the range. *Ross & Boyd 7894, 11 May 1994.*

ESCHSCHOLZIA CALIFORNICA Cham. var. PENINSULARIS (Greene) Munz Annual. Widespread, occasional in grassland, xeric openings in scrub and woodland; locally common on recent burns. *Boyd & Raz 9419, 31 Mar 1997.*

ESCHSCHOLZIA MINUTIFLORA S. Watson Annual. Uncommon in open, xeric scrub, areas of desert transition, northern and southeastern margins of the range. *Wheeler 598, 10 Apr 1932.*

*PAPAVER SOMNIFERUM L. Annual. Documented as a waif, Agua Dulce. *Davis s.n., May 1967.*

PLATYSTEMON CALIFORNICUS Benth. var. CALIFORNICUS Annual. Widespread, occasional to locally common in grassland and openings in scrub and woodland. *Wheeler 9342, 8 May 1967.*

PLATYSTEMON CALIFORNICUS Benth. var. CRINITUS Greene Annual. Widespread, occasional to locally common in grassland and openings in scrub and woodland. *Ross 8374, 26 Apr 1995.*

PLANTAGINACEAE

PLANTAGO ERECTA E. Morris Annual. Locally common in open situations, especially on heavy soil, lower elevations, southwestern and western edges of the range. *Ross & Banks 7460, 12 Apr 1994.*

*PLANTAGO MAJOR L. Perennial herb. Uncommon, damp soil in understory of riparian woodland, San Francisquito Canyon and near

Knapp Ranch, upper Cienaga Canyon. *Ross, Boyd, & Burns 8102, 6 Jul 1994.*

PLANTAGO PATAGONICA Jacq. Annual. Scarce, open scrub and alluvial benches in Castaic Canyon near confluence with Fish Canyon. *Ross, Boyd, & Arnseth 4895, 30 Apr 1991.*

PLATANACEAE

PLATANUS RACEMOSA Nutt. Tree. Widespread and common along drainages, occasional about larger seeps on slopes. *Boyd & Raz 9892, 28 May 1997.*

POLEMONIACEAE

ALLOPHYLLUM DIVARICATUM (Nutt.) A. D. Grant & V. E. Grant Annual. Scarce, alluvial bench and adjacent mesic slope, lower Red Fox Canyon. *Ross & Boyd 8642, 28 Jun 1995.*

ALLOPHYLLUM GILIOIDES (Benth.) A. D. Grant & V. E. Grant ssp. GILIOIDES Annual. Scarce, clay soil of mesic chaparral opening, Bouquet Canyon near Bouquet campground no. 3. *Ross & Steinmann 8540, 8 May 1995.*

ALLOPHYLLUM GILIOIDES (Benth.) A. D. Grant & V. E. Grant ssp. VIOLACEUM (A. Heller) A. G. Day Annual. Locally common on recently burned slopes, mouth of Fish Canyon. *Boyd & Raz 9781, 6 May 1997.*

ALLOPHYLLUM GLUTINOSUM (Benth.) A. D. Grant & V. E. Grant Annual. Scarce, documented by an early collection from Newhall area. *Burch s.n., 17 Mar 1940.*

COLLOMIA GRANDIFLORA Douglas ex Lindl. Annual. Occasional in openings of woodland, crest and northern flanks of Liebre and Sawmill mountains. *Ross & Boyd 8023A, 22 Jun 1994.*

ERIASTRUM DENSIFOLIUM (Benth.) H. Mason ssp. AUSTROMONTANUM (T. T. Craig) H. Mason Suffrutescent perennial. Locally common in sandy and rocky openings in scrub, especially on granitic substrates, mostly in the northern half of the range. *Ross, Boyd, & Burns 8124, 7 Jul 1994.*

ERIASTRUM DENSIFOLIUM (Benth.) H. Mason ssp. ELONGATUM (Benth.) H. Mason Suffrutescent perennial. Locally common in sandy and rocky openings in scrub, especially on granitic substrates, mostly in the southern half of the range. *Porter, Columbus, & dos Santos 10923, 5 Jun 1996.*

ERIASTRUM FILIFOLIUM (Nutt.) Wootton & Standl. Annual. Locally common on open, low competition sites within scrub, Red Mountain. *Boyd & Raz 9706, 6 May 1997.*

ERIASTRUM SAPPHIRINUM (Eastw.) H. Mason ssp. AMBIGUUM (M. E. Jones) H. Mason Annual. Occasional, southern half of the range in open, low competition sites within scrub. *Boyd & Raz 9753, 6 May 1997.*

ERIASTRUM SAPPHIRINUM (Eastw.) H. Mason ssp. DASYANTHUM (Brand) H. Mason Annual. Widespread and common, grassland and open situations in scrub and woodland. *Brandegee s.n., Jun 1910.*

ERIASTRUM SPARSIFLORUM (Eastw.) H. Mason Annual. Uncommon, chaparral opening on upper western flank of Burnt Peak. *Shevock 1054, 11 May 1971.*

GILIA ALIQUANTA A. D. Grant & V. E. Grant ssp. ALIQUANTA Annual. Scarce, open xeric situations on Parker Mountain, also documented by an early collection from near Saugus. *Ross, Boyd, & Arnseth 4833, 29 Apr 1991.*

GILIA ANGELENSIS V. E. Grant Annual. Occasional in grassland and openings in scrub, southern half of the range. *Ross & Banks 7474, 12 Apr 1994.*

GILIA AUSTRALIS (H. Mason & A. D. Grant) V. E. Grant Annual. Widespread, but generally infrequent in mesic openings in scrub and on recent burns. *Boyd & Raz 9283, 25 Mar 1997.*

GILIA BRECCIARUM M. E. Jones ssp. BRECCIARUM Annual. Locally common, grassland and openings in scrub, northern half of the range. *Boyd & Raz 9646, 1 May 1997.*

- GILIA CAPITATA* Sims ssp. *ABROTANIFOLIA* (Nutt. ex Greene) V. E. Grant Annual. Widespread and common in grassland, openings in scrub and woodland, and recent burns. *Ertter et al.* 7475, 23 May 1988.
- GILIA DIEGENSIS* (Munz) A. D. Grant & V. E. Grant Annual. Scarce, known from a single collection near Acton. *Davidson s.n., s.d. (RSA 470149B)*.
- GILIA LATIFLORA* (A. Gray) A. Gray ssp. *CUYAMENSIS* A. D. Grant & V. E. Grant Annual. Scarce, plants referable to this subspecies documented from summit of Liebre Mountain. *Twisselmann* 5326, 2 Jun 1959.
- GILIA LATIFLORA* (A. Gray) A. Gray ssp. *DAVYI* (Milliken) A. D. Grant & V. E. Grant Annual. Occasional to locally common, grassland and open, xeric scrub, northern half of the range. *Grant & Grant* 9122, 23 Apr 1952.
- GILIA LATIFLORA* (A. Gray) A. Gray ssp. *LATIFLORA* Annual. Plants referable to this subspecies have been documented from Liebre Mountain, Antelope Valley near Palmdale, and Parker Mountain. *Grant & Grant* 9123, 23 Apr 1952.
- GILIA MAJOR* A. G. Day & V. E. Grant Annual. Scarce, mosaic of grassland and oak woodland, crest of Liebre Mountain at head of Horse Camp Canyon. *Ross et al.* 3912, 27 Jun 1990.
- GILIA MINOR* A. G. Day & V. E. Grant Annual. Scarce, documented from the northeastern and northwestern ends of the range. *Griesel s.n., 14 Apr 1962*.
- GILIA OCHROLEUCA* M. E. Jones ssp. *BIZONATA* A. D. Grant & V. E. Grant Annual. Common in grassland and openings in scrub and woodland, northwestern quarter of the range, but especially along crest of Liebre Mountain. *Abrams & McGregor* 358, 20 Jun 1908.
- GILIA SPLENDENS* Douglas ex Lindl. var. *SPLENDENS* Annual. Infrequent, openings in scrub on granitic substrates, northwestern quarter of the range. *Thorne* 32774, 11 Jul 1963.
- LEPTODACTYLON CALIFORNICUM* Hook. & Arn. ssp. *CALIFORNICUM* Small shrub. Local in chaparral, especially on steep rocky slopes and road cuts, lower elevations at the southwestern end of the range. *Nordstrom* 339, 26 Feb 1935.
- LINANTHUS ANDROSACEUS* (Benth.) Greene ssp. *MICRANTHUS* (Steud.) H. Mason Annual. Widespread and common in grassland and openings in scrub and woodland. *Boyd & Mistretta* 8737, 1 May 1996.
- LINANTHUS AUREUS* (Nutt.) Greene ssp. *AUREUS* Annual. Uncommon, documented from widely scattered localities, but mostly along the edge of the Antelope Valley. *Peirson* 948, 16 Jun 1918.
- LINANTHUS BIGELOVII* (A. Gray) Greene Annual. Infrequent in widely scattered open habitats. *Ross, Boyd, & Arnseth* 4856, 29 Apr 1991.
- LINANTHUS BREVICULUS* (A. Gray) Greene Annual. Scarce, documented by early collections along the edge of the Antelope Valley and on Portal Ridge. *Dudley & Lamb* 4358, 8 Jun 1896.
- LINANTHUS CILIATUS* (Benth.) Greene Annual. Local in mosaic of grassland and open oak woodland, crests of Liebre and Sawmill mountains. *Ross, Mistretta, & Quici* 3894, 27 Jun 1990.
- LINANTHUS DICHOTOMUS* Benth. Annual. Widespread in open habitats, locally common at some sites, but generally rather infrequent and scattered. *Ross & Boyd* 7763, 11 May 1994.
- LINANTHUS LINIFLORUS* (Benth.) Greene Annual. Local in grassland and open situations within scrub and woodland, northwestern end of the range; also know from an old collection near Ravenna. *Boyd & Raz* 9517, 16 Apr 1997.
- LINANTHUS PARRYAE* (A. Gray) Greene Annual. Scarce and local in grassland and open situations within scrub and woodland, northwestern end of the range. Most populations documented exhibited white flower morphs, although a few were predominantly, or entirely, blue. *Ross* 8395, 26 Apr 1995.
- LINANTHUS PYGMAEUS* (Brand) J. T. Howell Annual. Local in protected, open habitats within scrub, widely scattered sites in western half of the range. Inconspicuous and easily overlooked. *Wheeler* 9265, 2 May 1967.
- LOESELIASTRUM MATHEWSII* (A. Gray) Timbrook Annual. Scarce, documented by early collections from Soledad Canyon near Acton and Ravenna. *Craig* 488, 19 Jun 1927.
- NAVARRETTIA ATRACTYLOIDES* (Benth.) Hook. & Arn. Annual. Scarce, hard-packed soil at edge of chaparral, Green Valley Pasture area of upper San Francisquito Canyon; also documented by an early collection from near Newhall. *Ross & Boyd* 2818, 6 Jun 1990.
- NAVARRETTIA FOSSALIS* Moran Annual. Local on drying mud of vernal pools on Cruzan Mesa and in adjacent Plum Canyon. This station represents the northern limit for the species and a significant disjunction from the previously known range in western Riverside and San Diego counties and northwestern Baja California, Mexico. *Porter, Columbus, & dos Santos* 10912, 5 Jun 1996.
- NAVARRETTIA JAREDII* Eastw. Annual. Local on margins of dried vernal pools on Cruzan Mesa and in adjacent Plum Canyon. This station represents one of the southern-most recorded for the species. *Porter, Columbus, & dos Santos* 10913, 5 Jun 1996.
- PHLOX GRACILIS* (Hook.) Greene Annual. Widespread and common in grassland and openings in scrub and woodland. *Boyd & Raz* 9327, 26 Mar 1997.

POLYGONACEAE

- CENTROSTEGIA THURBERI* A. Gray ex Benth. in DC. Annual. Local in open, decomposed granite within oak woodland along crest of Liebre Mountain; also known from areas of desert transition, as at Acton and along Portal Ridge. *Ross & Boyd* 8073, 23 Jun 1994.
- CHORIZANTHE BREVICORNU* Torr. var. *BREVICORNU* Annual. Scarce, a few plants found growing in dried bed of Castaic Creek, at confluence with Fish Creek. *Boyd & Mistretta* 8830A, 23 May 1996.
- CHORIZANTHE BREWERI* S. Watson Annual. Scarce, open cobbley soil with low chaparral, near summit of Warm Springs Mountain. *Ross & Boyd* 8001, 25 May 1994.
- CHORIZANTHE PARRYI* S. Watson var. *FERNANDINA* (S. Watson) Jeps. Annual. Known from historical collections near Elizabeth Lake, Castaic, and Newhall. Possibly extirpated in the range, but to be sought in the main channel of Castaic Creek below the dam, and in adjacent tributary drainages. *Hoffmann s.n., 27 Apr 1929 (SBBG)*.
- CHORIZANTHE PARRYI* S. Watson var. *PARRYI* Annual. Scarce, an immature specimen from Texas Canyon seems closest to this taxon. *Ross & Porter* 8492, 4 May 1995.
- CHORIZANTHE STATICOIDES* Benth. Annual. Widespread and locally common, xeric openings in scrub and woodland. Intergrading with and often inseparable from *C. xanti*. *Reveal* 6870, 24 May 1988.
- CHORIZANTHE WATSONII* Torr. & A. Gray Annual. Infrequent, but locally common in open, low competitions sites at northwestern end of range. *Ross & Boyd* 8662, 29 Jun 1995.
- CHORIZANTHE XANTI* S. Watson var. *XANTI* Annual. Widespread and locally common, xeric openings in scrub and woodland. Intergrading with and often inseparable from *C. staticoides*. *Thorne* 32779, 11 Jul 1963.
- DODECAHEMA LEPTOCERAS* (A. Gray) Reveal & Hardham Annual. Scarce, documented by an early collection from near Newhall where presumed extirpated. *Davidson s.n., 20 May 1893*. An extant population near the confluence of Bee Canyon with Soledad Canyon remains unvouchered (B. Prigge personal communication; K. Marsh personal communication).
- ERIOGONUM ANGULOSUM* Benth. Annual. Occasional to locally common, sandy openings in areas of desert transition, northeast and northern margins of the range. *Boyd & Raz* 9092, 14 Oct 1996.
- ERIOGONUM BAILEYI* S. Watson var. *BAILEYI* Annual. Infrequent, but locally common in scrub openings, and on open, sandy benches, scattered throughout the range. *Boyd & Raz* 8964, 24 Sep 1996.

- ERIOGONUM BRACHYANTHUM* Coville Annual. Scarce, documented by an early collection from near Acton. *Elmer* 3667, *Jun* 1902.
- ERIOGONUM CITHARIFORME* S. Watson var. *AGNINUM* (Greene) Reveal Annual. Occasional to locally common in grassland, openings in scrub and woodland, and on recent burns. *Ross, Boyd, & Burns* 8144A, *7 Jul* 1994.
- ERIOGONUM DAVIDSONII* Greene Annual. Infrequent, but locally common in scrub openings, and on open, sandy benches, scattered throughout the range. *Ross & Boyd* 8254, *20 Sep* 1994.
- ERIOGONUM ELONGATUM* Benth. var. *ELONGATUM* Suffrutescent perennial. Widespread, common on open, xeric rocky slopes. *Boyd & Raz* 9002, *8 Oct* 1996.
- **ERIOGONUM FASCICULATUM* Benth. var. *FASCICULATUM* Small shrub. Scarce, introduced locally as soil stabilizer at an electrical transmission facility and becoming adventive, Crown Valley at southern base of Sierra Pelona. *Boyd & Raz* 9157, *4 Mar* 1997.
- ERIOGONUM FASCICULATUM* Benth. var. *FOLIOLOSUM* (Nutt.) S. Stokes ex Abrams Small shrub. Widespread and common. *Ross & Boyd* 8165, *7 Jul* 1994.
- ERIOGONUM FASCICULATUM* Benth. var. *POLIFOLIUM* (Benth. in A. DC.) Torr. & A. Gray Small shrub. Widespread and common. *Boyd & Raz* 9833, *28 May* 1997.
- ERIOGONUM GRACILE* Benth. var. *GRACILE* Annual. Widespread and locally common in grassland, openings in scrub and woodland, and on recent burns. *Boyd & Raz* 8954, *24 Sep* 1996.
- ERIOGONUM INERME* (S. Watson) Jeps. var. *HISPIDULUM* Goodman Annual. Scarce, open cobbley soil with low chaparral, near summit of Warm Springs Mountain. *Ross & Boyd* 8000, *22 Jun* 1994.
- ERIOGONUM MACULATUM* A. Heller Annual. Uncommon, sandy openings in scrub at the northeastern end of the range. *Boyd & Raz* 9025, *8 Oct* 1996.
- ERIOGONUM MOHAVENSE* S. Watson Annual. Scarce, documented by several early collections from near Acton. *Peirson* 407, *11 May* 1919.
- ERIOGONUM NUDUM* Benth. var. *PAUCIFLORUM* S. Watson Perennial herb. Locally common on steep, open slopes of schist and gneiss with mesic exposures, openings in scrub and woodland and occasionally in grasslands, western half of the range. *Ross & Boyd* 8293, *21 Sep* 1994.
- ERIOGONUM NUDUM* Douglas ex Benth. var. *WESTONII* (S. Stokes) J. T. Howell Perennial herb. Locally common on schist in openings within chaparral, head of Bouquet Canyon. *Ross & Boyd* 8242, *20 Sep* 1994.
- ERIOGONUM ORDII* S. Watson Annual. Locally common on steep slopes of barren gray clay exposed in lower Bouquet Canyon, northeast of Cruzan Mesa, and in upper West Fork Liebre Gulch. *Boyd & Mistretta* 8742, *1 May* 1996. An historical collection from "Liebre Station" (*Hoffmann s.n.*, *6 Jun* 1930) may have been from similar substrate in a portion of Liebre Gulch now inundated by Pyramid Lake.
- ERIOGONUM PARISHII* S. Watson Annual. Scarce, open area of decomposed granite between dirt road and chaparral, eastern crest of Liebre Mountain. *Boyd et al.* 10003, *8 Jul* 1997.
- ERIOGONUM PLUMATELLA* Durand & Hilg. Small shrub. Locally common in desert scrub at the extreme northeastern end of the range. *Boyd & Raz* 9063, *14 Oct* 1996.
- ERIOGONUM PUSILLUM* Torr. & A. Gray Annual. Scarce, open habitats in Soledad Canyon Wash near Acton. *Ross, Boyd, & Arnseth* 4947, *30 Apr* 1991.
- ERIOGONUM ROSEUM* Durand & Hilg. Annual. Widespread in grassland and openings in scrub and woodland, especially common along the crests of Liebre and Sawmill mountains, Sierra Pelona, and Portal Ridge. *Ross & Boyd* 8310, *21 Sep* 1994.
- ERIOGONUM SAXATILE* S. Watson Perennial herb. Local in xeric, rocky openings and scree deposits in scrub at scattered sites such as saddle between Burnt Peak and Little Burnt Peak, summit of Red Mountain, and central summit of Sawmill Mountain. *Ross & Boyd* 7829, *11 May* 1994.
- ERIOGONUM THURBERI* Torr. Annual. Widespread, but rather local, sandy openings of scrub and woodland. *Ross & Boyd* 2849, *6 Jun* 1990.
- ERIOGONUM TRICHOPES* Torr. Annual. Scarce, documented by an early collection from near the head of Mint Canyon, in an area of desert transition. *True* 295, *16 May* 1936.
- ERIOGONUM UMBELLATUM* Torr. var. *MUNZII* Reveal Small shrub. Occasional in grassland and openings of scrub and woodland, higher elevations across northern half of the range. *Ross & Boyd* 8053, *23 Jun* 1994.
- ERIOGONUM WRIGHTII* Benth. var. *SUBSCAPOSUM* S. Watson Small shrub. Locally common, understory of open woodland across summit of Sawmill Mountain, generally in areas of more moderate relief. *Boyd & Raz* 8968, *24 Sep* 1996.
- ERIOGONUM WRIGHTII* Benth. var. *TRACHYGONUM* (Benth.) Jeps. Small shrub. Locally common, open understory of foothill pine woodland at interface with grassland, northern base of Portal Ridge at mouth of Broad Canyon. *Boyd & Raz* 9985, *18 Jun* 1997.
- LASTARRIAEA CORIAEA* (Goodman) Hoover Annual. Scarce, open gravelly alluvial benches along Castaic Creek at confluence with Fish Creek, and in Plum Canyon. *Boyd, Ross, & Arnseth* 4917, *30 Apr* 1991.
- OXYTHECA TRILOBATA* A. Gray Annual. Widespread, but rather local, openings in scrub on decomposed granite. *Boyd & Raz* 9965, *17 Jun* 1997.
- POLYGONUM AMPHIBIUM* L. var. *EMERSUM* Michx. Perennial herb. Locally common on margins of Elizabeth Lake and occasional at other lakes and sag ponds along the San Andreas Rift. *Boyd & Raz* 9073, *14 Oct* 1996.
- **POLYGONUM ARENASTRUM* Boreau Perennial herb. Widespread and locally common on hard-packed soil along road edges and in other disturbed and ruderal situations. *Ross & Boyd* 8255, *20 Sep* 1994.
- POLYGONUM LAPATHIFOLIUM* L. Perennial herb. Widespread and frequent in moist soil along streams and margins of lakes and ponds. *Boyd & Raz* 9089, *14 Oct* 1996.
- PTEROSTEGIA DRYMARIODES* Fisch. & C. A. Mey. Annual. Widespread and common in understory of scrub and woodland, and on recent burns, especially on mesic exposures. *Boyd & Raz* 9743, *6 May* 1997.
- **RUMEX CONGLOMERATUS* Murray Perennial herb. Scarce, wet meadow at Knapp Ranch, upper Cienega Canyon, and in Soledad Canyon west of Ravenna. *Boyd & Raz* 9865, *28 May* 1997.
- **RUMEX CRISPUS* L. Perennial herb. Widespread, occasional in moist, generally disturbed situations. *Ross & Porter* 8470, *4 May* 1995.
- RUMEX HYMENOSEPALUS* Torr. Perennial herb. Widespread, but generally infrequent, sandy and gravelly benches and dry washes. *Ross & Steinmann* 8550, *8 May* 1995.
- **RUMEX PULCHER* L. Annual. Scarce, moist sand along Castaic Creek, just upstream from Elderberry Forebay. *Boyd et al.* 8913B, *11 Jul* 1996.
- RUMEX SALICIFOLIUS* Weinm. var. *DENTICULATUS* Torr. Perennial herb. Scarce, moist soil along stream, confluence of Bear and Pine canyons. *Boyd & Raz* 9626, *30 Apr* 1997.
- RUMEX SALICIFOLIUS* Weinm. var. *SALICIFOLIUS* Perennial herb. Widespread and common in moist soil along streams, seasonally moist swales, and about seeps. *Ross & Boyd* 8157, *7 Jul* 1994.

PORTULACACEAE

- CALANDRINIA CILIATA* (Ruiz & Pav.) DC. var. *MENZIESII* (Hook.) J. F. Macbr. Annual. Widespread and common in grassland, mesic scrub and woodland openings, and especially on recent burns. *Ross, Boyd, & Arnseth* 4906, *30 Apr* 1991.
- CALYPTRIDUM MONANDRUM* Nutt. in Torr. & A. Gray Annual. Wide-

- spread and common in open sandy situations in grassland, scrub and woodland openings, and especially on recent burns. *Boyd & Raz* 9313, 25 Mar 1997.
- CLAYTONIA EXIGUA Torr. & A. Gray ssp. EXIGUA Annual. Widespread and locally common in open situations, mesic slopes, soil pockets on rock faces, shaded alluvial benches. *Ross, Boyd, & Arnseth* 4816, 29 Apr 1991.
- CLAYTONIA PARVIFLORA Douglas ex Hook. ssp. PARVIFLORA Annual. Widespread and common, mesic exposures in grassland, scrub, and woodland. *Ross, Boyd, & Arnseth* 4848, 29 Apr 1991.
- CLAYTONIA PARVIFLORA Douglas ex Hook. ssp. UTAHENSIS (Rydb.) J. D. Miller & K. L. Chambers Annual. Scarce, documented from Bouquet Canyon and Lake Hughes. *LaPré s.n.*, 13–15 May 1988.
- CLAYTONIA PERFOLIATA D. Donn ex Willd. ssp. INTERMONTANA J. D. Miller & K. L. Chambers Annual. Infrequent, but common locally, mesic situations, upper north flank of Liebre Mountain and on Parker Mountain. *Ross, Boyd, & Arnseth* 4815, 29 Apr 1991.
- CLAYTONIA PERFOLIATA D. Donn ex Willd. ssp. MEXICANA (Rydb.) J.D. Miller & K. L. Chambers Annual. Infrequent, documented from southwestern end of the range. *Wheeler* 9197, 30 Apr 1967.
- CLAYTONIA PERFOLIATA D. Donn ex Willd. ssp. PERFOLIATA Annual. Widespread and common, mesic exposures in grassland, scrub, and woodland. *Ross & Boyd* 7898, 25 May 1994.
- CLAYTONIA RUBRA (J. T. Howell) Tidestrom ssp. RUBRA Annual. Widespread and common, mesic exposures in grassland, scrub, and woodland. *Ross & Boyd* 7781, 11 May 1994.
- *PORTULACA OLERACEA L. Annual. Scarce, moist disturbed sand along Castaic Creek, upstream for Elderberry Forebay. *Boyd et al.* 8910, 11 Jul 1996.

PRIMULACEAE

- *ANAGALLIS ARVENSIS L. Annual. Scarce, local in wet meadow at Knapp Ranch, head of Cienega Canyon. *Boyd* 8698, 25 Apr 1996.
- ANDROSACE ELONGATA L. ssp. ACUTA (Greene) G. Robb. Annual. Occasional in grassland and openings in scrub at the northern base of the range. *Boyd et al.* 10125, 28 Mar 1998.
- DODECATHEON CLEVELANDII Greene ssp. SANCTARUM (Greene) Abrams Geophyte. Scarce, but common locally on heavy soil, lower San Francisquito Canyon and adjacent areas to the west, south of Red Mountain. *Boyd & Wall* 8541, 4 Apr 1996.

RANUNCULACEAE

- AQUILEGIA FORMOSA Fisch. Perennial herb. Widespread, but uncommon, shady situations along streams, as in Red Fox Canyon, Indio Canyon, and Atmore Meadows. *Boyd & Raz* 9107, 29 Oct 1996.
- CLEMATIS LASIANTHA Nutt. Liana. Widespread and common in scrub, especially on mesic exposures. *Ross & Boyd* 7297, 23 May 1993.
- CLEMATIS LIGUSTICIFOLIA Nutt. in Torr. & A. Gray Liana. Widespread and locally common, climbing on riparian vegetation in areas with reliable water supplies. *Boyd & Raz* 8951, 24 Sep 1996.
- DELPHINIUM PARISHII A. Gray ssp. PARISHII Geophyte. Occasional in grassland and openings in woodland, northwestern end of the range. *Simontacchi* 41, 26 May 1935.
- DELPHINIUM PARRYI A. Gray ssp. PARRYI Geophyte. Widespread and common in grassland and openings in scrub and woodland, especially mesic rocky slopes and scree deposits. *Boyd & Raz* 9725, 6 May 1997.
- DELPHINIUM PATENS Benth. ssp. MONTANUM (Munz) Ewan Geophyte. Infrequent, mesic understory of oak woodland on the upper northern flank of Sierra Pelona and Sawmill Mountain. *Boyd & Raz* 9798, 20 May 1997.
- ISOPYRUM OCCIDENTALE Hook. & Arn. Geophyte. Locally common in mesic understory of scrub and woodland on northern flank of Sierra Pelona; scarce in oak woodland understory at north base of Red Mountain, Ruby Canyon drainage. *Boyd & Raz* 9388, 26 Mar 1997.

- MYOSURUS MINIMUS L. Annual. Local on moist soil along Pacific Crest Trail, Portal Ridge. *Boyd & Hughes* 10179, 5 May 1998.
- RANUNCULUS AQUATILIS L. var. CAPILLACEUS (Thunb.) DC. Aquatic perennial herb. Scarce, documented by early collections from Lake Elizabeth and Bouquet Reservoir. *Munz* 6819, 9 Jun 1923.
- RANUNCULUS CALIFORNICUS Benth. Perennial herb. Scarce, documented by early collections from near Sandberg and in San Francisquito Canyon. *Johnstone s.n.*, 7 Apr 1930.
- RANUNCULUS CYMBALARIA Pursh ssp. SAXIMONTANUS (Fernald) Thorne Perennial herb. Scarce, documented from Dry Canyon. *Menke s.n.*, 23 Apr 1955.
- RANUNCULUS HEBECARPUS Hook. & Arn. Annual. Locally common, mesic situations in understory of chaparral, Bouquet, Clearwater, and Ruby canyons. *Ross & Steinmann* 8539, 8 May 1995.

RHAMNACEAE

- CEANOTHUS CRASSIFOLIUS Torr. Large shrub. Locally common in chaparral, southern edge of the range in Soledad Canyon, from Newhall to Ravenna. *Boyd & Mistretta* 8732, 1 May 1996.
- CEANOTHUS CRASSIFOLIUS Torr. × CEANOTHUS CUNEATUS (Hook.) Nutt. var. CUNEATUS Large shrub. Scarce natural hybrid in stand of scrub between Bee and Agua Dulce canyons in Soledad Canyon, associated with *C. cuneatus*. *White & Devries* 6313, 20 Apr 1998.
- CEANOTHUS CUNEATUS (Hook.) Nutt. var. CUNEATUS Large shrub. Widespread and common in chaparral. *Ross & Boyd* 7225, 23 May 1993.
- CEANOTHUS CUNEATUS (Hook.) Nutt. var. CUNEATUS × CEANOTHUS GREGGII A. Gray var. VESTITUS (Greene) McMinn Large shrub. Occasional plants suggesting various levels of hybrid intermediacy are encountered along the crests of Sierra Pelona, Liebre, Sawmill, and Grass mountains. *Donahue s.n.*, 30 May 1983.
- CEANOTHUS GREGGII A. Gray var. VESTITUS (Greene) McMinn Large shrub. Common in scrub across Ritter and Portal ridges, and sporadic southward onto the crests of Sierra Pelona, Liebre, Sawmill, and Grass mountains. *Wolf* 10938, 1 Jul 1941.
- CEANOTHUS INTEGERRIMUS Hook. & Arn. Large shrub. Locally common in scrub and woodland mosaic at higher elevations along the crests of Sierra Pelona, Liebre, Sawmill, and Grass mountains. *Ross, Mistretta, & Quici* 3982, 28 Jun 1990.
- CEANOTHUS LEUCODERMIS Greene Large shrub. Widespread and common in chaparral. *Boyd & Raz* 9592, 30 Apr 1997.
- CEANOTHUS OLIGANTHUS Nutt. var. OLIGANTHUS Large shrub. Infrequent in chaparral, southwestern end of the range. *Wolf* 11134, 2 Aug 1941.
- RHAMNUS CALIFORNICA Eschsch. ssp. CALIFORNICA Large shrub. Occasional in scrub, scattered sites in the central portion of the range. *Thorne* 32783, 11 Jul 1963.
- RHAMNUS CROCEA Nutt. Large shrub. Infrequent, but common locally at lower elevations in the southwestern portion of the range. *Wheeler* 9202, 30 Apr 1967.
- RHAMNUS ILICIFOLIA Kellogg Large shrub. Widespread and common in scrub and woodland, especially on mesic exposures. *Ross & Boyd* 7934, 25 May 1994.
- RHAMNUS TOMENTELLA Benth. ssp. CUSPIDATA (Greene) J. O. Sawyer Large shrub. Locally common in scrub and woodland at moderate and higher elevations, northern half of the range. *Boyd & Raz* 9113, 24 Sep 1996.

ROSACEAE

- ADENOSTOMA FASCICULATUM Hook. & Arn. var. FASCICULATUM Large shrub. Widespread and common in scrub and woodland. *Boyd & Raz* 9834, 28 May 1997.
- AMELANCHIER UTAHENSIS Koehne Large shrub. Uncommon in scrub, upper northern flanks of Sierra Pelona. *Boyd & Raz* 9690, 1 May 1997.

CERCOCARPUS BETULOIDES Nutt. ex Torr. & A. Gray var. BETULOIDES Large shrub. Widespread and common in scrub and woodland, especially on steep, rocky slopes with mesic exposures. *Boyd & Raz 9298, 25 Mar 1997.*

HETEROMELES ARBUTIFOLIA (Lindl.) M. Roem. Large shrub. Widespread in scrub and woodland, especially mesic exposures. *Ross, Boyd, & Burns 8121, 6 Jul 1994.*

POTENTILLA GLANDULOSA Lindl. ssp. GLANDULOSA Perennial herb. Scarce, mesic chaparral opening, Warm Springs Canyon. *Ross & Boyd 7723, 10 May 1994.*

POTENTILLA GLANDULOSA Lindl. ssp. REFLEXA (Greene) D. D. Keck Perennial herb. Scarce, about seep in upper Heryford Canyon, north flank of Sawmill Mountain. *Boyd & Raz 9805, 20 May 1997.*

*PRUNUS DULCIS (Mill.) D. A. Webb Large shrub. Adventive in grassland and scrub at scattered sites across the northern half of the range, especially on Portal Ridge. *Ross & Boyd 7876, 24 May 1994.*

PRUNUS EMARGINATA (Douglas) Walp. Large shrub. Infrequent, but common locally at western end of Liebre Mountain, and northern flank of Sierra Pelona. *Davidson 2556, 25 May 1975.*

PRUNUS FASCICULATA A. Gray Large shrub. Locally common in areas of desert transition at the extreme northeastern end of the range. *Boyd & Raz 9995, 18 Jun 1995.*

PRUNUS ILICIFOLIA (Nutt.) Walp. Large shrub. Widespread and common in scrub and woodland, especially on mesic exposures. *Ross & Porter 8404, 4 May 1995.*

*PRUNUS PERSICA Batsch Tree. Scarce, as a waif along road in Martindale Canyon, northwestern end of Sierra Pelona. *Boyd & Raz 9376, 26 Mar 1997.*

PRUNUS VIRGINIANA L. var. DEMISSA (Nutt.) Torr. Large shrub. Infrequent, but common locally at western end of Liebre Mountain, and about summit of Grass Mountain. *Ross 7568, 28 Apr 1994.*

PURSHIA TRIDENTATA (Pursh) DC. var. GLANDULOSA (Curran) M. E. Jones Large shrub. Scarce, documented by an early collection from Bouquet Canyon. *Templeton 6267, 21 May 1947.*

ROSA CALIFORNICA Cham. & Schtdl. Small shrub. Widespread and common in understory of oak and riparian woodlands on benches; less frequently in mesic situations in chaparral and about seeps. *Ross & Boyd 2855, 6 Jun 1990.*

RUBUS URSINUS Cham. & Schtdl. Small shrub. Widespread and common in understory of oak and riparian woodlands on benches and about seeps. *Ross 7567, 28 Apr 1994.*

*RUBUS DISCOLOR Weihe & Nees Small shrub. Locally well established about Troedel Spring, Portal Ridge. *Boyd & Raz 9979, 18 Jun 1997.*

RUBIACEAE

GALIAM ANDREWSII A. Gray ssp. ANDREWSII Perennial herb. Widespread, but rather uncommon, understory of chaparral and oak woodland. *Ross, Mistretta, & Quici 3916, 27 Jun 1990.*

GALIAM ANDREWSII A. Gray ssp. INTERMEDIUM Dempster & Stebbins Perennial herb. Widespread and common, understory of chaparral and oak woodland. *Ross 8386, 26 Apr 1995.*

GALIAM ANGUSTIFOLIUM Nutt. ssp. ANGUSTIFOLIUM Suffrutescent perennial. Widespread and common in scrub and woodland, especially in more open and xeric situations. *Ross & Boyd 2821B, 6 Jun 1990.*

*GALIAM APARINE L. Annual. Widespread and common in understory of scrub and woodland, generally mesic and slightly disturbed situations. *Boyd & Raz 9782, 6 May 1997.*

GALIAM HALLII Munz & I. M. Johnst. Perennial herb. Locally common in scrub and open woodland on loose decomposed granite, northwestern portion of the range. *Ross & Boyd 8055, 23 Jun 1994.*

*GALIAM PARISIENSE L. Annual. Scarce, disturbed sandy benches

along Castaic Creek near confluence with Fish Creek. *Boyd & Mistretta 8816, 23 May 1996.*

GALIAM PORRIGENS Dempster var. PORRIGENS Suffrutescent perennial. Widespread and common, mesic situations in scrub and woodland. *Ross & Boyd 8011, 22 Jun 1994.*

SALICACEAE

POPULUS FREMONTII S. Watson ssp. FREMONTII Tree. Widespread and locally common in riparian woodland, margins of lakes and reservoirs, and about seepages. *Wheeler 574, 9 Apr 1932.*

SALIX EXIGUA Nutt. Large shrub. Widespread and locally common along streams, margins of lakes, ponds, reservoirs, and about larger seeps. *Boyd & Wall 8781, 16 May 1996.*

SALIX GOODINGII C. Ball Tree. Infrequent along streams and about lakes, reservoirs, and sag ponds, mostly along the northern edge of the range. *Boyd, Elvin, & Jotikasthira 8881, 25 Jun 1996.*

SALIX LAEVIGATA Bebb Tree. Widespread and locally common along streams, margins of lakes, ponds, and reservoirs, and about larger seeps. *Wolf 1581, 29 Mar 1928.*

SALIX LASIOLEPIS Benth. Large shrub. Widespread and common along streams, margins of lakes, ponds, and reservoirs, and about larger seeps. *Boyd & Raz, 14 Mar 1997.*

SAURURACEAE

ANEMOPSIS CALIFORNICA (Nutt.) Hook. & Arn. Perennial herb. Locally common in the extensive wetland areas about Knapp Ranch at the head of Cienega Canyon, and in similar situations in San Francisquito Canyon at the east base of Red Mountain. *Ross & Boyd 8169, 7 Jul 1994.*

SAXIFRAGACEAE

LITHOPHRAGMA AFFINE A. Gray Geophyte. Scarce, documented by early collections from near Newhall and in Bouquet Canyon. *Ben-jamine 177, 28 Apr 1929.*

LITHOPHRAGMA BOLANDERI A. Gray Geophyte. Common in shaded woodland understory across north face of Liebre and Sawmill mountains; also documented by an early collection from near Newhall. *Peirson 3079, 3 Jun 1922.*

LITHOPHRAGMA HETEROPHYLLUM (Hook. & Arn.) Torr. & A. Gray Geophyte. Occasional in shaded woodland understory across north face of Liebre and Sawmill mountains, also documented by early collections from near Newhall. *Ross et al. 3923, 27 Jun 1990.*

LITHOPHRAGMA PARVIFLORUM (Hook.) Hook. & Arn. Geophyte. Occasional in shaded woodland understory across north face of Liebre and Sawmill mountains. *Boyd & Mistretta 8755, 1 May 1996.*

SAXIFRAGA CALIFORNICA Greene Geophyte. Local in mesic, steep, rocky openings in chaparral, Clearwater Canyon. *Ross & Banks 7525B, 13 Apr 1994.*

SCROPHULARIACEAE

ANTIRRHINUM COULTERIANUM Benth. in DC. Annual. Widespread, occasional in open situations on xeric slopes, more frequent in recently burned scrub. *McHargue & Miller s.n., 6 Jul 1963.*

ANTIRRHINUM KELLOGGII Greene Annual. Locally common on recent burns in chaparral, San Francisquito and Fish canyons. *Boyd & Raz 9740, 6 May 1997.*

ANTIRRHINUM MULTIFLORUM Pennell Suffrutescent perennial. Widespread, generally on recent burns in scrub and woodland, and occasionally cleared areas such as fuelbreaks and road berms. *Ross & Boyd 6611, 5 Jul 1997.*

CASTILLEJA AFFINIS Hook. & Arn. Parasitic perennial herb. Widespread, but generally infrequent, openings in scrub and woodland. *Boyd & Raz 9382, 26 Mar 1997.*

CASTILLEJA APPLIGATEI Fern. ssp. MARTINII (Abrams) T. I. Chuang &

- Heckard Parasitic perennial herb. Widespread in scrub and woodland at mid- to upper elevations, generally in mesic, semi-shaded situations *Boyd 8667, 24 Apr 1996*.
- CASTILLEJA CHROMOSA A. Nelson Parasitic perennial herb. Scarce, documented from the northeastern end of the range. *Myers & LaRue s.n., 21 Mar 1989*.
- CASTILLEJA FOLIOLOSA Hook. & Arn. Parasitic perennial herb. Widespread and common in open, mostly xeric situations in scrub and woodland. *Boyd, Raz, & Ross 9492, 1 Apr 1997*.
- CASTILLEJA GLEASONII Elmer Parasitic perennial herb. Scarce. Plants matching this taxon in vestiture and general leaf and floral morphology were encountered on a steep, east-facing rocky ridge just west of the Knapp Ranch, upper Cienega Canyon, and at the west end of Liebre Mountain at saddle between Liebre Gulch and Salt Creek. *Castilleja gleasonii* is generally considered to be endemic to the central San Gabriel Mountains, where typical habitat is understory of montane coniferous forest (Mistretta & Brown 1987). Chuang & Heckard (1993) have suggested that *C. gleasonii* is a hybrid between *C. affinis* and *C. foliolosa*. At Knapp Ranch, *C. gleasonii* is closely associated with *C. foliolosa*, but *C. affinis* was not documented. *Boyd & Raz 9437, 31 Mar 1997*.
- CASTILLEJA LINARIIFOLIA Benth. Parasitic perennial herb. Scarce, documented by an early collection from near Acton. *Elmer 3608, Jun 1902*.
- CASTILLEJA MINOR (A. Gray) A. Gray ssp. SPIRALIS (Jeps.) T. I. Chuang & Heckard Parasitic annual. Widespread and locally common, moist soil along streams and about seeps. *Boyd & Raz 9617, 30 Apr 1997*.
- CASTILLEJA PLAGIOTOMA A. Gray Parasitic perennial herb. Scarce, xeric scrub on upper slopes of Parker Mountain. *Ross, Boyd, & Arneth 4799, 29 Apr 1991*.
- CASTILLEJA SUBINCLUSA Greene ssp. SUBINCLUSA Parasitic perennial herb. Occasional in grassland and openings in scrub and woodland in the northern half of the range, but more common along the margins of the Antelope Valley on Portal Ridge. *Boyd & Ross 9229, 21 Mar 1997*.
- COLLINSIA BARTSHIFOLIA Benth. var. DAVIDSONII (Parish) Newsom Annual. Occasional in grassland and in open woodland understory along northern edge of the range. *Boyd & Raz 9352, 26 Mar 1997*.
- COLLINSIA CALLOSA Parish Annual. Infrequent, grassland and woodland understory, northern edge of the range. *Howell 6669, 6 Jun 1931*.
- COLLINSIA CHILDII A. Gray Annual. Locally common in mesic woodland understory, northern flanks of Liebre and Sawmill mountains. *Ross & Boyd 7816, 11 May 1994*.
- COLLINSIA HETEROPHYLLA Buist ex Graham var. AUSTROMONTANA (Newsom) Munz Annual. Local in scrub and woodland openings at the western end of the range. *Ross & Boyd 7725, 10 May 1994*.
- COLLINSIA HETEROPHYLLA Buist ex Graham var. HETEROPHYLLA Annual. Locally common, mesic scrub and woodland understory in Texas Canyon. *Ross & Porter 8507, 4 May 1995*.
- COLLINSIA PARRYI A. Gray Annual. Infrequent, but locally common, mesic situations in open scrub at the western edge of the range. *Boyd & Raz 9277, 25 Mar 1997*.
- COLLINSIA PARVIFLORA Douglas Annual. Scarce, margins of oak woodland along crest of Sierra Pelona, west of Mount McDill. *Boyd & Raz 9677, 1 May 1997*.
- CORYLANTHUS RIGIDUS (Benth.) Jeps. ssp. SETIGER T. I. Chuang & Heckard Annual. Widespread and common in grassland and openings in scrub and woodland. *Ross & Boyd 8289, 21 Sep 1994*.
- KECKIELLA ANTIRRHINOIDES (Benth.) Straw var. ANTIRRHINOIDES Small shrub. Local in scrub, lower San Francisquito Canyon. *Thompson 3, 11 Apr 1964*.
- KECKIELLA BREVIFLORA (Lindl.) Straw var. BREVIFLORA Small shrub. Occasional, rocky openings in scrub, especially in the northern half of the range. *Michener 3696, 1 Jul 1980*.
- KECKIELLA CORDIFOLIA (Benth.) Straw Small shrub. Widespread and common in mesic chaparral and understory of oak woodland. *Ross & Boyd 6606, 5 Jul 1992*.
- KECKIELLA TERNATA (Torr. ex A. Gray) Straw var. SEPTENTRIONALIS (Munz & I. M. Johnston.) N. H. Holmgren Small shrub. Occasional to locally common, rocky openings in scrub and woodland, especially in the northern half of the range. *Ross & Boyd 6603, 5 Jul 1992*.
- MIMULUS ANDROSACEUS Greene Annual. Scattered but locally common, vernal moist openings in chaparral, Portal Ridge. *Boyd & Raz 9363, 26 Mar 1997*.
- MIMULUS AURANTIACUS Curtis var. PUBESCENS (Torr.) D. M. Thompson Small shrub. Widespread and common in scrub and woodland. *Ross & Porter 8499, 4 May 1995*.
- MIMULUS BREVIPEDES Benth. Annual. Widespread, occasional in open situations on xeric slopes, more frequent on recent burns in scrub and woodland. *Boyd & Raz 9750, 6 May 1997*.
- MIMULUS CARDINALIS Benth. Perennial herb. Widespread and locally common in moist soil along streams and about seeps. *Ross, Boyd, & Burns 8117B, 6 Jul 1994*.
- MIMULUS CONSTRICTUS (A. L. Grant) Pennell Annual. Local in areas of open decomposed granite on Liebre and Sawmill mountains, and on Portal Ridge. Most populations with plants suggesting intergradation with *M. johnstonii* A. L. Grant. *Griesel & Miller s.n., 2 Jul 1963 (RSA 165691)*.
- MIMULUS FLORIBUNDUS Douglas ex Lindl. Annual. Infrequent, moist soil along streams and about seeps. *Ross & Boyd 7235, 23 May 1993*.
- MIMULUS GUTTATUS DC. Annual or perennial herb. Widespread and common in moist soil along streams, about seeps, and in seasonally wet soil on rock outcrops. *Boyd & Raz 9774, 6 May 1997*.
- MIMULUS LATIDENS A. Gray Annual. Local in vernal pool, Plum Canyon. *Boyd & Soza 10164, 28 Apr 1998*.
- MIMULUS PARISHII Greene Annual. Scarce, documented by early collections from Soledad Canyon. *Craig 489, 19 Jun 1927*.
- MIMULUS PILOSUS (Benth.) S. Watson Annual. Widespread and common in moist soil along streams, about seeps, seasonally wet soil on rock outcrops, and open alluvial benches. *Boyd & Raz 9910, 29 May 1997*.
- OROBANCHE BULBOSA Beck Parasitic perennial herb. Widespread, but generally infrequent in xeric scrub, most often encountered in loose soil about bases of cut slopes along dirt roads. Generally associated with *Eriodictyon* and *Adenostoma*. *Ross & Boyd 7284, 23 May 1993*.
- OROBANCHE FASCICULATA Nutt. Parasitic perennial herb. Widespread, but generally infrequent in scrub and woodland, most often encountered in loose soil about bases of cut slopes along dirt roads. Generally associated with *Eriodictyon*, *Eriogonum*, and *Corethrogyne*. *Ross & Boyd 7222, 23 May 1993*.
- OROBANCHE PARISHII (Jeps.) Heckard ssp. PARISHII Parasitic perennial herb. Scarce in open scrub and woodland, scattered sites on Liebre and Sawmill mountains, and on Portal Ridge. *Boyd & Raz 9930, 29 May 1997*.
- ORTHOCARPUS PURPURASCENS Benth. var. PALLIDUS D. D. Keck Parasitic annual. Scarce, low elevations at the southern edge of the range. *Wisura & Kelly 4108, 16 Apr 1986*.
- ORTHOCARPUS PURPURASCENS Benth. var. PURPURASCENS Parasitic annual. Widespread and locally common in grassland and openings in scrub and woodland. *Ross 8349, 7 Apr 1995*.
- PENSTEMON CENTRANTHIFOLIUS (Benth.) Benth. Suffrutescent perennial. Widespread and common in grassland and openings in scrub and woodland. *Ross & Boyd 7648, 4 May 1994*.
- PENSTEMON GRINNELLII Eastw. var. SCROPHULARIOIDES (M. E. Jones) N. H. Holmgren Suffrutescent perennial. Widespread and common, mostly openings in scrub and woodland. *Ross & Boyd 7647, 4 May 1994*.
- PENSTEMON HETEROPHYLLUS Lindl. var. AUSTRALIS Munz & I. M.

Johnst. Suffrutescent perennial. Widespread, but generally uncommon, mostly openings in scrub and woodland. *Ross 6782, 26 Jul 1992.*

PENSTEMON HETEROPHYLLUS Lindl. var. *HETEROPHYLLUS* Suffrutescent perennial. Widespread, but generally uncommon, mostly openings in scrub and woodland. *Boyd & Raz 9915, 29 May 1997.*

PENSTEMON LABROSUS (A. Gray) Hook. Perennial herb. Locally common in mosaic of grassland and open oak woodland, crest of Liebre and Sawmill mountains. *Ross, Boyd, & Burns 8134, 7 Jul 1994.*

PENSTEMON ROSTRIFLORUS Kellogg Suffrutescent perennial. Occasional in scrub and woodland openings on the upper slopes of Liebre and Sawmill mountains; also documented by an early collection from near Acton. *Boyd et al. 10005, 8 Jul 1997.*

**VERBASCUM THAPSUS* L. Scarce, locally established in low, moist area in Bouquet Canyon, east of the confluence of Spunky Canyon with Bouquet Reservoir. *Boyd 10296, 7 Oct 1998.*

**VERBASCUM VIRGATUM* Stokes Biennial herb. Scarce, roadside waif in San Francisquito Canyon near old Saint Francis Dam site. *Thompson 48, 16 Jun 1964.*

**VERONICA ANAGALLIS-AQUATICA* L. Perennial herb. Widespread and locally common in moist soil along streams and about seeps. *Boyd & Raz 9739, 6 May 1997.*

VERONICA PEREGRINA L. ssp. *XALAPENSIS* (Kunth) Pennell Annual. Locally common in beds of vernal pools on Cruzan Mesa and in Plum Canyon, also about cattle ponds in Grasshopper Canyon. *Boyd & Raz 9138, 4 Mar 1997.*

SIMAROUBACEAE

**AILANTHUS ALTISSIMA* (Mill.) Swingle Tree. Locally established about old homesites, and occasionally along roads, scattered sites throughout the range. *Ross & Porter 8505, 4 May 1995.*

SOLANACEAE

DATURA WRIGHTII Regel Perennial herb. Widespread, generally infrequent except in ruderal and over-grazed situations. *Boyd & Raz 9044, 14 Oct 1996.*

LYCIUM COOPERI A. Gray Small shrub. Local in areas of desert transition at the eastern end of the range. *Ross, Boyd, & Arnseth 5011, 30 Apr 1991.*

**LYCOPERSICON ESCULENTUM* P. Mill. Annual. Scarce, documented as a waif in lower Ruby Canyon. *Raz & Boyd 054, 23 Oct 1996.*

NICOTIANA ATTENUATA Torr. Annual. Scarce, documented by early collections from along the southern and western margins of the range. *Munz & Johnston 11129, 4 Sep 1928.*

**NICOTIANA GLAUCA* Graham Large shrub. Widespread, occasional to locally common in disturbed riparian areas, about old habitations, and overgrazed sites; scattered elsewhere in generally disturbed situations. *Ross & Banks 7519, 13 Apr 1994.*

NICOTIANA QUADRIVALVIS Pursh Annual. Widespread, but generally infrequent, openings in scrub, alluvial benches, and especially on recent burns. *Ross & Boyd 7749, 10 May 1994.*

SOLANUM AMERICANUM Mill. Annual or perennial herb. Scarce, documented by an early collection from Soledad Canyon. *Craig 2009, 9 Oct 1933.*

SOLANUM DOUGLASII Dunal in DC. Suffrutescent perennial. Scarce, moist soil along stream in San Francisquito Canyon. *Ross & Banks 7447, 12 Apr 1994.*

**SOLANUM ELAEAGNIFOLIUM* Cav. Perennial herb. Local in disturbed grassland on fuelbreaks along the Old Ridge Route, west of Castaic Canyon; also documented from a railroad embankment in Soledad Canyon. *Boyd, Elvin, & Jotikasthira 8869, 25 Jun 1996.*

SOLANUM UMBELLIFERUM Eschsch. Suffrutescent perennial. Infrequent in scrub, southwestern end of the range. *Steinmann & Ross 662, 8 May 1995.*

SOLANUM XANTI A. Gray var. *INTERMEDIUM* Parish Suffrutescent pe-

rennial. Widespread in scrub and woodland. *Ross, Boyd, & Burns 8129, 6 Jul 1994.*

SOLANUM XANTI A. Gray var. *XANTI* Suffrutescent perennial. Widespread in scrub and woodland. *Ross & Boyd 7718, 10 May 1994.*

STERCULIACEAE

FREMONTODENDRON CALIFORNICUM (Torr.) Coville Large shrub. Local in chaparral, upper eastern flank of Liebre Mountain, north flank of Red Mountain in upper Clearwater Canyon, and on the southern end of Sierra Pelona. *Boyd & Raz 9731, 6 May 1997.*

TAMARICACEAE

**TAMARIX PARVIFLORA* DC. Large shrub. Infrequent in moist, disturbed situations. *Ross 8354, 7 Apr 1995.*

**TAMARIX RAMOSISSIMA* Ledeb. Large shrub. Common in moist, disturbed situations. *Ross, Boyd, & Arnseth 4944, 30 Apr 1991.*

TROPAEOLACEAE

**TROPAEOLUM MAJUS* L. Perennial herb. Scarce as roadside waif in San Francisquito Canyon. *Ross & Banks 7509, 12 Apr 1994.*

ULMACEAE

**ULMUS MINOR* Mill. Tree. Scarce as waif, Green Valley Pasture area of upper San Francisquito Canyon. *Ross & Boyd 2857, 6 Jun 1990.*

**ULMUS PARVIFOLIA* Jacq. Tree. Scarce, waif in rock outcrop along dirt track, crest of Sierra Pelona west of Mount McDill. *Boyd & Raz 9390, 26 Mar 1997.*

**ULMUS PUMILA* L. Tree. Scarce as roadside waif, head of Bouquet Canyon at Lincoln Crest, and at confluence of Castaic and Fish creeks. *Boyd & Mistretta 8831, 23 May 1996.*

URTICACEAE

HESPEROCNIDE TENELLA Torr. Annual. Scarce, shaded base of boulders near summit of Parker Mountain. *Ross, Boyd, & Arnseth 4826, 29 Apr 1991.*

PARIETARIA HESPERA B. D. Hinton var. *HESPERA* Annual. Scarce, shaded soil deposits on steep rock faces, lower Fish Canyon. *Boyd & Raz 9762B, 6 May 1997.*

URTICA DIOICA L. ssp. *HOLOSERICEA* (Nutt.) Thorne Perennial herb. Widespread and common along streams, lakes, reservoirs, sag ponds, and seeps. *Ross & Boyd 8339, 21 Sep 1994.*

**URTICA URENS* L. Annual. Scarce, grazed spring-fed meadows at north end of Knapp Ranch, upper Cienaga Canyon. *Boyd 8676, 25 Apr 1996.*

VALERIANACEAE

PLECTRITIS CILIOSA (Greene) Jeps. ssp. *INSIGNIS* (Suksd.) D. Morey Annual. Locally common in mosaic of grassland and oak woodland, crest of Sierra Pelona, west of Mount McDill. *Boyd & Raz 9658, 1 May 1997.*

VERBENACEAE

VERBENA LASIOTACHYS Link ssp. *LASIOTACHYS* Perennial herb. Scarce, documented by an early collection from a pond north of Elizabeth Lake. *Munz 6919, 9 Jun 1923.*

VERBENA LASIOTACHYS Link ssp. *SCABRIDA* Moldenke Perennial herb. Widespread wet soil along streams, about seeps, and in seasonally moist swales. *Ross & Boyd 8151, Jul 1994.*

VIOLACEAE

VIOLA PURPUREA Kellogg ssp. *MOHAVENSIS* (M. S. Baker & J. C. Clausen) J. C. Clausen Geophyte. Uncommon in grassland and

open oak woodland, summit of Liebre and Grass mountains. *Ross & Boyd 7651, 4 May 1994.*

VIOLA PURPUREA Kellogg ssp. *PURPUREA* Geophyte. Common in grassland and open oak woodland, higher crests in the northern half of the range. *Boyd & Ross 9202, 21 Mar 1997.*

VIOLA PURPUREA Kellogg ssp. *VENOSA* (S. Watson) M. S. Baker & J. C. Clausen Geophyte. Uncommon in grassland and open oak woodland, summit of Liebre and Grass mountains. *Ross et al. 3933, 27 Jun 1990.*

VISCACEAE

ARCEUTHOBIUM OCCIDENTALE Engelm. Parasitic perennial herb. Common on *Pinus sabiniana* at the northern edge of the range. *Ross & Boyd 8320, 21 Sep 1994.*

PHORADENDRON CALIFORNICUM Nutt. Parasitic perennial herb. Scarce, documented by an early collection from Mint Canyon. *Hoffman s.n., 25 Feb 1933.*

PHORADENDRON DENSUM Trel. Parasitic perennial herb. Widespread and common on *Juniperus californica*. *Ross & Boyd 8230, 20 Sep 1994.*

PHORADENDRON MACROPHYLLUM (Engelm.) Cockerell Parasitic perennial herb. Widespread and common on *Salix*, *Populus*, *Platanus*, and other riparian trees; infrequently observed on *Baccharis salicifolia*. *Boyd & Raz 9864, 28 May 1997.*

PHORADENDRON VILLOSUM (Nutt. in Torr. & A. Gray) Nutt. Parasitic perennial herb. Widespread and common on *Quercus*; infrequently observed on *Cercocarpus*. *Ross & Boyd 8317, 21 Sep 1994.*

ZYGOPHYLLACEAE

LARREA TRIDENTATA (Sessé & Moc. ex DC.) Coville Large shrub. Locally common on xeric rocky slopes in areas of desert transition at the northeast end of the range. *Boyd & Raz 9057, 14 Oct 1996.*

**TRIBULUS TERRESTRIS* L. Annual. Scarce, documented by an early collection from near Saugus. *Peirson 2028, 15 Jun 1918.*

ANGIOSPERMAE—MONOCOTYLEDONES

AGAVACEAE

YUCCA BREVIFOLIA Engelm. var. *BREVIFOLIA* Tree. Locally common in xeric scrub, areas of desert transition at the northeastern end of the range. *Boyd & Raz 9062, 14 Oct 1996.*

YUCCA BREVIFOLIA Engelm. var. *HERBERTII* (J. M. Webber) Munz Tree. Local in xeric scrub and woodland at the northwestern end of the range, forming dense, nearly impenetrable thickets. *Boyd & Raz 9253, 25 Mar 1997.*

YUCCA WHIPPLEI Torr. Succulent shrub. Widespread and common in scrub, woodland, and grassland. *Boyd & Raz 9845, 28 May 1997.*

ALLIACEAE

ALLIUM BURLEWII Davidson Geophyte. Locally common on steep scree deposits, north face of Little Burnt Peak. *Boyd & Raz 9944, 17 Jun 1997.*

ALLIUM CAMPANULATUM S. Watson Geophyte. Scarce, openings in woodland on north flank of Liebre Mountain, head of Horse Camp Canyon. *Ross et al. 3907, 27 Jun 1990.*

ALLIUM FIMBRIATUM S. Watson var. *FIMBRIATUM* Geophyte. Widespread, but generally rather local, open areas with cobbley soil in scrub and grassland. *Boyd & Raz 9689, 1 May 1997.*

ALLIUM HAEMATOCITON S. Watson Geophyte. Scarce, heavy soil at edge of vernal pool, Plum Canyon. *Boyd & Raz 9131, 4 Mar 1997.*

ALLIUM HOWELLII Eastw. var. *CLOKEYI* Ownbey ex Traub Geophyte. Scarce, documented by an early collection from Castaic Canyon. *Jones s.n., 26 Apr 1934.*

ALLIUM LACUNOSUM S. Watson var. *DAVISIAE* (M. E. Jones) McNeal & Ownbey Geophyte. Scarce, documented by an early collection from the Antelope Valley at the northeastern end of the range. *Minthorn s.n., 4 Apr 1928.*

ALLIUM LACUNOSUM S. Watson var. *LACUNOSUM* Geophyte. Locally common on heavy, cobbley soil in burned chaparral, Necktie Basin west of Warm Springs Mountain summit. *Ross & Boyd 7922, 25 May 1994.*

ALLIUM PRAECOX Brandegee Geophyte. Scarce in understory of mesic chaparral, north flank of Red Mountain, upper Clearwater Canyon. *Ross & Boyd 7273, 23 May 1993.*

BLOOMERIA CROCEA (Torr.) Coville var. *CROCEA* Geophyte. Widespread and common in grassland, scrub, and woodland, generally in the southern half of the range. *Boyd & Raz 9772, 6 May 1997.*

BLOOMERIA CROCEA (Torr.) Coville var. *MONTANA* (Greene) J. W. Ingram Geophyte. Widespread and common in grassland, scrub, and woodland, generally in the northern half of the range. *Boyd & Raz 9918, 29 May 1997.*

DICHELOSTEMMA PULCHELLUM (Salisb.) A. Heller Geophyte. Widespread and common in grassland, scrub, and woodland; especially abundant on recent burns. *Boyd & Ross 9246, 21 Mar 1997.*

MULLA MARITIMA (Torr.) S. Watson Geophyte. Widespread and common in grassland, scrub, and woodland. *Ross & Boyd 7894, 25 May 1994.*

AMARYLLIDACEAE

**NARCISSUS PAPYRACEUS* Ker Gaw. Geophyte. Scarce, documented as a waif along the Old Ridge Route, just west of Castaic Creek. *Boyd et al. 9127, 11 Feb 1997.*

ARECACEAE

**PHOENIX CANARIENSIS* Chabaud Tree. Established locally along the stream in Bouquet Canyon. *Boyd & Raz 8987, 8 Oct 1996.*

CYPERACEAE

CAREX ALMA L. H. Bailey Perennial herb. Widespread, occasional along streams and about larger seeps. *Ross & Boyd 8629, 28 Jun 1995.*

CAREX DIANDRA Schrank Perennial herb. Scarce, documented from along stream in Texas Canyon. *Ross & Porter 8487, 4 May 1995.*

CAREX FRACTA Mack. Perennial herb. Infrequent, mesic openings in oak woodland on the crest of Liebre Mountain. *Ross et al. 3891, 27 Jun 1990.*

CAREX LANUGINOSA Michx. Perennial herb. Scarce, understory of willow woodland in wetlands south of Knapp Ranch, upper Cienaga Canyon. *Boyd & Raz 9857, 28 May 1997.*

CAREX MULTICAULIS L. H. Bailey Perennial herb. Scarce on steep, dry slope in woodland understory, upper Heryford Canyon, north flank of Sawmill Mountain. *Boyd & Raz 9808, 20 May 1997.*

CAREX PRAEGRACILIS W. Boott Perennial herb. Locally common in wetlands about Knapp Ranch, upper Cienaga Canyon. *Ross & Boyd 8153, 7 Jul 1994.*

CAREX SCHOTTII Dewey Perennial herb. Scarce, documented by an early collection from south end of Bouquet Canyon. *Clokey s.n., 13 May 1930.*

CAREX SENTA Boott Perennial herb. Scarce along stream, lower Ruby Canyon. *Boyd & Wall 8787, 16 May 1996.*

CYPERUS ERAGROSTIS Lam. Perennial herb. Uncommon, wet soil along Castaic Creek above Elderberry Forebay, and in Soledad Canyon. *Thorne & Tilforth 39887, 17 Jun 1971.*

ELEOCHARIS MACROSTACHYA Britton Perennial herb. Local, bed of vernal pool in Plum Canyon, and about cattle ponds in Grasshopper Canyon. *Columbus et al. 2690, 5 Jun 1996.*

ELEOCHARIS PARISHII Britton Perennial herb. Widespread and common, moist soil along streams and about seeps. *Boyd & Wall 8788, 16 May 1996.*

SCIRPUS ACUTUS Muhl. ex Bigelow var. *OCCIDENTALIS* (S. Watson) Beetle Perennial herb. Widespread in wet, marshy ground, especially in shallow margins of lakes, reservoirs, and sag ponds. *Ross & Boyd 7840, 24 May 1994.*

SCIRPUS AMERICANUS Pers. Perennial herb. Locally common in wetlands about Knapp Ranch, upper Cienaga Canyon. *Boyd & Raz 8959, 24 Sep 1996.*

SCIRPUS CERNUUS Vahl Annual. Infrequent in moist soil along stream margins, Castaic Creek drainage. *Boyd, Mistretta, & Soza 8846, 12 Jun 1996.*

SCIRPUS MARITIMUS L. Perennial herb. Locally common in seasonally wet fault sag in Peace Valley, west of Quail Lake. *Boyd, Elvin, & Jotikasthira 8876, 25 Jun 1996.*

SCIRPUS MICROCARPUS J. Presl & C. Presl Perennial herb. Common along margins of stream in Bouquet Canyon; scattered elsewhere in similar situations. *Ross, Boyd, & Burns 8115, 6 Jul 1994.*

SCIRPUS PUNGENS Vahl Perennial herb. Uncommon, wet soil along Castaic Creek above Elderberry Forebay, and in Soledad Canyon. *Boyd & Mistretta 8826, 23 May 1996.*

SCIRPUS ROBUSTUS Pursh Perennial herb. Locally common in "Cow Spring Pond", a fault sag near the mouth of Cow Spring Canyon at the north base of Liebre Mountain. *Ross & Boyd 8333, 21 Sep 1994.*

HYACINTHACEAE

CHLOROGALUM POMERIDIANUM (DC.) Kunth var. *POMERIDIANUM* Geophyte. Occasional, mesic openings in low scrub, especially on heavy soils, southwestern quarter of the range. *Wheeler 9838, 15 Jun 1967.*

IRIDACEAE

**IRIS GERMANICA* L. Perennial herb. Scarce as a waif in extensive wetland in San Francisquito Canyon near east base of Red Mountain. *Ross & Boyd 7833, 24 May 1994.*

**IRIS PSEUDACORUS* L. Perennial herb. Locally common as an adventive along stream, Bouquet Canyon. *Ross & Steinmann 8529, 8 May 1995.*

SISYRINCHIUM BELLUM S. Watson Perennial herb. Scarce and local, southwestern end of the range in heavy soil. *Boyd & Soza 10161, 28 Apr 1998.*

JUNCACEAE

JUNCUS ACUTUS L. ssp. *LEOPOLDII* (Parl.) Snogerup Perennial herb. Infrequent along Castaic Creek upstream from confluence with Fish Creek; locally common in Grasshopper Canyon. *Boyd et al. 8920, 11 Jul 1996.*

JUNCUS BALTICUS Willd. Perennial herb. Locally common in "Cow Spring Pond", a fault sag near the mouth of Cow Spring Canyon at the north base of Liebre Mountain. *Ross & Boyd 8336, 21 Sep 1994.*

JUNCUS BUFONIUS L. var. *BUFONIUS* Annual. Widespread and common in moist soil along streams, vernal pools, margins of lakes, ponds, and reservoirs, and vernal moist swales. *Ross & Boyd 7241, 23 May 1993.*

JUNCUS MACROPHYLLUS Coville Perennial herb. Widespread and locally common, moist soil along streams and about seeps. *Ewan 3425, 22 Oct 1930.*

JUNCUS MEXICANUS Willd. Perennial herb. Widespread and common in meadows, about seeps, along streams, and margins of lakes, ponds, and reservoirs. *Boyd & Raz 9065, 14 Oct 1996.*

JUNCUS RUGULOSUS Engelm. Perennial herb. Widespread and locally common, moist soil along streams and about seeps. *Craig 2008, 9 Oct 1933.*

JUNCUS TEXTILIS Buch. Perennial herb. Infrequent, shaded benches in riparian woodland, lower Ruby Canyon; also documented by

an early collection from Bouquet Canyon. *Raz & Boyd 050, 23 Oct 1996.*

JUNCUS TORREYI Coville Perennial herb. Scarce in roadside depression receiving overflow from Quail Lake, Peace Valley. *Boyd & Raz 9087, 14 Oct 1996.*

JUNCUS XIPHIOIDES E. Meyer Perennial herb. Widespread and locally common, moist soil along streams and about seeps. *Raz & Boyd 042, 23 Oct 1996.*

LEMNACEAE

LEMNA MINOR L. Aquatic annual. Locally common in slow-moving water, extensive wetland area along San Francisquito Canyon at east base of Red Mountain. *Ross, Boyd, & Burns 8091, 6 Jul 1994.*

LEMNA MINUSCULA Herter Aquatic annual. Locally common in sheet-flow and slow moving water in wetlands about Knapp Ranch, upper Cienaga Canyon. *Boyd & Raz 9856, 28 May 1997.*

LILIACEAE

CALOCHORTUS CLAVATUS S. Watson var. *CLAVATUS* Geophyte. Widespread and locally common in open scrub and especially on recent burns. More or less freely grading into var. *gracilis*. *Frampton 17255, 31 May 1952.*

CALOCHORTUS CLAVATUS S. Watson var. *GRACILIS* Ownbey Geophyte. Widespread, but only infrequently common locally in open scrub and especially on recent burns. More or less freely grading into var. *clavatus*. *Boyd & Raz 9710, 6 May 1997.*

CALOCHORTUS INVENUSTUS Greene Geophyte. Occasional to locally common, openings in scrub on sedimentary substrates, western edge of the range. *Boyd & Wall 8768, 16 May 1996.*

CALOCHORTUS KENNEDYI Porter var. *KENNEDYI* Geophyte. Infrequent in open situations in xeric scrub, mostly along the southern edge of the range in Soledad Canyon, but also present in pinyon woodland at the northwestern corner. *Boyd & Mistretta 8736, 1 May 1996.*

CALOCHORTUS PLUMMERAE Greene Geophyte. Scarce on rocky slopes and alluvial fans above Bee Canyon wash near Soledad Canyon. *White & Devries 6755, 23-24 Jun 1998.*

CALOCHORTUS SPLENDENS Douglas Geophyte. Scarce, documented by early collections from the southwestern quarter of the range. *Templeton, Clokey, & Clokey s.n., 13 May 1930.*

CALOCHORTUS VENUSTUS Douglas Geophyte. Widespread and common in grassland and openings in scrub and woodland in the northern half of the range. *Griesel & Miller s.n., 2 Jul 1963.*

FRITILLARIA BIFLORA Lindl. Geophyte. Scarce, mesic chaparral opening on deposit of clay soil, ridge west of confluence of Castaic and Fish creeks along Old Ridge Route. *Ross 8367, 7 Apr 1995.*

LILIUM HUMBOLDTII Roehl & Leichtlin ssp. *OCELLATUM* (Kellogg) Thorne Geophyte. Widespread, but generally rather scattered, shaded benches along streams. *Ross & Boyd 8620, 28 Jun 1995.*

ORCHIDACEAE

EPIACTIS GIGANTEA Douglas ex Hook. Perennial herb. Widespread, but infrequent and quite local, about seeps and streams. *Boyd, Mistretta, & Soza 8843, 12 Jun 1996.*

PLATANATHERA DILATATA (Pursh) Lindl. var. *LEUCOSTACHYS* (Lindl.) Luer Geophyte. Scarce, documented from vicinity of Hidden Lake, at the north base of Sawmill Mountain in Pine Canyon. *Menke s.n., 25 Apr 1955.*

POACEAE

**AGROPYRON CRISTATUM* (L.) Gaertn. Perennial herb. Occasional in grassland, upper west end of Liebre Mountain. *Ross & Boyd 8145.*

AGROSTIS EXARATA Trin. Perennial herb. Widespread, but generally

- uncommon, moist soil along streams and about seeps. *Ross & Boyd 8012, 22 Jun 1994.*
- **AGROSTIS VIRIDIS* Gouan Annual. Widespread and common, moist soil along streams and about seeps. *Ross & Boyd 7842, 24 May 1994.*
- ARISTIDA ADSCENSIONIS* L. Annual. Scarce, xeric slope in San Francisco Canyon near confluence with Drinkwater Canyon. *Ross & Banks 7464, 12 Apr 1994.*
- ARISTIDA PURPUREA* Nutt. var. *PARISHII* (Hitchc.) Allred Perennial herb. Scarce, documented by and early collection from near Sausalito. *Davy s.n., 20 Jan 1901.*
- **ARUNDO DONAX* L. Perennial herb. Locally common in floodplain of Santa Clara River, Soledad Canyon Wash, and San Francisco Canyon; scattered elsewhere along drainages and about old habitations. *Ross & Banks 7510, 12 Apr 1994.*
- **AVENA BARBATA* Link Annual. Widespread and common in grassland, xeric openings in scrub and woodland, and ruderal situations. *Ross & Boyd 7635, 4 May 1994.*
- **AVENA FATUA* L. Annual. Widespread and common in grassland, xeric openings in scrub and woodland, and ruderal situations. *Boyd, Raz, & Ross 9487, 1 Apr 1997.*
- **AVENA SATIVA* L. Annual. Scarce, waif along road, head of San Francisco Canyon. *Ross & Boyd 7636, 4 May 1994.*
- **BROMUS ARENARIUS* Labill. Annual. Widespread but rather local, mostly in grassland and understory of open woodland. *Ross & Boyd 7671, 4 May 1994.*
- BROMUS CARINATUS* Hook. & Arn. Perennial herb. Widespread, but infrequent, understory of scrub and woodland on mesic exposures. *Ross & Boyd 8657, 29 Jun 1995.*
- **BROMUS CATHARTICUS* Vahl Annual or facultative perennial. Scarce, documented from disturbed areas about Knapp Ranch, and on recently burned slopes between Lost and Leona valleys. *Boyd & Raz 9426, 31 Mar 1997.*
- **BROMUS DIANDRUS* Roth Annual. Widespread and locally common, grassland, openings and understory of scrub and woodland, and especially disturbed ruderal situations. *Wheeler 9311, 8 May 1967.*
- BROMUS GRANDIS* (Shear) Hitchc. in Jeps. Perennial herb. Widespread, understory and openings in scrub and woodland, generally on steep slopes with mesic exposure. *Boyd & Raz 9886, 28 May 1997.*
- **BROMUS HORDEACEUS* L. Annual. Widespread and locally common, grassland, openings and understory of scrub and woodland, and especially disturbed ruderal situations. *Ross & Porter 8514, 4 May 1995.*
- **BROMUS MADRITENSIS* L. Annual. Scarce, documented from a few scattered sites and associated with disturbed situations. *Wheeler 9326, 8 May 1967.*
- BROMUS MARGINATUS* Nees Perennial herb. Occasional in woodland understory and adjacent grassland, summit and upper northern flank of Sawmill Mountain. *Ross & Boyd 8048, 23 Jun 1994.*
- BROMUS ORCUTTIANUS* Vasey var. *HALLII* A. Hitchcock in Jeps. Perennial herb. Scarce in woodland understory, upper northern flank of Sawmill Mountain. *Ross & Boyd 8058, 23 Jun 1994.*
- BROMUS PSEUDOLAEVIPS* Wagnon Perennial herb. Occasional in woodland understory, upper northern flanks of Liebre and Sawmill mountains. *Boyd & Raz 9793, 20 May 1997.*
- **BROMUS RUBENS* L. Annual. Widespread and common, grassland, openings and understory of scrub and woodland, and especially disturbed ruderal situations. *Wolf 1602, 29 Mar 1928.*
- **BROMUS STERILIS* L. Annual. Infrequent in dry, disturbed situations at the western edge of the range. *Boyd & Raz 9714, 6 May 1997.*
- **BROMUS TECTORUM* L. Annual. Widespread and locally common, grassland, openings and understory of scrub and woodland, and especially disturbed ruderal situations. *Ross & Boyd 7767, 11 May 1994.*
- **CHLORIS VIRGATA* Sw. Annual. Scarce, documented from the Antelope Valley at the northeastern end of the range. *Twisselmann 17545, 17 Oct 1970.*
- **CORTADERIA JUBATA* (Lemoine) Stapf. Perennial herb. Infrequent, moist soil along drainages and about seeps. *Boyd 10294, 7 Oct 1998.*
- **CRYSIS SCHOENOIDES* (L.) Lam. Annual. Locally common on drying mud at margins of lakes, sag ponds, and reservoirs in the northern half of the range; also documented from damp soil along Ruby Creek, near confluence with Elizabeth Lake Canyon. *Raven 16750, 24 Sep 1961.*
- **CYNODON DACTYLON* (L.) Pers. Perennial herb. Widespread, occasional along drainages, locally common elsewhere in damp, disturbed situations about habitations and agriculture. *Ross, Boyd, & Burns 8103, 6 Jul 1994.*
- DESCHAMPSIA DANTHONIOIDES* (Trin.) Benth. Annual. Locally common in vernal pools on Cruzan Mesa and in Plum Canyon; also documented along seasonally moist drainage, Portal Ridge east of Cow Spring drainage. *Boyd & Raz 9921, 29 May 1997.*
- DISTICHLIS SPICATA* (L.) Greene ssp. *STRICTA* (Torr.) Thorne Perennial herb. Widespread and locally common in areas of moist saline soils. *Boyd & Raz 9771, 6 May 1997.*
- **ECHINOCHLOA COLONA* (L.) Link Annual. Infrequent on drying mud of sag ponds, and moist soil along streams. *Raz & Boyd 011, 23 Oct 1996.*
- ELYMUS CONDENSATUS* C. Presl Perennial herb. Widespread and locally common on mesic exposures in scrub and woodland, alluvial benches, and about seeps. *Ross, Mistretta, & Quici 3983, 28 Jun 1990.*
- **ELYMUS ELONGATUS* (Host) Runem. Perennial herb. Locally common in grassland, upper west end of Liebre Mountain. *Ross & Boyd 8146B, 7 Jul 1994.*
- ELYMUS ELYMOIDES* (Raf.) Swezey ssp. *ELYMOIDES* Perennial herb. Widespread, infrequent to locally common in grassland and xeric openings in scrub and woodland. *Ross & Boyd 7856, 24 May 1994.*
- ELYMUS ELYMOIDES* (Raf.) Swezey ssp. *ELYMOIDES* × *ELYMUS GLAUCUS* Buckley ssp. *GLAUCUS* Perennial herb. Occasional in openings of scrub and woodland, crest of Liebre Mountain. *Ross & Boyd 8661, 29 Jun 1995.*
- ELYMUS GLAUCUS* Buckley ssp. *GLAUCUS* Perennial herb. Widespread and common in grassland and openings in scrub and woodland, especially on mesic exposures. *Ross & Porter 8485, 4 May 1995.*
- **ELYMUS HISPIDUS* (Opiz) Melderis Perennial herb. Locally common on disturbed fuelbreaks, western half of the range. *Boyd, Elvin, & Jotikasthira 8870, 25 Jun 1996.*
- ELYMUS STEBBINSII* Gould Perennial herb. Scarce, understory of oak woodland, upper north flank of Liebre Mountain. *Ross, Mistretta, & Quici 3858, 27 Jun 1990.*
- ELYMUS TRITICOIDES* Buckley Perennial herb. Local in wetlands about Knapp Ranch, upper Cienaga Canyon, along stream in Bouquet Canyon, and in Grasshopper Canyon; also documented by an early collection from Acton. *Boyd & Raz 8995, 8 Oct 1996.*
- ERAGROSTIS MEXICANA* (Hornem.) Link ssp. *VIRESCENS* (J. Presl) Koch & Sanchez Annual. Scarce in moist soil along stream, Ruby Canyon at confluence with Elizabeth Lake Canyon; also documented from ruderal situation in Newhall. *Raz & Boyd 007, 23 Oct 1996.*
- ERAGROSTIS PECTINACEA* (Michx.) Nees var. *PECTINACEA* Annual. Uncommon in moist soil at widely scattered sites including Ruby Canyon at confluence with Elizabeth Lake Canyon, about margin of Bouquet Reservoir, near Agua Dulce, and in the Antelope Valley at the northeastern corner of the range. *Raven 16752, 24 Sep 1961.*
- **FESTUCA ARUNDINACEA* Schreb. Perennial herb. Uncommon in moist soil along streams, western half of the range. *Boyd & Wall 8785, 16 May 1996.*
- HORDEUM BRACHYANTHERUM* Nevski ssp. *CALIFORNICUM* (Covas &

- Stebbins) Bothmer, N. Jacobsen, & Seberg Perennial herb. Scarce in wet meadows at Knapp Ranch, upper Cienaga Canyon. *Ross & Boyd 8164, 7 Jul 1994.*
- HORDEUM INTERCEDENS Nevski Annual. Local on clay soil, Grasshopper Canyon. *White & Leatherman 6562, 22 May 1998.*
- *HORDEUM MARINUM Huds. ssp. GUSSONIANUM (Parl.) Thell. Annual. Scarce on disturbed, hard-packed soil of fuelbreak on ridge west of Castaic Canyon along Old Ridge Route. *Boyd et al. 9783, 10 May 1997.*
- *HORDEUM MURINUM L. ssp. GLAUCUM (Steud.) Tzvelev Annual. Widespread, occasional in moist disturbed situations. *Gifford 569, 11 Apr 1935.*
- *HORDEUM MURINUM L. ssp. LEPORINUM (Link) Arcang. Annual. Widespread, occasional in moist disturbed situations. *Ross & Boyd 7231, 23 May 1993.*
- *HORDEUM VULGARE L. var. TRIFURCATUM (Schltdl.) Alef. Annual. Infrequent as a roadside waif, San Francisquito and Spunky canyons. *Ross & Steinmann 8547, 8 May 1995.*
- *HORDEUM VULGARE L. var. VULGARE Annual. Scarce as a roadside waif along Templin Highway, west of Castaic Lake. *Ross 8362, 7 Apr 1995.*
- KOELERIA MACRANTHA (Ledeb.) J. A. Schultes Perennial herb. Local in grassland, summit of Grass Mountain and along crest of Sierra Pelona, west of Mount McDill. *Ross & Boyd 7848, 24 May 1994.*
- *LAMARCKIA AUREA (L.) Moench Annual. Uncommon in disturbed areas along roads, San Francisquito, Grasshopper, and Texas canyons; also documented by an early collection from Newhall. *Ross & Banks 7449, 12 Apr 1994.*
- LEPTOCHLOA FASCICULARIS (Lam.) A. Gray Perennial herb. Scarce on moist soil along stream in Ruby Canyon at confluence with Elizabeth Lake Canyon; also documented from east end of Bouquet Reservoir. *Raz & Boyd 038, 23 Oct 1996.*
- *LOLIUM MULTIFLORUM Lam. Annual. Scarce, disturbed pasture area at Knapp Ranch, upper Cienaga Canyon. *Boyd & Raz 9847B, 28 May 1997.*
- *LOLIUM PERENNE L. Perennial herb. Scarce, disturbed pasture area at Knapp Ranch, upper Cienaga Canyon. *Boyd & Raz 9847A, 28 May 1997.*
- MELICA IMPERFECTA Trin. Perennial herb. Widespread and common in grassland and understory of scrub and woodland, especially on mesic exposures. *Dudley & Lamb 4427, 9 Jun 1986.*
- MELICA STRICTA Bol. Perennial herb. Scarce, shaded outcrops of schist on upper north flank of Little Burnt Peak and upper Herbyford Canyon, Sawmill Mountain. *Boyd & Raz 9802, 20 May 1997.*
- MUHLENBERGIA ASPERIFOLIA (Nees & Meyen) Parodi Perennial herb. Occasional to locally common in moist alkaline areas, drainages on the western edge of the range. *Boyd, Mistretta, & Soza 8836, 12 Jun 1996.*
- MUHLENBERGIA MICROSPERMA (DC.) Kunth Annual. Apparently scarce, rocky slope between Bee and Agua Dulce canyons in Soledad Canyon. *White & Devries 6498, 15 May 1998.*
- MUHLENBERGIA RIGENS (Benth.) Hitchc. Perennial herb. Widespread and locally common on mesic benches along streams and about seeps. *Ross & Boyd 8331, 21 Sep 1994.*
- ORCUTTIA CALIFORNICA Vasey Annual. Locally common in vernal pools on Cruzan Mesa and in Plum Canyon. These appear to be the only extant populations in Los Angeles County, and Cruzan Mesa represents the northern-most known station for this species. *Columbus et al. 2687, 5 Jun 1996.*
- ORYZOPSIS HYMENOIDES (Roemer & J. A. Schultes) Ricker Perennial herb. Scarce, documented by early collections from the vicinity of Acton. *Peirson 1582, 16 Jun 1918.*
- PANICUM CAPILLARE L. Annual. Uncommon in moist sand along stream, Ruby Canyon at confluence with Elizabeth Lake Canyon, and along northern shore of Elizabeth Lake. *Boyd & Raz 9067, 14 Oct 1996.*
- *PASPALUM DILATATUM Poir. Perennial herb. Locally common in shallow water along Castaic Creek near confluence of Fish Creek. *Boyd et al. 8918B, 11 Jul 1996.*
- PASPALUM DISTICHUM L. Perennial herb. Scarce in shallow water, wetlands about Knapp Ranch, upper Cienaga Canyon. *Boyd & Raz 9878, 28 May 1997.*
- *PENNISETUM SETACEUM Forssk. Perennial herb. Locally adventive along road in lower San Francisquito Canyon. *Ross & Banks 7448, 12 Apr 1994.*
- *PHALARIS MINOR Retz. Annual. Uncommon along stream, Grasshopper Canyon. *White & Leatherman 6552, 22 May 1998.*
- *PHALARIS PARADOXA L. Annual. Scarce on disturbed, hard-packed soil of fuelbreak on ridge west of Castaic Canyon along Old Ridge Route. *Boyd et al. 9784, 10 May 1997.*
- PHRAGMITES AUSTRALIS (Cav.) Steud. Perennial herb. Locally common, extensive wetlands in lower Apple Canyon at the western edge of the range. *Boyd & Raz 9500, 16 Apr 1997.*
- *PIPTATHERUM MILIACEUM (L.) Coss. Perennial herb. Widespread and locally common, generally in disturbed riparian situations. *Ross & Boyd 7217, 23 May 1993.*
- *POA ANNUA L. Annual. Uncommon, moist soil of roadside seep, upper Burns Canyon and along stream in Ruby Canyon near confluence with Elizabeth Lake Canyon. *Raz & Boyd 051, 23 Oct 1996.*
- *POA PRATENSIS L. Perennial herb. Scarce, open wet meadow at Knapp Ranch, upper Cienaga Canyon. *Boyd 8697, 25 Apr 1996.*
- POA SECUNDA J. Presl ssp. JUNCIFOLIA (Scribn.) Soreng Perennial herb. Widespread and common in grassland and openings of scrub and woodland. *Munz 4426, 1921.*
- POA SECUNDA J. Presl ssp. SECUNDA Perennial herb. Widespread and common in grassland and openings of scrub and woodland. *Gustafson & Wallace 2515, 26 Apr 1982.*
- *POLYPOGON INTERRUPTUS Kunth Perennial herb. Widespread, occasional in moist soil along streams and about seeps. *Ross & Boyd 8634, 28 Jun 1995.*
- *POLYPOGON MARITIMUS Willd. Annual. Scarce in dry bed of Fish Creek, just upstream from confluence with Castaic Creek. *Boyd & Raz 9737B, 6 May 1997.*
- *POLYPOGON MONSPELIENSIS (L.) Desf. Annual. Widespread and common in moist soil along streams, seeps, and swales. *Runyan s.n., 14 Jul 1971.*
- *SCHISMUS ARABICUS Nees Annual. Locally common on dry sandy benches in Soledad Canyon Wash near Acton, and on hard-packed soil of road edges in San Francisquito Canyon. Growing in mixed populations with *S. barbatus*. *Ross, Boyd, & Arnseth 4950B, 30 Apr 1991.*
- *SCHISMUS BARBATUS (L.) Thell. Annual. Widespread and common in grassland, openings of scrub and woodland, recent burns and ruderal situations. *Wheeler 9355, 8 May 1967.*
- *SECALE CEREALE L. Annual. Occasional in grassland at edge of Antelope Valley. *Boyd & Soza 10169, 28 Apr 1998.*
- SETARIA GRACILIS Kunth Perennial herb. Locally common in roadside depression receiving overflow from Quail Lake, Peace Valley. *Boyd & Raz 9084, 14 Oct 1996.*
- *SETARIA VIRIDIS (L.) Beauv. Annual. Scarce in dry bed of Fish Creek at confluence with Castaic Creek, and near Agua Dulce. *Boyd & Raz 9741, 6 May 1997.*
- SPOROBOLUS AIROIDES (Torr.) Torr. Perennial herb. Scarce, low alluvial bench along Castaic Creek, near confluence with Fish Creek. *Boyd, Mistretta, & Soza 8837, 12 Jun 1996.*
- STIPA CERNUA Stebbins & Love Perennial herb. Widespread and locally common in grassland, scattered in scrub openings and on recent burns. *Ross & Porter 8459, 4 May 1995.*
- STIPA CORONATA Thurb. ssp. CORONATA Perennial herb. Widespread and common, xeric openings in scrub and woodland, especially on steep, rocky slopes. *Ross & Boyd 7929, 25 May 1994.*
- STIPA CORONATA Thurb. var. DEPAUPERATA (M. E. Jones) A. Hitchc.

Perennial herb. Local on steep, rocky xeric openings in scrub and woodland at scattered sites including San Francisquito, Texas, and Bear canyons. Perhaps associated with schist. *Ross & Porter 8421, 4 May 1995.*

STIPA LATIGLUMIS Swallen Perennial herb. Scarce, openings in oak woodland, upper north flank of Liebre Mountain. *Ross, Boyd, & Fritsch 3876, 27 Jun 1990.*

STIPA LEPIDA A. Hitchc. Perennial herb. Widespread and common in grassland, openings in scrub and woodland, and especially on recent burns. *Boyd, Raz, & Ross 9478, 1 Apr 1997.*

STIPA SPECIOSA Trin. & Rupr. Perennial herb. Widespread and locally common, xeric openings in scrub, and open alluvial benches. *Boyd & Raz 9302, 25 Mar 1997.*

*TRITICUM AESTIVUM L. Annual. Scarce as roadside waif, West Fork Liebre Gulch. *Boyd 8665, 24 Apr 1996.*

*VULPIA BROMOIDES (L.) Gray Annual. Scarce, documented from Antelope Valley in Willow Springs Canyon drainage north of Portal Ridge. *Wallace 1680, 19 Apr 1979.*

VULPIA MICROSTACHYS (Nutt.) Benth. var. CILIATA (Beal) Lonard & Gould Annual. Widespread and locally common in grassland and openings in scrub and woodland. Often growing in mixed populations with one or more other vars. of *V. microstachys*. *Ross 8391, 26 Apr 1995.*

VULPIA MICROSTACHYS (Nutt.) Benth. var. CONFUSA (Piper) Lonard & Gould Annual. Widespread and locally common in grassland and openings in scrub and woodland. Often growing in mixed populations with one or more other vars. of *V. microstachys*. *Boyd & Raz 9648A, 1 May 1997.*

VULPIA MICROSTACHYS (Nutt.) Benth. var. MICROSTACHYS Annual. Widespread, occasional in grassland and openings in scrub and woodland. Often growing in mixed populations with one or more other vars. of *V. microstachys*. *Boyd & Raz 9806, 20 May 1997.*

VULPIA MICROSTACHYS (Nutt.) Benth. var. PAUCIFLORA (Beal) Lonard & Gould Annual. Widespread and locally common in grassland and openings in scrub and woodland. Often growing in mixed populations with one or more other vars. of *V. microstachys*. *Ross & Boyd 7798A, 11 May 1994.*

*VULPIA MYUROS (L.) C. C. Gmel. var. HIRSUTA (Hackel) Asch. & Graebn. Annual. Widespread and locally common in grassland and openings in scrub and woodland. Often growing in mixed populations with var. *myuros*. *Ross & Banks 7541, 13 Apr 1994.*

*VULPIA MYUROS (L.) C. C. Gmel. var. MYUROS Annual. Widespread and locally common in grassland and openings in scrub and woodland. Often growing in mixed populations with var. *hirsuta*. *Boyd & Raz 9403A, 31 Mar 1997.*

VULPIA OCTOFLORA (Walter) Rydb. var. HIRTELLA (Piper) Henrard Annual. Locally common on open, sandy alluvial benches in Soledad Canyon Wash near Acton and in Plum Canyon. *Ross, Boyd, & Arnseth 4955B*. Within the range this taxon was always found growing in mixed population with var. *octoflora*. An interesting form with the lowest lemma of each spikelet glabrous and the others pubescent was encountered in a mixed population in Plum Canyon. *Boyd et al. 10117C, 24 Mar 1998.*

VULPIA OCTOFLORA (Walter) Rydb. var. OCTOFLORA Annual. Widespread, occasional in grassland and openings in scrub and woodland. *Ross, Boyd, & Arnseth 4955A.*

POTAMOGETONACEAE

POTAMOGETON FOLIOSUS Raf. ssp. FOLIOSUS Aquatic perennial herb. Common in Lake Elizabeth. *Thomason s.n., 17 Jun 1987.*

POTAMOGETON PECTINATUS L. Aquatic perennial herb. Common in Lake Elizabeth. *Thomason s.n., 17 Jun 1987.*

TYPHACEAE

TYPHA DOMINGENSIS Pers. Perennial herb. Widespread and common about lakes, sag ponds, reservoirs, and marshy areas along streams. *Ross & Boyd 8347, 21 Sep 1994.*

TYPHA LATIFOLIA L. Perennial herb. Uncommon, marshy areas at confluence of Ruby and Elizabeth Lake canyons and in Soledad Canyon Wash. *Thorne & Tilforth 39873, 17 Jun 1971.*

ZANNICHELLIACEAE

ZANNICHELLIA PALUSTRIS L. Aquatic perennial herb. Locally common in flowing water, shaded riparian woodland in Bouquet Canyon. *Boyd & Raz 9004, 8 Oct 1996.*

ADDENDUM—EXCLUDED TAXA

Although voucher specimens suggest they were collected within the boundaries of the Liebre Mountains study area, I have excluded several taxa from the flora. In all instances, the locality information on the specimens is sufficiently vague, and the characteristic habitat of the taxa involved sufficiently different from that inferred by the purported collection station, the veracity of the records is in question. References to these excluded taxa is provided here as an addendum to the annotated catalogue so their status may be re-examined should the taxa be encountered during future floristic work in the range.

CALOCHORTUS ALBUS Dougl. (Liliaceae). Geophyte. Putatively collected from "wooded slopes and canyons, Mohave Desert". *Kusche s.n., May 1922*. Although the location is vague, Kusche apparently included the adjacent mountains in his concept of the Mojave Desert. Therefore the collection could have come from the Liebre Mountains or perhaps the Tehachapi, Southern Sierra Nevada, or even San Gabriel mountains.

CEANOTHUS MEGACARPUS Nutt. var. MEGACARPUS (Rhamnaceae). Large Shrub. Putatively collected in "Bouquet Canyon, Sierra Pelona Mts." *Kline s.n., May 1923*. More likely this was taken in the Santa Monica Mountains.

COLEOGYNE RAMOSISSIMA Torr. (Rosaceae). Small shrub. Putatively collected in Bouquet Canyon. *Hutchinson s.n., May 1921*. This taxon is not otherwise known from Los Angeles County desert areas and more likely was collected in the Southern Sierra Nevada Mountains, or elsewhere on the Mojave Desert in a trip which included travel through Bouquet Canyon.

COLLINSIA TORREYI A. Gray (Scrophulariaceae). Annual. Putatively collected along the Ridge Route. *deForest s.n., Jun 1931*. Although originally the name "Ridge Route" was restricted to that portion of the original north-south highway between Castaic and Sandberg, it was later applied to newer highways running over Tehachapi pass. This specimen may actually have been collected in the Tehachapi Mountains, or in the Frazier Park area of Mount Pinos, or even further north in the Sierra Nevada on a trip which passed over Tehachapi Pass via the "Ridge Route".

CORDYLANTHUS NEVINII A. Gray (Scrophulariaceae). Annual. Putatively collected at Acton. *Hasse s.n., Aug. 1893*. This taxon is typically found at higher elevations and was likely collected in the San Gabriel Mountains south of Acton.

DODECATHEON JEFFREYI Moore (Primulaceae). Geophyte. Putatively collected along the Ridge Route. *deForest s.n., Jun 1931*. See discussion under *Collinsia torreyi* above.

LOTUS NEVADENSIS (S. Wats.) Greene var. NEVADENSIS (Fabaceae). Perennial herb. Putatively collected along the Ridge Route. *deForest s.n., Jun 1931*. See discussion under *Collinsia torreyi* above.

STREPTANTHUS TORTUOSUS Kell. (Brassicaceae). Annual to suffrutescent perennial. Putatively collected along the Ridge Route. *deForest s.n., Jun 1931*. See discussion under *Collinsia torreyi* above.

TIQUILIA PLICATA (Torr.) A. Richardson (Boraginaceae). Perennial herb. Putatively collected along the Ridge Route. *deForest s.n.*, Jun 1931. See discussion under *Collinsia torreyi* above regarding use of the name "Ridge Route". This specimen is almost certainly from somewhere else on the Mojave Desert in association with sandy soils.

ZIGADENUS BREVIBRACTEATUS (M. E. Jones) H. M. Hall (Melanthiaceae). Geophyte. Putatively collected from "deep soil on brushy hillsides, Mohave Desert". *Kusche s.n.*, May 1922. See discussion under *Calochortus albus*. This specimen and the following are mounted on the same sheet (RSA 378417).

ZIGADENUS FREMONTII (Torr.) S. Wats. (Melanthiaceae). Geophyte. Putatively collected from "deep soil on brushy hillsides, Mohave Desert". *Kusche s.n.*, May 1922.

ACKNOWLEDGMENTS

This work is dedicated to Timothy S. Ross, a peerless field botanist, and my respected colleague and friend. It was Tim who first articulated a need to document the flora of the Liebre Mountains when, during the spring and summer of 1990, we had the opportunity to work in the range as part of a broader program of botanical studies on the Angeles National Forest, work coordinated by Orlando Mistretta of Rancho Santa Ana Botanic Garden and William J. Brown, Jr. of the Angeles National Forest. Tim provided inspiration and leadership in early years of this project, and his collections form the backbone of the data recorded here. When circumstances prevented Tim from continuing an active involvement in the study, I forged on ahead with the thought that he would remain a co-author. In discussions with Tim shortly before I completed this manuscript and he left southern California to reside in western Washington, he made it clear that it was his wish I be listed as the sole author. Although I have honored his wishes, and take full responsibility for any errors of omission or commission, Tim will remain in my mind a co-author in this work.

My thanks go out to the numerous people who have assisted with field work and other tasks associated with the study, and in particular Orlando Mistretta, William J. Brown, Jr., Lauren Raz, David Bramlet, and Scott White. Finally, I thank my wife Carol for having the patience to put up with me during all the seasons of fieldwork spent in the Liebre Mountains backcountry.

LITERATURE CITED

- BALGOOY, M. M. J. VAN. 1971. Plant-geography of the Pacific as based on a census of phanerogam genera. *Blumea* Supplement Volume VI.
- BEAUCHAMP, R. M. A flora of San Diego County, California. Sweetwater River Press, National City, California. 241 p.
- BENSON, L., E. A. PHILLIPS, P. A. WILDER ET AL. 1967. Evolutionary sorting of characters in a hybrid swarm. I: Direction of slope. *Amer. J. Bot.* **54**: 1017-1026.
- BOYD, S. D. 1983. A flora of the Gavilan Hills, western Riverside County, California. M.S. Thesis, Univ. Calif., Riverside.
- , T. S. ROSS, W. APPLEBY, AND O. MISTRETTA. 1993. A botanical assessment of the West End Vegetation Management Unit, Tujunga Ranger District, Angeles National Forest, California. Unpublished technical report submitted to the Angeles National Forest.
- , O. MISTRETTA, AND D. BRAMLET. 1995. Vascular flora of the San Mateo Canyon Wilderness Area, Cleveland National Forest, California. *Aliso* **14**: 109-139.
- , AND F. M. ROBERTS, JR. 1995. Additions to the vascular flora of the Santa Ana Mountains, California. *Aliso* **14**: 105-108.
- , AND A. C. SANDERS. Noteworthy collection of *Asclepias subulata* (Asclepiadaceae), *Calycoseris parryi* (Asteraceae), *Mentzelia involucreata* ssp. *megalantha* (Loasaceae), *Navarretia fossilis* (Polemoniaceae), *Orcuttia californica* (Poaceae), *Sibara filifolia* (Brassicaceae), and *Sibara virginica* (Brassicaceae) from California. *Madroño* (in press).
- CALIFORNIA DEPARTMENT OF FISH AND GAME, NATURAL DIVERSITY DATABASE. 1998. Special Plants List (August). Biannual publication. Mimeo. 119 p.
- CRABBE, J. A., A. C. JERMY, AND J. T. MICKEL. 1975. A new generic sequence for the Pteridophyte herbarium. *Fern Gaz.* **11**: 141-162.
- DERBY, J. A., AND R. C. WILSON. 1978. Floristics of pavement plains of the San Bernardino Mountains. *Aliso* **9**: 374-378.
- , AND ———. 1979. Phytosociology of pavement plains in the San Bernardino Mountains. *Aliso* **9**: 463-474.
- DIBBLEE, T. W. JR. 1982. Geology of the Castaic Block, the mountains and hills northwest of the San Gabriel Mountains, Southern California. pp. 78-93. In D. L. Fife and J. A. Minch [ed.] *Geology and Mineral Wealth of the California Transverse Ranges*. South Coast Geological Society.
- HICKMAN, J. C. (ed.). 1993. The Jepson Manual: higher plants of California. Univ. Calif. Press, Berkeley, California. 1400 p.
- HOLLAND, R. F. 1986. Preliminary descriptions of the terrestrial natural communities of California. State of California, The Resources Agency, Department of Fish and Game, Sacramento.
- HOLMGREN, P. K., N. H. HOLMGREN, AND L. C. BARNETT (editors). 1990. Index Herbariorum Part 1: The Herbaria of the World, 8th ed. *Regnum Veg.* Vol. 120.
- JENNINGS, C. W., AND R. G. STRAND. 1969. Geologic Map of California, Los Angeles Sheet. Calif. Div. Mines and Geol. Scale 1: 250,000.
- JOHNSTON, I. M. 1919. The flora of the pine belt of the San Antonio Mountains of southern California. *Plant World* **22**: 71-90, 105-122.
- KRANTZ, T. 1994. A phytogeography of the San Bernardino Mountains, San Bernardino County, California. Ph. D. Dissertation, Univ. of Calif., Berkeley. 412 p.
- LATHROP, E. W., AND R. F. THORNE. 1985. A flora of the Santa Rosa Plateau, Southern California. Southern California Botanists special publication No. 1.
- LEWIS, A., AND G. W. GAUSE. 1966. Trees of the Angeles National Forest. USDA, Forest Serv., Covina, California. 18 p.
- MCBRIDE, J. ET AL. 1975. A checklist of the vascular plants of the montane coniferous forest in the San Bernardino Mountains, California. Dept. Forestry & Conserv. & Dept. Conserv. Nat. Resources, Univ. California, Berkeley. 45 p.
- MCLAUGHLIN, S. P. 1992. Are floristic areas hierarchically arranged? *J. Biogeogr.* **19**: 21-32.
- MISTRETTA, O. 1995. Sensitive species survey and checklist of the vascular plant flora: Little Rock Creek Management Unit, San Gabriel Mountains, Angeles National Forest, California. Unpublished technical report submitted to the Angeles National Forest.
- MUNS, B. 1984. Lower Eaton Canyon flora, San Gabriel Mts. Arcadia, California.
- . 1985a. Flora of Santa Anita Canyon: San Gabriel Mountains. Arcadia, California. 10 p.
- . 1985b. Flora of the Mount Pinos Region. Summaries of

- major plant communities and annotated checklist of the vascular plants. Arcadia, California. 16 p.
- . 1992. Flora of the Mount Pinos summit area. Arcadia, California.
- . 1994. Flora of Placerita Canyon, Los Angeles County Park. Arcadia, California. 16 p.
- . 1996. Flora of the Arroyo Seco, San Gabriel Mts. Arcadia, California.
- MUNZ, P. A., AND D. D. KECK. 1949. California plant communities. *Aliso* 2: 87–105.
- , AND ———. 1950. California plant communities-supplement. *Aliso* 2: 199–202.
- NORRIS, R. M., AND R. W. WEBB. 1990. Geology of California, 2nd ed. John Wiley & Sons, New York. 541 p.
- PARISH, S. B. 1890. The flora of Snow Canyon. *Plant World* 4: 227–229.
- . 1917. An enumeration of the pteridophytes and spermatophytes of the San Bernardino Mountains, California. *Plant World* 20: 163–178, 208–223, 245–259.
- PEIRSON, F. W.. 1935 Trees and shrubs of the San Gabriel Range. Pasadena City Schools, Pasadena, California. 31 p.
- RAUNKIAER, C. 1934. The life form of plants and statistical plant geography. Clarendon Press, Oxford. 632 p.
- RAVEN, P. H. 1963. A flora of San Clemente Island, California. *Aliso* 5: 289–347.
- , H. J. THOMPSON, AND B. A. PRIGGE. 1986. Flora of the Santa Monica Mountains, California. Southern Calif. Botanists Special Publ. No. 2 (2nd edition).
- ROBERTS, F. M., JR. 1989. A checklist of the vascular plants of Orange County, California. Museum of Systematic Biology special publication No. 6. University of California, Irvine.
- ROBINSON, J. T. 1953. A taxonomic and ecological study of the flora of the San Gabriel River Canyon. M. A. Thesis, Whittier College, Whittier, California. 47 p.
- ROSS, T. S. 1996. Additions to the mainland flora of Los Angeles County, California. *Crossosoma* 22: 77–94.
- SAWYER, J. O., AND T. KEELER-WOLF. 1995. A manual of California vegetation. California Native Plant Society, Sacramento, California. 471 p.
- SAWYER, W. E. 1987. A list of high elevation angiosperms and their phenology in the San Gabriel Mountains, Los Angeles County, California. *Crossosoma* 13: 5–10.
- SHARP, R. P. 1972. Geology Field Guide to Southern California. Kendall/Hunt Publishing Company, Dubuque, Iowa. 208 p.
- SHMIDA, A. 1981. Mediterranean vegetation in California and Israel: similarities and differences. *Israel J. Bot.* 30: 105–123.
- SKINNER, M. W., AND B. M. PAVLIK [eds.]. 1994. Inventory of rare and endangered vascular plants of California. Calif. Native Plant Society Special Publ. No. 1 (5th edition).
- SWINNEY, D. 1994. Glendora foothills plant checklist, San Gabriel Mountains. T. Payne Foundation, Sun Valley, California.
- THORNE, R. F. 1967. A flora of Santa Catalina Island, California. *Aliso* 6: 1–77.
- , (editor). 1971–1973. Vernal flora of the cismontane canyons of the San Gabriel Mountains, Angeles and San Bernardino National Forests, Los Angeles and San Bernardino counties, southern California. Unpublished but bound collection of term papers for Botany 26, Field Taxonomy, Claremont Graduate School, in library of Rancho Santa Ana Botanic Garden, Claremont, California.
- . 1976. The vascular plant communities of California, pp. 1–31. In J. Latting [ed.], Plant communities of southern California. California Native Plant Society Special Publ. No. 2.
- . 1992. An updated phylogenetic classification of the flowering plants. *Aliso* 13: 365–389.
- WISHNER, C. 1997. Flora of the Santa Monica Mountains: synonymized checklist and index. *Crossosoma* 23: 3–63.