

## California and Its Plants

When it comes to natural features, California is a vast domain—larger and far more diverse than many countries of the world. This diversity begins with the land itself. There are spectacular ocean bluffs and terraces; row upon row of hills and mountains to the east; a huge and fertile central valley; the grandest and most scenic range of mountains in the Lower 48, the Sierra Nevada; and still further to the east, true deserts, parched yet teeming with life.

All of this helps to account for the 6000-plus plant species found within our borders. While some of these are too plain, too small or adapted to too narrow a niche to be of interest in the garden, hundreds of showy and useful plants remain. Many are as worthy of cultivation as our garden favorites from other regions of the world. Some have already been cultivated for a century or more, both here and abroad. A few are among the standard offerings of Californian nurseries. Others are barely known and represent the frontiers of California horticulture.

### Using Natives in the Garden

Too much that has been said and written about California natives implies that they form a uniform category, distinct from other plants by their very origin. For example, it has been popular to lump them under the heading, “drought tolerant” or “low maintenance”. With habitats as distinct as marsh and desert, plus all the smaller shadings of soil types, exposures and altitude, there *must* be major differences in the uses of native plants in the garden. Added to these are a huge range of actual plant types. We have large trees, like certain oaks, maples and bays, which will grow to dominate any landscape, providing understory habitats for many other, smaller plants, as they do in the wild. A number of foliage shrubs, like the wax myrtles (*Myrica*) and coffeeberries (*Rhamnus*) are useful in dividually or in groups of any size, including shrubby borders and screens. Many dazzling flowering shrubs—the wild lilacs (*Ceanothus*) are perhaps the most loved and appreciated—make bold and decorative displays anywhere. Around the shrubs and under the trees can go a vast array of beautiful herbaceous perennials and subshrubs. The smaller buckwheats (*Eriogonum*), heucheras and iris are some of the showiest and most familiar, but there are many more. California has grasses and bulbs galore for making meadows. For woodsy settings there are many exquisite native ferns and flowering plants like wood sorrel (*Oxalis oregana*) and wild ginger (*Asarum*). And there are plants for rock gardens and rock walls, pools and streams, and virtually any other setting the gardener might conceive.

Yet there are features of the California landscape, and of its vegetation over fairly large areas, that present a certain visual “flavor” and seasonal progression, quite distinct from that of the subtropics and moist forests which provide so many of our garden plants. Many dryland plants have small leaves for water conservation, giving them finer textures than more familiar exotics. Colors are often muted, and include many shades of grey, related to protective coats of hairs (another water-conserving feature). Flowering plants tend to make their displays from late winter—when they offer cheery relief from the bare-bark shades of many exotics—to late spring, when the soil dries and hardens. Summer and fall tend to be times of rest, though there are plenty of exceptions, especially among streamside plants.

### Cultural Details

The diverse habitats and plant types that give California native plants many uses also make it impossible to prescribe a standard recipe for their culture. Just as you would need to know, not just the native country, but the actual habitat, of an unfamiliar exotic to grow it well, you need to know *where* in California a given native plant comes from (though with both natives and exotics, there are plants with amazingly broad tolerances). Plants of coastal bluffs and meadows often need more moisture than those of similar settings farther inland, and they may not thrive in the high summer heat of the Central Valley. Many streamside plants require abundant moisture but are tolerant of a wide range of temperatures. Understory plants of the forests usually need some shading, all the more so as one moves inland (again, summer heat is a deciding factor). Yet the forest trees themselves are often more adaptable—coast redwoods and bays are good examples. Plants of the chaparral, the distinctive shrubby forest of exposed slopes, are often well adapted to heat and drought. However they may not tolerate typical garden-style irrigation in summer. Many have poor resistance to root pathogens that thrive in warm, moist soils. Watering technique can be all-important for these plants. Occasional, deep watering keeps crowns and branches dry most of the time, but provides sufficient moisture to maintain these plants in robust condition.

tion. In the hottest areas, it may be necessary to further reduce stress by light shading, particularly in the afternoon. This effectively lowers the temperature of both tops and roots.

Plants of hilly and mountainous regions are often found in rocky or sandy soils. It is a safe bet that most of these plants will require well-drained soils in the garden, again in the interest of disease control. "Flatlanders" cursed with dense, clayey soils need not despair, however. Planting on raised mounds and berms is often more effective than expensive soil amendment in draining water away from sensitive crowns.

These are the reasons that cultural details are given below for each genus, and in some cases, for each species of more widely distributed genera. Yet exactly the same details are provided for non-native plants in our *Guide to Ornamental Plants for Coastal California*. They are no less important for a plant from the highlands of southern Mexico or the coastal plains of western Australia than for plants of rocky hills in California.

### California Natives and Suncrest Nurseries

Suncrest Nurseries draws on two traditions of enthusiastic native plant trials and introduction. The first is that of Leonard Coates Nurseries, founded in 1878 and occupying our present site from 1969 to 1990. I had the good fortune to take an active part in native plant introductions at Leonard Coates during the 1970s, and to continue and expand these efforts at my own nursery, Wintergreen Nursery, from 1978 to 1991. This formed a second tradition, absorbed with the sale of Wintergreen to Suncrest at the end of 1991. We have continued selections in the wild since that time for Suncrest, as well as drawing on the efforts and experience of friends at several botanic gardens and nurseries and dedicated private gardeners. The descriptions which follow should reveal just how broad the scope of those collective efforts has been. It is our great pleasure to serve not only as an original source but also as an enthusiastic conduit for promising native plants of all categories and genera.

### About the Plant Descriptions

The descriptions that follow are largely self-explanatory. Each one attempts to provide not only a sketch of important plant features but also reliable details of successful culture. Remember, however, that the rules change a bit as one moves from the coast, where cool summers place little water stress on plants, to the hotter interior. "Occasional" watering may mean, for the coastal gardener, monthly or less, while twice that frequency might be required in the Central Valley. In the latter case, shading may also be needed, as described above. Plant hardiness is given in terms of minimum degrees Fahrenheit that a plant has been observed (in some cases, is simply assumed, from its placement in the wild) to endure for short periods without major damage. These estimates are generally conservative, incorporating actual experience in some brutal freezes.

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## The Trees

**ACER.** Ma ple. The Amer i cas, Eu rope, Af rica and Asia. This is a ge nus of around 150 shrubs and trees, widely scat tered over the tem per ate and sub trop i cal world. Many of them have in ter est ing forms and beau ti ful bark, which ranges from pale green or grey to deep brown in color, smooth to deeply fissured or shred ding in sur face. The most fa mil iar leaf form is that with toothed, pal mate (handlike) lobes. How ever, ma ple leaves may be com pletely di vided into leaf lets or unlobed and oval in out line. Few peo ple even think of ma ples as hav ing flow ers. Though small in di vid u ally, they are of ten car ried in sub stan tial clus ters and are quite col or ful. They are fol lowed by paired, winged seed cap sules called samaras, which are of ten quite or na men tal in their own right. Most Cali for nians are fa mil iar with only a few spe cies, gen er ally those which tol er ate dry ing winds and sear ing heat (most ma ples are for est dwell ers). Near the coast, how ever, there are many pos si bil i ties. The two na tives which fol low are de cid uous spe cies whose differ ences il lus trate the vari ety of the ge nus. Their cul ture differs and is de scribed be low. Both should be hardy to 0-10°F.

***circinatum*** Vine ma ple. This is a com mon stream side shrub or small tree in far north ern Cali for nia and dots the under story of many for ests in the wet ter North west. It has sin u ous branches from 6' to over 30' long, cre at ing an odd, spraw ling form in shade and one more re mi nis cent of the fa mil iar Japane se ma ple (*A. palmatum*) in sun—which it tol er ates poorly away from the coast. The bark is smooth, light to bright green when young and tak ing on yel low and rosy hues as it ages. The leaves are nearly round over all, with sev eral rel a tively shal low, pointed lobes, and mea sure 2-6" long. They of ten show pink or or ange shad ing in new growth, be com ing bright ap ple-green as they ex pand. In fall they adopt some of the most vivid hues to be found among de cid uous shrubs and trees. The tiny flow ers are pur plish or reddish in color. This is a beau ti ful shrub-tree for smaller gar dens, ca pa ble of de vel op ing an ele gant, flow ing form with a lit tle ju di cious early prun ing. It thrives in sun or shade near the coast but needs pro tec tion in land. Soil must be acid and well drained, and it should be kept moist at all times.

***macrophyllum*** Big leaf ma ple. This is one of the most im pres sive of our stream side trees, some times tower ing above all others. It has sturdy, arching trunks and often a parasol-like canopy of upper branches. The bark is smooth ex cept when quite old and grey ish brown in color. First to ap pear in spring are the large, droop ing clus ters of chartreuse flow ers. These are closely fol lowed by shiny, often bronze-tinted leaves which turn to deep green, with paler under sides, as they ex pand. And ex pand they do, some times to as much as 10". They are usu ally rather deeply 5-lobed, with sharp points on the lobes. In fall, they adopt lovely gold to pale yel low shades, and the large sam aras dry to pale tan, some times with a rosy blush. The prob lem with this beau ti ful tree is its sheer size. It needs at least the space of a large back yard to spread. Oth er wise it is quite adapt able, tak ing all ex po sures and most soils, though it needs reg u lar wa ter ing, ex cept where the lo cal wa ter ta ble is high.

***ARBUTUS menziesii*** Madrone. A beau ti ful though dif fi cult tree na tive to much of Cali for nia and the Pa cific North west. De pend ing on ex po sure, it can grow nar rowly erect or widely spread ing, usu ally 20-40' in height. Its pic tur esque branches are en hanced by smooth red dish bark which peels to ex pose patches of light green. Leaves are 4-6" or more long, dark green above and grey ish green beneath. White spring-summer blossoms in large clus ters give way to bright red fall and win ter ber ries. Sun or part shade, very well-drained soil, and mod er ate to oc ca sional wa ter ing. Hardy to 10°F. or less.

**CORNUS.** Dog wood. Wide spread in North Amer ica, Eu rope and Asia. This is a size able group of shrubs and trees, in clud ing some of our best-loved or nam en tals. The shrubby sorts have gen er ally long, wand like stems, of ten mak ing broad thick ets. Some of the trees have their branches ar ranged in hori zontal tiers, giv ing a dis tinctly ori en tal ef fect. In ei ther case, they have large pointed-oval leaves, nor mally paired along the stems and con spic u ously veined. The flow ers are small, clus tered in many spe cies like those of the vi bur num s. The white to red, blue or black ber ries which fol low also re sem ble those of the vi bur num s. Sev eral spe cies have the true flow ers clus tered more tightly into a cen tral ball, sur rounded by large, usu ally white or pink ish bracts, which most gar den ers see as the flower. Many are de cid uous and among the most col or ful of all trees and shrubs in the fall. All have at trac tive win ter sil hou ettes, and some, like *C. sibirica*, ex tend the show with brightly painted bark. Sun or light shade, well drained, non-alkaline soil and reg u lar wa ter ing ex cept as de scribed be low. Their har di ness var ies as de scribed.

**'Eddie's White Won der'**. A fine hy brid be tween our na tive *C. nuttallii* (see be low) and *C. florida*, the east ern dog wood. It grows 25' or more tall, with closely lay ered branches and large, lush leaves. In late spring it is gaily dec o rated with bracted flower clus ters, the bract-circles pure white and 4" or more across. Win ter-deciduous and hardy to 0°F. or less.

***nuttallii***. Western dogwood. Certainly one of our most beautiful native trees, though mad den iginally unpre dict able in the land scape. Where it thrives, it can reach 30-50' in time. Though usu ally strongly up-right in growth, it has tiers of hor i zon tal side branches sim i lar to those of the east ern dogwood. The leaves are large and broad, mak ing a beau ti ful foil for spec tac u lar white blos soms, with bract-circles up to 6" broad, in late spring. Soft pink and orange shades cre ate an other spec ta cle in the fall. It cl early needs well drained, acid soil to suc ceed, and young plants should be shaded to hold down soil tem per a tures. 0°F. or less.

**CUPRESSUS**. Cypress. A small group of co ni fers, scat tered widely around the North ern Hemi sphere, largely in moun tain ous re gions. They range from large shrubs to trees over 100' high, var i ous ly shaped but usu ally closely branched. Their bark is some times col or ful and usu ally flaky or shred ding. The twigs of the new growth are slen der and cy lin dri cal to flat tened, with neat rows of tiny, pointed scales, of ten flecked with resin. The cones are round to oval, of ten re main ing closed for sev eral years. Sun, reason ably well drained soil, mod er ate to oc ca sional wa ter ing (sev eral are no ta bly drought tol er ant when es tab lished). Their har di ness var ies.

***macnabiana***. MacNab cypress. This northern California native inhabits some of our most desolate spots out side the deserts. It may be seen as a tor tured 6-10' shrub, or as a well-formed tree up to 50' high. The plants from which this ma te rial was taken were beau ti ful broad, dense pyr a mids in the 20-30' range. The stems and fo liage are quite grey, heavily flecked with white bits of resin and spic ily ar o matic. The cones are of ten red dish brown and dec o ra tive. This is one of the most rug ged co ni fers in California, yet adapt able to or di nary land scapes. Hardy to 0-10°F.

***macrocarpa***. Monterey cypress. Seen in its nat u ral set ting along Cali for nia's cen tral coast, this is a dark, wind-sculptured mass with pic tur esque con torted trunks. Re leased from the tor tur ing el e ments, it can be come a gi gan tic tree, some times out grow ing its roots and top pling in most un dig nified fash ion. It is ba si cally py ram i dal in form, with long "arms" of side branches. The fo liage is bright green on y oung trees, darkening as they mature. The cones are decorative, if they can be seen among the foliage mass. 'Citriodora', re ceived from friend Arie Lerner, is a com pact and rel a tively slow-growing cultivar with brilliant yel low new growth, chang ing over the course of its first year to deep green, giv ing a nicely bi colored ef fect. It is also quite no tice ably fra grant, as the name sug gests. 'Saligna Aurea', re ceived from Duncan & Davies in New Zea land, is chal leng ing even to de scribe. The main trunk grows gen er ally up-right, but the side branches and long branch lets weep in ir reg u lar pat terns like some of the pen du lous ce dars. Added to this is the bright golden color of all but the old est shoots, usu ally hid den well in side the gold. It is a spec tac u lar front-yard and con tainer spec i men.

All forms of Monterey cy press are at their best close to the coast, where sum mers are cool. They are prone to some root rots and dis fig ur ing fo liar dis eases and pests in the hot ter in te rior. All should be hardy to around 10°F.

**LYNOTHAMNUS floribundus ssp. asplenifolius** Catalina iron wood. Na tive to the Chan nel Is lands off our southern coast, this is a most un usual tree. It is gen er ally taller than broad, with erect cin na mon-colored trunks and shred dy bark. The youn ger branches carry sprays of di vided and dis sected 6" leaves, dark green above and pale be neath. Broad clus ters of cream-colored flow ers dec o rate the tree in early summer, de vel op ing into brown seed cap sules which per sist for sev eral months. It grows best near the coast. Sun or light shade, well drained soil, oc ca sional to no sup ple men tal wa ter ing when es tab lished. Es tab lished trees are hardy to around 15°F.

**QUERCUS** Wide spread, mostly in the North ern Hemi sphere. In a better world, we would not need the nurs ery to pro vide us with oaks. They would be all around us. How ever, for all our ad mi ra tion of them as features of the primeval land scape, and all our use of their names in our settle ments (Oakland, Oak Knolls, and the like), we seem to be re lent lessly bent on clear ing them from the path of ad vanc ing civiliza tion. I sup pose we will con tinue to grow them as long as any one will take them, in the hope that some will find their way into a more or less per ma nent po si tion. These are a di verse lot, rang ing from majes tic trees to low sub al pine shrubs. They may be ev er green or de cid u ous, with leaves which range in shape from sim ple and nearly round to lance-shaped, to the more fa mil iar and dis tinc tive, lobed pat terns. They have some times showy tas sels (cat kins, to be proper) of tiny male flow ers and in con spic u ous, knobby fe male flow ers in spring. How ever, the fe male flow ers be come con spic u ous in deed as the acorns of fall. Each has an ex panded basal cap, cov ered with over lap ping scales, and a nearly spher i cal to tor pedo-sh aped main body. Children (youn g and old) find them end lessly fas ci nat ing. The fol low ing na tives have a vari ety of uses in the land scape ac cord ing to their size, though usu ally as fea tured spec i mens. All thrive in sun and

a great variety of soils, with occasional watering once they are established. All of the following are hardy to 10°F. or less, the deciduous types probably to 0°F.

***agrifolia***. Coast live oak. This is the familiar dark, leafy mass of the coastal hills, usually seen in large numbers where it has survived the bulldozer and the chain saw. It can take many forms, from large shrub to huge (up to 75'), usually widely spreading tree. The trunks are often beautifully contorted, with smooth greyish younger bark and deeply fissured older bark. The leaves are ever green (or rather, fall as a new crop is produced). They are narrowly oval to nearly round in outline, usually turned under and sharply toothed along the margins. They are softly shiny to lacquered in appearance, deep green above and paler beneath. The acorns are mostly smaller and narrower than those of other native oaks, but make an interesting show. With early, light and careful pruning, it may be maintained at a manageable size even for smaller gardens.

***berberidifolia***. Scrub oak. This is one of the shrubby oaks. It is usually 8' or less in height, spreading in habit, with attractive silvery grey stems. The leaves are usually around an inch long, broad to narrow, with usually conspicuous, sharp teeth. The acorns are relatively large and prominent in the fall. This is an interesting shrub for wild gardens and mixed plantings.

***douglasii***. Blue oak. This is the smaller, usually more upright tree you will see after you have left the valley oaks behind and drive into the sun-baked foothills. It grows erect to somewhat fountain-shaped, as much as 60' high but usually much less, with interesting bark made up of many small plates. The leaves are thick but winter-deciduous, blue-green during the growing season and often painted in pastel oranges, yellows and pinks in fall. It is an ideal tree for sunny, open hill sides and other untended areas.

***garryana***. Oregon oak. This is one of my own favorite oaks, particularly in its smaller mountain form, which we unfortunately do not have. It is a beautiful tree, upright-oval to nearly round in form, with arching branches and attractive ridged bark. The leaves are 3-5" long, flat, with broad, rounded lobes, deep green and shiny above, paler beneath. Fall color includes some exquisite oranges and pinks, as well as the commoner gold shades. With careful pruning, it should be one of the more manageable of the deciduous oaks for home gardens.

***kelloggii***. Black oak. This is the most dramatic of our deciduous oaks. It grows up to 75' high and wide but is usually half that or less. Often it has a nearly round overall form, with sculptured, arching branches and beautiful dark bark. The leaves are deeply and sharply lobed and up to 8" long. They are often pink to orange in new growth, then deep green when expanded, turning once again, this time to vivid gold, in the fall. They are one of the things that make fall walks in the countryside a treasured experience. The acorns are relatively short and broad. This is a spectacular tree for open hill sides. I suppose it could be controlled for ever by pruning, but that would defeat some of its natural majesty.

***lobata***. Valley oak. Of all the oaks, this one has probably suffered most from the advance of the human wave. It occupies exactly those sites deemed most desirable for settlement—the broad valleys where ample water collects in winter and spring (and causes our settlements endless problems). It is an enormous tree when at its best, with an upright base and arching, fountain-like trunks up to 100' high, perhaps even more in breadth. The bark is deeply textured and beautiful. The leaves are usually 2-4" long, rather flat, with deep to shallow, rounded lobes. They are deep green above, paler beneath, and take on pale to golden hues in fall, when the long, tapered acorns begin to drop. This should be a focal point of a large garden or commercial landscape, never cramped or restrained.

***wislizenii***. Interior live oak. I have already described most of this tree's prominent features under *Q. agrifolia*, above. It is similar overall, though with usually somewhat flatter, more obviously pointed leaves which often lack marginal teeth or spines. It has all the uses of *Q. agrifolia* and possibly (this is not proven, to my knowledge) even greater tolerance of drought.

***TORREYA californica***. Californica nutmeg. This is one of California's two members of the yew family, and one of our most unusual conifers. It is extremely variable in size and shape. I have seen it as a straggling 6' shrub and as a towering 50' tree. In both cases, it has had pendulous branches, the younger ones closely lined by deep green, sharply pointed needles, usually 1-2" long. It is inconspicuous in bloom but, in late summer and fall, carries a burden of ornamental nutmeg-shaped fruits, each up to 1" long. My apologies to the forgotten source of our seeds, from some of the best trees I have seen. Californianutmeg is—disregarding the pain factor—easily pruned and shaped. However, it is pretty just left alone, if not too heavily shaded. It thrives in sun or light shade near the coast, part shade inland, in most reasonably well drained soils, with moderate watering. Probably hardy to 10°F. or less.

**UMBELLULARIA californica** California bay laurel. An amazingly variable and adaptable native. In the dry chaparral and on bare coastal slopes, it is a dense, oval shrub. Growing along creeks or in moist forests, it is encountered as a large tree with widely spreading canopy. Wherever it is seen, however, it has a lush covering of narrow, pointed, shiny leaves which are pungently aromatic when bruised (taking too deep a whiff brings instant fire to the sinuses). They had a brief commercial reign as a substitute for Grecian bay (*Laurus nobilis*) in cooking, until toxic compounds were identified in them. Large green or purple tinged berries decorate mature plants in the fall, but unfortunately create enough litter when they fall to preclude its use as a street tree. Sun or light shade, reasonably well drained soil, moderate to little watering. Hardy to 0-10°F.

## The Shrubs

**ABUTILON palmeri**. This is a shrubby denizen of our southern deserts, quite distinct from the hybrid abutilons (better known as flowering mangles). It grows about 3' high and broad. Both the stems and large three lobed leaves are densely covered with white "wool", giving it a striking, almost ghostly appearance. From mid spring to late fall, in mild climates, it produces a continual succession of golden yellow to bright orange flowers, each about 1½" broad, on wand-like stalks. Full sun, well-drained soil. Though it is quite drought tolerant, moderate watering will considerably improve its appearance and prolong growth and flowering. It is apparently hardy to be between 20 and 25 °F.

**ADENOSTOMA fasciculatum** 'SCF'. Chamise. The common, bushy form of chamise is rarely grown as an ornamental, though it is certainly attractive *en masse*, blanketing otherwise barren slopes over much of California. However, this selection from Santa Cruz Island has promise as an ornamental ground cover. It makes nearly solid low mounds or carpets, up to 6' broad, with dark green, heath-like leaves. In early summer it bears branched spikes of small cream-white blossoms at the shoot tips—moderately ornamental but not really showy. Sun, reasonably well drained soil, little or no watering when established. Probably hardy to 10°F. or less.

**AESCULUS californica**. California buckeye, horsechestnut. The buckeyes are a genus of showy, boldly textured trees nearly forgotten in California (though one can still see some magnificent specimens, particularly of *A. carnea*, the red horsechestnut, in the most ancient sections of our older towns). Some of these are ultimately huge trees. Our one native species, on the other hand, varies in status from large shrub to (usually) small tree. I have taken to collecting and growing the seeds of plants in both categories. All have sturdy, well-branched trunks, with smooth bark which becomes quite silvery in age. At the shoot tips, in early spring, bundles of brilliant green leaves unfold and rapidly expand, darkening as they mature. The leaves are divided palmately into five to seven deeply veined leaflets, each up to 8" long. Long narrow clusters of irregular white to pale pink flowers with protruding stamens appear in late spring. Each cluster produces just one or a few large, pendent fruits which are actually quite decorative until they release their huge, shiny seeds in late fall. It has a distinctly shabby period in mid summer and early fall, as the leaves dry up and refuse to drop. A little judicious action with a broom can remedy this condition and expose the beautiful trunks and fruits. Sun or—at the expense of some flowers—light shade, most soils, moderate to occasional deep watering (this is ultimately one of our most drought-tolerant native trees). This material will be hardy to 10°F. or less.

**ARCTOSTAPHYLOS**. Manzanita. Mainly West Coast and Mexico. Tough, picturesque shrubs and small trees found in considerable variety in California. Their ornamental features included red dish to purple, often crooked trunks, round to pointed oval, green to greyish green leaves, and clustered, fragrant urn shaped blossoms, painted pink to white. The flowers are borne mostly in late winter and early spring and often develop into attractive berries. The manzanitas are one of the two most important groups of native shrubs in cultivation (the other is the ceanothus, or blueblossoms), with many uses. The prostrate species and cultivars are employed in vast numbers for ground cover. Sun, well drained soil, occasional to no supplemental watering once established, except as indicated. Most are hardy to 0-10°F.

**bakeri** 'Louis Edmunds'. An erect shrub growing around 6' tall, with purplish brown trunks, grey green leaves and showy pink flower clusters in early spring. It has shown exceptional heat and drought tolerance, yet is one of the easiest manzanitas to grow.

**densiflora**. Vine Hill manzanita. One of the smaller manzanitas, nearly prostrate to upright in habit. It survives as a species only in a tiny area of Sonoma County, but horticultural selections have found their way into landscapes all over California. Here are two of them.

**'Howard McMinn'**. One of the most popular of the manzanitas, for several good reasons. It is rounded in form and profusely branched, growing 3-6' tall. It has shiny green leaves and abundant light pink flowers. It responds exceptionally well to pruning—even shearing, and tolerates a far greater range of soils and watering regimes than most manzanitas.

**'Sentinel'**. More upright in habit than the last, and usually taller, reaching 6' or more. It also has stouter trunks, is more openly branched, and has longer leaves of soft grey green. It is reputedly less tolerant of irrigation and heavy soils than **'Howard McMinn'**, though certainly one of the less disease-prone manzanitas.

***edmundsii***. Little Sur manzanita. A matting species from the central coast. Most of its forms have small, nearly round leaves, red dish in new growth but dark green when mature. Both the flower clusters and individual flowers are small, though often colorful. **'Bert Johnson'** is an introduction of the Tilden Botanic Garden. It makes almost perfectly flat mats unless overcrowded. The stems are crowded with small greyish green leaves, bronze in new growth. The small flowers are white with a slight pink tinge. **'Carmel Sur'** is somewhat more robust and taller. It has narrower, greyish leaves and white flowers. Both have proven more drought and heat-tolerant than the more popular bearberry, *A. uva-ursi*.

**'Emerald Carpet'**. This fine introduction by the Rancho Santa Ana Botanic Garden has already surpassed some old standbys *arduva-ursi* cultivars in popularity. It forms a dense mat of narrow, shining, emerald-green leaves, decorated by white flowers in winter. It requires moderate watering in hot summer areas.

**'Greensphere'**. Another Rancho Santa Ana introduction, quite unique among the manzanitas I have seen. It is an extremely dense, almost perfectly round shrub, growing slowly to perhaps 4', with pointed dark green leaves and white flowers. It is said to be a selection (more likely a hybrid) of *A. edmundsii*.

***hookeri***. Monterey manzanita. This is one of our local natives, colonizing open hills around Monterey Bay. It typically forms broad carpets or low mounds, though some individuals are more upright, growing 4-6' or more tall. It has slender red dish to purplish stems and dark, usually shiny leaves. Flower clusters are small but often abundant, making a good display. Flower color is white to light pink.

**'Buxifolia'**. A miniature form, apparently selected by the late Ken Taylor. It stays quite low and spreads slowly, with an intricate network of short, slender branches. The leaves are small, narrow and arranged in tidy rows.

**'Monterey Carpet'**. The lowest growing of the traditional selections, making a rugged ground cover. It is distinguished by crooked, purplish stems, narrow pointed leaves and white flowers.

**'Wayside'**. This is one of the most robust clones, growing about 3' high by 8' or more broad. It has attractive upsweeping, crooked trunks, the usual *hookeri* foliage, and white flowers.

***insularis* 'Canyon Sparkles'**. More like an arbutus than a typical manzanita in appearance, this plant was introduced by the Santa Barbara Botanic Garden. It is a stout-trunked shrub, growing about 4' tall by 6' broad, with rounded, shiny leaves of bright grass-green, decorated in winter by 2" white flower clusters. A bit less cold hardy than most manzanitas.

**'John Dourley'**. One of my all-time favorites, this is a selection that almost got away, having been rejected at one point for introduction at Rancho Santa Ana. It was rescued and named for the former Superintendent of Horticulture at Rancho Santa Ana by Michael Evans at Tree of Life Nursery. This is a sturdy, mounding shrub, around 3' tall and 6-10' broad at maturity. It has broad but smallish, blue-green leaves, bronze in new growth. The flowers are light pink, and the berries nearly crimson. We hope it will prove as durable as it is beautiful.

***manzanita***. A small, nearly umbrella shaped tree usually about 10' tall at maturity. It is remarkable for its beautifully gnarled, red dish brown trunks, large bluish to greyish green leaves and heavy clusters of white to pink flowers. My own selection is **'St. Helena'**, with stout, widely spreading trunks, bright cinnamon bark, grey green leaves and white flowers. **'Dr. Hurd'**, introduced by Saratoga Horticultural Foundation, is another fine selection, with even stockier, more upsweeping stems and greener leaves. **'Hood Mountain'** is a possible hybrid with *A. canescens* which I found on the mountain of the same name in Sonoma County many years ago. It is similar to 'St. Helena' overall, but it has more purplish trunks and narrower, slightly greyer leaves.

***nummularia***. Fort Bragg manzanita. Actually an unnamed though highly ornamental selection of this unusual species, received from the late Ken Taylor. The plant is compact and nearly dome shaped, usu-

ally under 2½' in height. It has slender hairy stems and small, nearly round, glossy leaves. The white flowers are borne in small clusters. Recently we have added '**Small Change**', a selection by Roger Raiche at the U.C. Botanical Garden, Berkeley. This one is distinguished by its smaller size, matting habit, and tiny, narrow leaves, contrasting nicely with red dish stems. Both will require moderate watering and, in hot summer areas, some shade.

'**Pacific Mist**' A tough and distinctive introduction by Rancho Santa Ana. It is a broadly spreading shrub, useful for ground cover, eventually mounding to about 2' tall by at least 10' broad. It has attractive pinkish younger stems, turning dark brown in age, and rather narrow greyish green leaves up to 2" long. Small clusters of white flowers decorate the plant in late winter. It is notably disease resistant for a grey-leaf manzanita.

**pajaroensis**. Pajaro manzanita. One of the most interesting of the manzanitas, but fast disappearing due to habitat destruction in the wild. It has spreading, zigzag trunks. The stems are densely hairy and heavily tinged with red when young. Large, pointed, deep green to bluish green leaves appear to clasp the stems. They are bronze to bright red in new growth. The large, dense flower clusters, appearing in late winter, range from white to nearly red in color. '**Paradise**' is a robust selection, spreading in habit, with brilliant red to bronze new growth and deep rose pink flowers. Possibly even better is '**Warren Roberts**', recently introduced by Roger Raiche. It is more upright and densely leafy than 'Paradise', with flowers nearly as dark. To confuse matters further, we are trying a new, relatively low-growing selection with very blue leaves and bright pink flowers. All should be reasonably drought tolerant, and hardy at least to 15°F.

**refugioensis**. One of the larger manzanitas, growing up to 10' high and about as broad. The trunks are stout and red dish brown in color. It has broad leaves, grey green in our material, clasping the stems. They are flushed with red to bronze in new growth. The flower clusters are large and vary from white to deep pink in color. Certainly hardy to 20°F. or less, perhaps much less.

**rudis** '**Vandenberg**'. Several years ago I took part in a plant salvage effort at Vandenberg Air Force Base, where a mile-wide swath was being cleared for a Space Shuttle landing strip. This remains one of the most promising plant selections made there for ornamental use. It is a medium-large (about 7' tall, 10' broad in the parent plant), though compact, shrub. It has purplish stems and 1" broadly oval leaves, brightly tinted with red to bronze in new growth. Abundant clusters of small, pale pink blossoms dot the plant in spring. Probably 10-15°F.

**stanfordiana**. This is one of the most beautiful of all the manzanitas, with shapely, colorful trunks, thickly set, shiny leaves and the brightest pink (sometimes nearly red) flowers found in the genus. Unfortunately, it is also, as a species, one of the most susceptible to a host of disfiguring and lethal diseases. I have tried, and ultimately lost, several beautiful selections from the wild, the most recent being 'Palisades'. New ones are on the way. Hope springs eternal for little children and horticultural fools. 0-10°F.

**uva-ursi**. Bearberry. A low, often prostrate coastal species, extremely popular for ground cover. The plants have closely set, narrow leaves, dark green in color, white flowers and red berries. Traditional favorites are '**Pt. Reyes**', with stiff, dark leaves, and '**Radiant**', with particularly lush, shiny foliage. '**San Bruno Mountain**', introduced by the late Ken Taylor, has heavy stems, strikingly large, thick-textured leaves, pale pink blossoms and showy berries. '**Tom's Point**' is a promising recent introduction by the Tilden Botanic Garden. It is particularly well branched, lies quite flat and has dark, quite shiny leaves. All require moderate watering and some shading in hot summer areas.

'**White Lanterns**' was selected by the late Dara Emery at the Santa Barbara Botanic Garden. Though the parent age is unknown, I would guess it to be a form or hybrid of *A. hookeri*. It is a broadly dome shaped, intricately branched shrub, about 6' x 8' in the parent. Both the older trunks and younger stems are dark red dish brown in color, contrasting nicely with the pointed oval, bright green leaves. It is one of the heaviest blooming selections, with showy clusters of white blossoms opening from pink buds in late winter. Exceptionally resistant to disease.

'**Winterglow**'. A low mound, rising to 2-3'. Its nearly round ½" leaves display striking red and orange tones in new growth. The flowers are heavily flushed with pink. I first saw this making a fine low hedge at Rancho Santa Ana, where it was selected and introduced.

**ARISTOLOCHIA californica** California pipevine. This native of woods and streamsides is both a curiosity and an attractive ornamental vine. It grows 6-10' tall, sometimes more, and has profusely branched stems, which hang in dense curtains from larger shrubs and trees or form equally dense carpets on the

ground. The leaves are roughly heart-shaped, up to 6" long and softly furry. Among them hang many odd flowers 1-2" long, first displayed on bare stems in late winter. The flowers are shaped like an old-fashioned Dutch pipe and are colored light green with out, veined with purplish red within. There is often a lighter scattering of flowers over much of the year. Our material should be hardy to 10°F. or less.

**ARTEMISIA.** Worm wood, sage brush. Wide spread in Europe, Asia, N. America. Grey leaved, often aromatic perennials and shrubs of the aster family, useful for banks and borders. The following thrive with full sun, well drained soil, and little supplemental watering, except as noted. Hardiness varies.

**arbuscula.** A beautiful mountain native, hugging the ground with short, woody trunks. It is usually 6-18" high, spreading to form a low mound. The stems are thickly set with small wedge-shaped leaves, each toothed at the tip in the manner of the common sage brush. *A. tridentata* Dense, narrow flower spikes are held erect and age an attractive, rusty brown. A perfect plant for exposed banks, thriving in full sun, with well drained soil and only occasional watering when established. Hardy to below 0°F.

**californica 'Canyon Gray'**. Unusual prostrate form of a coastal native, selected and introduced by the Santa Barbara Botanic Garden. It forms a loose mat at least 4' broad of finely cut, silvery leaves. Useful as a ground and bank cover. It should be cut back hard from time to time to keep it looking fresh and reasonably dense. Probably hardy to 15°F. or less.

**pycnocephala.** Sand hill sage. Another coastal native, this is usually a 1-2' shrub with soft white wool covering both the stems and the floppy divided leaves. **'David's Choice'** is a selected form, distinguished by low, dense growth.

**tridentata var vaseyana** After admiring this plant for several years in the wild, I resolved to try it. It has now weathered the wettest winters California is likely to offer, in my garden, without complaint and seems safe to certify (with certain cautions) as gardenworthy. This is basically a smaller, montane version of the big sage brush, which lines much of the basin and range country as far as one can see. This particular form was under 3' high in the wild, 4' thus far in cultivation. It has sturdy, closely branched trunks and silvery stems, with clustered silvery leaves, three-lobed at the ends. The flowering shoots are a foot or more long, also silvery and attractive until long after the flowers have withered, unlike many artemisias. This is a fine shrub for banks and mixed plantings. Below 0°F.

**ATRIPLEX lentiformis ssp. lentiformis** (formerly ssp. *breweri*). Big saltbush. The salt bushes are a group of rugged shrubs in habiting (as you might guess from the common name) some unusual habitats, like salt and alkali flats. Some are too plain or scruffy to entice most gardeners. However some, like this one, are genuinely ornamental and undemanding plants. Big saltbush is a substantial shrub, often 6-8' high and of even wider spread. It has sturdy, closely branched trunks, the stems neatly set with broad grey-green leaves, ½" - 2" long. The petal-less flowers are inconspicuous. Big saltbush is particularly useful as a background shrub, filling large areas with pleasing grey foliage and making an attractive foil for smaller, darker-leaved shrubs and flowering perennials. Sun (though it tolerates light shade), most soils, moderate to occasional watering. Hardy to 10°F. or less.

**BACCHARIS pilularis.** Coyote brush. In the form once known as the variety *consanguineus*, this is a rather brushy shrub of the California chaparral and coastal scrub, growing 4-8' tall. However, lower forms selected near the coast have long been popular for ground cover. In these forms, it is a dense, low mound or mat, with toothed, dark green to greyish green leaves. The flower heads are small but have a pleasant fragrance suggesting a mixture of hay and honey. Asuming one has a "male" plant, the flowers disappear quietly. "Female" plants set vast quantities of seeds which fly with the wind and sprout in all sorts of unexpected places. **'Twin Peaks #2'** is one of the traditional male selections. It is extremely dense, with leaves which are bright green when young, becoming greyish green with age. **'Pigeon Point'** is nearly as dense, with very bright green leaves. Sun (though they tolerate light shade), nearly all soils, occasional watering when established. Most have proven hardy to 10°F. or less.

**CALYCANTHUS.** Spice bush. China and both eastern and western U.S. These are unusual, shrubs, reminiscent of magnolias, which often form broad thickets. They have attractive smooth, brown to greyish bark. The leaves are large and almost tropical-looking, broadly pointed oval in outline and bright to deep green in color. In fall they take on vivid golden hues. They also have a wonderfully spicy fragrance when crushed. In summer the plants bear many 2-3" many-petaled blossoms, resembling those of *Magnolia stellata* in form, which give off various spicy fragrances. In teresting urn-shaped seed capsules are held on the branches through the winter months. These shrubs are attractive as individual specimens, and large and dense enough to make effective screens. They thrive in sun or part shade, in most non-alkaline soils,

with moderate to regular watering. Their hardiness varies, though all will take the worst winters most of lowland California has to offer.

***occidentalis***. Western spice bush. California. This delightful shrub is often encountered along streamsides in northern California. It is of highly variable size, mostly around 8' in the stock from which our seed was collected, and rounded in form. The twigs are dark brown at first, becoming greyish in age. The broad leaves are up to 6" long and bright green in color, with a softly shiny upper surface. The flowers are brownish red in color and have an odd fragrance something like an old wine barrel (some descriptions are less complimentary). Hardy to 10°F. or less.

***CARPENTERIA californica*** Bush anemone. California. Even in its typical form bush anemone is one of our most beautiful native shrubs. It grows erect-oval to dome-shaped, around 6' tall, and closely branched. The twigs are lined with 3-5" narrow, green to blue-green leaves. In late spring and summer it produces a striking display of clustered white, fragrant flowers resembling those of *Anemone*. The selection '**Elizabeth**', made by Wayne Roderick, is unusually compact in growth. It produces very large, dense clusters of 2" blossoms. As it has proven difficult to propagate, we will try to supplement our stock from time to time with seedling material. Sun or light shade (preferably the latter in land), reasonably well drained soil, moderate watering. Hardy to 10°F. or below.

***CEANOTHUS***. Wild lilac. Some of our showiest native shrubs and trees are included in this group. The wild lilacs (also known as blueblossoms) have extremely variable leaves—often shiny, often toothed or textured. Those of the subgenus *Cerastes* are often leathery and holly-like. The flowers are individually tiny but borne in some times massive clusters. They appear mostly in spring. Flower colors range from white to deep true-blue, violet and even pink. Sun, well drained soil, and little watering when established, except as noted. Both cold and heat tolerances vary considerably.

'**Dark Star**', introduced by the late Ken Taylor, is an extremely dense, small-leaved shrub growing about 6' by 12'. It is covered by masses of cobalt blue flowers in spring. I have found it somewhat less disease-prone than the similar and better-known 'Julia Phelps', and at least as showy. About 15°F.

***foliosus*** '**Berryhill**'. Wavyleaf ceanothus. My own selection from the wild, quite unlike any other available *Ceanothus* in appearance. It is mounding in habit, growing to probably 2-3'. Its slender, wiry stems are lined with tiny, very glossy leaves. It is decorated in spring by little round clusters of brilliant blue blossoms. Best on dry banks and probably intolerant of regular garden watering. 10°F. or less.

'**Frosty Blue**'. One of the best introductions by the Rancho Santa Ana Botanic Garden. It is a round shrub or small tree of 8-12' (or more?) with beautifully textured, shiny leaves. Its masses of bright blue flowers contrast with white bud-scales to give a frosted appearance. Relatively tolerant of heavy soils and routine watering. Probably around 15°F.

***gloriosus***, Pt. Reyes ceanothus, is a widely spreading ground cover for coastal climates. The traditional unnamed selection has unusually lush growth and dark green, noticeably toothed leaves. Its flower clusters are dense but pale. '**Anchor Bay**', introduced by the Saratoga Horticultural Foundation, has thicker, more rigid branches, stiffer leaves and darker flowers. '**Heart's Desire**' is a selection by Phil van Soelen of California Flora Nursery. It is low and dense, with relatively small, glossy leaves. None of these are recommended where summers are hot. 0-10°F.

***hearstiorum***. Found only in the area of the Hearst Ranch, this is quite atypical of the group in habit—absolutely flat on the ground, and spreading symmetrically to a diameter of 6' or more. The leaves are dark green, narrow and somewhat puckered in surface. One of the neatest of the ceanothus for ground cover, though possibly not tolerant of much summer heat (results have been mixed). Probably 15°F.

***impressus***. Santa Barbara ceanothus. This is an extremely variable species, the plants growing up to 5' high and often widely spreading. It has sturdy, closely branched main trunks and stiff but slender, often red dish stems. These are thickly clad with crinkled, deep green leaves, usually 1/2" long or less. In spring it makes a dazzling display of true-blue to lavender or violet blossoms in short, dense clusters. It is rapidly disappearing in the wild as new stretches of the southern coast are bulldozed for development. '**Vandenberg**' is one of several selections I made on the Air Force base of that name during a salvage operation in the early 80s. It is a dwarf plant, probably under 3' high and 5-6' broad even in old age. It has small, bright blue flower clusters. A much larger and older selection, once assigned to this species but possibly a hybrid, is '**Puget Blue**'. It has been grown successfully in the Northwest and is considered one

of the hardiest and most garden tolerant of the “warty-leaved” ceanothus. It has attractively arching branches and clouds of bright lavender-blue flowers. 10-15°F.

**‘Joan Mirov’**. One of the best of many recent introductions by Roger Raiche at the U.C. Botanic Garden in Berkeley. Thus far it has grown about 4’ tall, 10’ wide in various landscapes. It may be even larger in time, but certainly has great potential as a large scale bank cover. The slender stems are neatly lined by very dark, shiny 1/2” leaves. Deep blue flower clusters blanket the plant in spring. It appears to be one of the most disease resistant of the ceanothus tried to date.

**‘Joyce Coulter’**. One of the old standards among the ceanothus, somewhat eclipsed by newer selections but still a valuable landscaping shrub. It normally grows 4-5’ tall and at least 8’ wide. Large, nearly rectangular leaves, deeply textured but lacquered in surface, are closely set along the stems. Flowers are only a medium true blue in color (how jaded we’ve become with so many selections to choose from), but abundant. The most striking features of this plant are the foliage and exceptionally good response to any degree of pruning, even hedging.

**‘Julia Phelps’**. Even the most discriminating native plant buffs are sometimes hard put to distinguish this old timer from ‘Dark Star’, described above. It is similarly large (6’ by 12’ or even more, if left to its own devices), dense and small-leaved. The leaves are perhaps just a little darker, and the flowers just a touch more purple in color. Both make a dazzling spring display. Both are, unfortunately, among the touchier and shorter-lived of the popular hybrids.

**maritimus**. Hoover ceanothus. I was once enthusiastic about a cultivar of this species from U.C. Davis, but found few interested customers, though it performed very well in the landscape. Two recent selections by David Fross, Native Sons Nursery, seem to have more commercial promise. Both are compact, creeping shrubs with small, closely packed leaves somewhat resembling those of *C. gloriosus*. **‘Frosty Dawn’** grows up to 2’ tall and 6’ broad (of ten less) and has flowers of a rich lavender shade. **‘Pt. Sierra’** is distinguished by somewhat larger ultimate size, more arching habit, and smaller leaves carried on flat top sprays of branchlets. Both are excellent small to medium scale ground covers for open banks. 15°F. or less.

**‘Ray Hartman’**. Still a favorite after many years, this is a vigorous, roundish tree of 10-20’, with large, heavily veined leaves and masses of bright blue flowers opening from pink buds. It is one of the most tolerant of ordinary garden conditions. About 15°F.

**thyrsiflorus**, Blue blossom, is one of the larger ceanothus, often becoming a small tree. It is distinguished by bright green stems, shiny leaves and usually large, compound clusters of deep true blue or lavender to white blossoms. **‘Arroyo de la Cruz’** is low and mounding (around 4’ by 6-10’) and has exceptionally bright, shiny leaves and medium-blue flowers. **‘Snow Flurry’** varies from a 6’ shrub to a 20’ tree, according to heat, drought and fertility. It has extremely bright, shiny leaves and masses of pure white flowers. 10-15°F.

**‘Wheeler Canyon’**. A recent introduction by the Santa Barbara Botanic Garden, selected by the late Dara Emery. It is similar to ‘Concha’ in habit, growing around 6’ in height and broader than tall. The sturdy stems are closely lined by 2” narrow, textured leaves, dark green in color. In spring it bears an abundance of bright true-blue blossoms in crowded clusters. It has exhibited good tolerance of heavier soils and routine watering, as well as of summer drought. Probably 15-18°F.

**CEPHALANTHUS occidentalis**. Button bush; button willow. California and the Southwest. A nearly round, bushy shrub with sturdy trunks and attractive pale bark. Paired or whorled along the stems are glossy, willow-like leaves, up to 6” long. Appearing at the shoot tips in early summer are open clusters of extremely tight, round cream-colored flower heads with protruding stigmas and stamens. They much resemble golf balls with antennae. The resemblance only grows as the flowers fade and the crowded seed capsules form. In late fall, the leaves turn a vivid yellow, hanging on in this state for several weeks. This is an attractive and unusual shrub for gardens large enough to accommodate it. It thrives in sun or light shade and most soils, with regular watering (this is a streamside, not chaparral, native). Probably hardy, in this material from the southern Sierra, to 0°F.

**CERCIS occidentalis**. Western redbud. A profusely branched shrub or multitrunked tree, usually 6-15’ tall. It is beautiful in winter for crooked, purplish-brown branches. Covering the branches in early spring are masses of small pink to rose-purple blossoms, similar in shape to those of the related peas and lupines. The 2-3” leaves are nearly round, bluish green to deep green above, changing to anything from pale yellow to brilliant scarlet in fall. Our plants are seedlings from selected populations of shrubby habit, with

very dark flowers. They are tolerant of poor soils, high summer heat, and considerable drought when established. Hardy to 0°F.

**CERCOCARPUS *betuloides***. Mountain mahogany. A shrub or small tree of the rose family, growing six feet to over twenty feet high. The trunks are well-branched, often with silvery bark. Spaced along them are dark, more or less evergreen leaves, oval to nearly round in outline and up to 1½" long. Small petal-less flowers are clustered in the leaf axils; though inconspicuous, they are followed by seed capsules with glistering silky "tails". A fine character shrub for sunny spots with reasonably well-drained soil. Drought-tolerant and hardy, in our material, to 10°F or less.

**CHAMAEBATIARIA *millefolium***. Desert sweet, fern bush. California and the West. This is one of several native shrubs of the rose family which deserve more attention but are unlikely to get it. Yet we try. Desert sweet is widely branched, with several pale-barked trunks growing 3-5' high. Clustered near the stem ends are feathery grey-green leaves, each 2-3" long. The leaves have a strong, resinous fragrance. In summer it bears branched many-flowered clusters of white ½" blossoms above the foliage. This is an unusual and rugged shrub for sunny spots, including open banks. It thrives in well drained soil, with only occasional watering once it is established. Hardy to 0°F. or less.

**CLEMATIS**. The better-known clematis are vines of enormously variable size, with divided, usually toothed leaves and a seasonal abundance of mostly wide-open, often colorful flowers. These are distinguished by four to many petal-like sepals and a dense central brush of stamens. Following them are dense heads of silky, long-tailed seeds. The two natives described below are both deciduous vines, among the more moderate of the clematis in size. Draped over neighboring shrubs or climbing up through trees, they lend an interesting touch to the native garden. Sun or light shade (generally the roots should be shaded, if only by the plant itself, to keep root temperatures down), well drained fertile soil, and moderate watering suit most species and hybrids. Hardy to 0-10°F.

**Lasiantha**. A native of the California chaparral, clamoring up through manzanitas and other shrubs. It has 3- to 5-parted leaves, and masses of white 1-2" blossoms in spring. These are followed by beautiful silvery seed heads in summer and fall. Only occasional watering when established.

**ligusticifolia**. Another California native, distinguished by the more intricately divided leaves and many-flowered clusters of much smaller (under 1") flowers. This is a streamside plant, needing a little more water than *C. lasiantha* for good growth and bloom.

**CHRYSOTHAMNUS *nauseosus* ssp. *albicaulis***. Rabbit-brush. California and the West. Those who have visited the eastern Sierra, or the valleys to the east, in fall are well familiar with the golden spectacle of rabbit-brushes in bloom. This is the most ornamental of the group. It is a small shrub, usually under 3' high, covered with dense white hairs. The leaves are narrow, some times thread-like. In late summer and fall small silky, golden-yellow "daisies" are clustered at the branch tips, nearly hiding the plants. These are followed by great quantities of fluffy seeds, which are ornamental in their own right. This is a fine plant for neglected banks, though not the better-tended parts of the garden. It needs full exposure, well drained, preferably poor soil, and only occasional watering once it is established. Hardy to below 0°F.

**CORNUS *glabrata***. Brown dog wood, creek dog wood. California and Oregon. A colorful creekside native, of quite variable size and habit. It has generally arching stems, which reach as high as 10' in this unnamed selection. This one also has attractive purple bark. Set loosely along the main stems are pairs of slender branches, in turn lined by pairs of pointed-oval, slightly greyish green leaves 1-3" long. These can be vividly colored in the fall. In this case the color is plum purple, but in other forms it may range through scarlet to golden yellow. Dense, rounded clusters of small white flowers are carried along the stems in spring. From these develop showy white (in the current selection) to blue berries. If you have space and ample water, this is a truly impressive shrub. It also provides good shelter and forage for birds and other wild life. Sun or light shade, most soils, regular watering. Hardy to around 0°F.

**DENDROMECON *harfordii***. Island bush poppy. This is a most unusual large shrub or small tree, of the poppy family, native to California's Channel Islands. Its distinctive features include straw-colored stems, 3" pointed-oval, greyish green leaves, and a profusion of 2-3" brilliant yellow, broad-petalled blossoms. The show begins in spring and only gradually dwindles through summer and fall. This is not an easy plant to maintain, though probably happiest when treated with benign neglect. It thrives in full sun but will tolerate part-day shade. The matter of soil is considerably more important: It must be quite well drained. Watering may vary from moderate to occasional once the plant is established. Hardy to around 15°F.

**ERIOGONUM** Wild buck wheat. This is an immense group of western natives, encountered from coastal bluffs to mountain peaks and the desert floor. The following are shrubs with decorative, often woolly leaves and tiny, brightly colored blossoms borne in dense clusters. They have a wide variety of uses in the landscape, from ground cover and the rock garden to bold specimen shrubs, according to size and habit. Sun, well drained soil, little or no watering when established. Hardiness varies.

**arborescens**. Santa Cruz Island buck wheat. A gnarled, tree-like shrub of about 5', with attractive cinnamon trunks and narrow bluish green leaves. It is decorated much of the year by broad, flat heads of creamy flowers, turning rust-colored in age. 15-20°F.

**crocatum**. Safiron buck wheat. A 1-2' shrub remarkable for white stems and foliage and contrasting heads of chartreuse-yellow blossoms, opening from brown buds in summer and fall. It demands excellent soil drainage. About 15°F.

**fasciculatum**. California buck wheat. The typical form of this species makes broad mounds usually 1-3' tall, with clustered, very narrow leaves. The compound flower clusters are creamy white to pink, turning an attractive rust color in age and giving a rich, rusty glow to the chaparral in fall. 'Warriner Lytle' is completely prostrate, making a broad, ground-hugging mat. Both are good candidates for bank cover. They should be hardy to 18°F. or less. The variety **polifolium** hails from our interior mountains and deserts. It is similar in habit to the type species but has broader, often grey green leaves. Various forms now under trial should be hardy to 0°F.

**giganteum** St. Catherine's lace. A striking shrub of 4' or more, clad with large woolly, grey leaves. In summer and early fall it carries huge flat clusters resembling those of some giant yarrow. They are cream colored, turning rust red in age. About 20°F.

**grandivar. rubescens**. Red buck wheat. This is the latest accepted epithet for a familiar plant reclassified several times in recent years. It is a low, spreading shrub, usually 1-2' tall when not in bloom. The leaves are fairly large, crinkled, medium green above and covered with white wool beneath. In summer many ball shaped heads of pink to rose-colored blossoms are carried above the foliage. 15-20°F.

**umbellatum var. polyanthum 'Shasta Sul fur'**. Sulphur flower. A beautiful grey green mound, growing 1-1½' tall and about 3' broad. It is adorned in spring by many round heads of sulphur-yellow flowers. Other, dwarf selections are in and out of production. All may need some supplemental watering in hot summer areas. Below 0°F.

**wrightii var. subscaposum**. It is impossible to hike the high Sierras without seeing and enjoying this little shrub. Some times it is so abundant that, from a distance, it creates a grey haze over rocky slopes. It lies close to the ground, some times mounding to a foot or so after several years. The stems are slender and (usually) closely branched. They are lined by narrow, grey-green to nearly white leaves 1/2" or less long. In later summer and fall it produces airy, often intricately branched sprays of tiny white to pink flowers, which take on an attractive rusty shade when they finally wither. This is a fine plant for rock gardens and sunny banks.

**FRAXINUS dipetala**. Flowering ash. California. In the interior hills of California, one finds many plants which seem to hover at the borderline between tree and shrub. This is one such plant, related to many substantial street and shade trees in cultivation. It grows up to 20' high but is often much less. The trunks are sturdy and usually upright, with upcurved to spreading branches and attractive smooth bark. Three- to seven-parted leaves with bright green, shiny leaflets up to 3" long are paired along the stems. Its most remarkable feature is its lacy panicles of small, glistering white flowers. These are followed by winged fruits resembling those of the maples, each about an inch long and decorative until they shatter in late fall. An attractive shrub-tree for individual display or use in group plantings with other dryland natives. Sun, most soils, moderate to only occasional summer watering. Probably hardy, in this material, nearly to 0°F.

**FREMONTODENDRON**. Flannel bush. Showy native shrubs and small trees, generally too large for the home garden, but amenable to some restraint through pruning. They have stout, some times gawky branches, fuzzy lobed leaves, and beautiful 2-4" blossoms varying in color from lemon yellow to burnt orange. They demand sun, very well drained soil, and little or no watering when established. They are highly susceptible to a canker-like disease favored by moist conditions. By all means avoid making cuts into old, heavy stems, which are slow to heal. Hardy to 15°F. or less.

'California Glory'. The most popular of a trio of hybrids introduced by Rancho Santa Ana Botanic Garden (others are 'Pacific Sunset' and 'San Gabriel', listed below). It grows in a broad V to 20-30' if unpruned, though it can be restrained by early and frequent pruning. The leaves are large, with broad, rounded

lobes. In spring and early summer it bears a wealth of cupped, lemon yellow blossoms about 3" broad. It is spectacular alone or in combination with the larger ceanothus.

**californicum** We are growing seedlings of this species, just to see what may turn up. The plants are generally arching in habit, with nearly horizontal side branches and pale greyish bark. The leaf blades are mostly around 2" long, furry on both surfaces. Flowers are smaller than those of the more familiar hybrids, but quite showy. Most are colored bright yellow. They tend to be borne in a short, intense burst. 10°F. or less.

**mexicanum**. This is the second species used in the spectacular Rancho Santa Ana hybrids, barely entering California in southern San Diego County. It grows generally more erect than *F. californicum*, to 10-20'. The leaves are up to 3" long and often deeply lobed, deep green above and covered with reddish brown hairs beneath. The flowers are up to 3" broad, usually darker than those of *californicum* and often shaded with orange on the backs of the segments. They are scattered over several weeks in spring and summer, rather than in one great burst. It is decidedly more tender to cold than *californicum*.

**'Pacific Sunset'**. An outstanding hybrid by the Rancho Santa Ana Botanic Garden. Like 'California Glory', above, grows upright to as much as 30'. The leaf lobes are deeper and more angular than those of 'California Glory'. It carries deep golden yellow 3-4" blossoms, shaded with orange, all along the stems in spring, or well into summer on actively growing plants. It seems to be the most resistant to disease of the Rancho Santa Ana hybrid trio.

**'San Gabriel'**. This is perhaps the least known of the trio, though it has its own charm. It is similar in size and habit to 'Pacific Sunset' but has more narrowly lobed leaves, closer to those of the *F. mexicanum* parent, and broadly cupped, brilliant yellow 3" flowers.

**GALVEZIA speciosa** Is land snap dragon. A charming shrub whose branches arch to form a dome or mound usually 3-4' tall, dressed in satiny oval leaves. It is further decorated in summer and early fall by clusters of bright red 1" blossoms resembling narrow snap dragons. **'Firecracker'** is an unusually compact and shows good flower production and bright color. Sun, well drained soil, little watering when established. Hardy to around 20°F.

**GARRYA elliptica 'Evie'**. Coast silktassel. Wayne Roderick's outstanding selection of a shrubby coastal native. It is a strong grower, quickly reaching 10' or more and producing a thicket of shoots from the base. The 2-3" leaves somewhat resemble those of a live oak in their shape and wavy margins. They are more closely spaced along the stems in this selection than in the better-known **'James Roof'**. In winter and early spring heavy clusters of pale green, often purple-tinged catkins appear at the branch tips and elongate into pendant tassels up to 1' long. This plant responds well to pruning and may be used in large hedges and screens as well as free standing. Sun or light shade, reasonably well drained soil, moderate to no supplemental watering when established. Hardy to 10°F. or more.

**GAULTHERIA**. Widely scattered, mostly in the Americas. Creeping to nearly erect shrubs, often spreading by underground stems. Most have roundish, leathery leaves, small urn-shaped blossoms and berry-like fruits. The following should be grown in part shade except near the coast, in loose, preferably peaty soil, with moderate watering.

**shallon**. Salal. A Pacific Coast native, growing up to 5' tall and with considerably greater spread. The leaves are broadly oval, up to 4" long, and colored a deep, lustrous green, bronzy in new growth. The cut branches have long been popular as florists' greens. White to pale pink flowers are presented on 4-10" stems in late spring, developing into black-purple berries by fall. It will stand some drought. 10°F. or below.

**HETEROMELES arbutifolia**. California toyon. A prominent member of the California chaparral, toyon is a large shrub or small tree, rounded and densely foliated in better specimens. It has sturdy, spreading branches and large narrowly oval, serrated leaves. Its broad clusters of cream-colored flowers are presented in late spring and develop by late fall into even broader clusters of brilliant orange to red berries. **'Davis Gold'** is a cultivar with exceptionally bright, narrow leaves and bright orange berries. I have been collecting berries for many years from outstanding individual plants in Napa and Lake Counties. Now we are beginning to propagate some of the best of their progeny by cuttings. Sun, well drained soil, little or no watering when established. Hardy to 10°F. or less.

**HOLODISCUS**. Cream bush. Western U.S. to South America. A group of slender-stemmed shrubs of the rose family, with several or no notable features. Both of the following have picturesque trunks and attractive grey-brown bark. Both have toothed, deeply and neatly veined leaves, deep to bright green during

the growing season and coloring beautifully before dropping in fall. Drooping clusters of tiny white flowers are carried at the shoot tips in late spring and summer. They take on attractive rusty hues after the flowers fade and hang on until late fall. These are attractive both for naturalizing and as specimen shrubs. They have year-round interest, which includes their twiggy framework in winter. Both thrive in sun or light shade and well drained soils, with moderate to occasional watering once they are established. Their hardiness varies.

**discolor.** Ocean spray. This species is a frequent sight in the hills and canyons of coastal California, though its range extends also to British Columbia and Mexico. It grows generally upright, to about 8' in our material, with graceful, slightly contorted branches. The leaves are broadly oval to nearly round in outline and 1-3" long. The flower clusters extend to as much as 10". This is a substantial shrub but one easily pruned and shaped as desired. Hardy to 10°F. or less.

**microphyllus.** Rock spiraea. This is a high mountain native, spreading to nearly matting in habit. The furry leaves are from under 1/4" to about an inch long, the flower clusters up to 3" and quite dense. Both the old clusters and leaves make a striking sight in fall. This is one for banks and other exposed spots with excellent soil drainage. It is small and pretty enough for larger rock gardens. Hardy to well below 0°F.

**LAVATERA assurgentiflora** Channel Islands. An erect shrub of the malvaceae family, often growing 10' tall or more but amenable to pruning and shearing. The leaves are 2" to 6" broad, with maple-like lobes. They are usually smooth and lustrous in surface and dark green in color. Flowering lasts from spring to fall. The flowers are up to 3" broad and colored various shades of pink, with darker veining. Thanks to horticultural friend Michael Willetts, we are able to offer an unnamed selection with intensely colored flowers. It is useful both as a specimen shrub and for screens and tall hedge rows. Sun or light shade, many soils, moderate watering. Hardy to 20°F. or less.

**LEPECHINIA.** Pitcher sage. California, Mexico to South America, and Hawaii. An interesting group of shrubs and woody-based perennials of the mint family, some of them quite ornamental. They vary in habit but have large paired, usually hairy and aromatic leaves and irregular flowers with broad tubes and 2-lipped "faces". The following are good plants for the background of a perennial border and for banks and open slopes. They are easy to grow in sun or light shade, planted in well drained soil, with moderate to occasional watering. Their hardiness varies as shown.

**calycina.** This is a common chaparral plant in California, quite variable in size and habit. I selected our material from bushy, 3-4' shrubs with good flowering characteristics. These have rather bright green, narrow-oval 2-3" leaves, with a pleasant sagey fragrance. The flowers are a little over an inch long, broadly bell-shaped, and white, in this case with a pink blush and markings. This is a rugged plant for banks and other low-maintenance plantings. Hardy to 15°F. or less.

**fragrans.** Channel Islands and southern California. An upright shrub, growing 4-6' tall. It has furry grey-green, pleasantly scented leaves. The flowers are a little over 1" long and pink to pale lavender in color, borne in loose clusters at the shoot tips in spring and summer. Young shoots are damaged at 20-25°F., though the plants have endured 15°F.

**LONICERA.** Honey suckle. Wide spread, Northern Hemisphere. Known primarily for just two or three species, this is a large and highly variable group of shrubs and vines. Their common features are paired, more or less oval leaves and tubular two-lipped flowers, often strikingly colored. The following will thrive with sun or light shade, most soils, and moderate to regular watering. Hardiness varies.

**hispidula var. vacillans.** A vine for the wild garden, not wildly showy but pretty in a quiet way. It has slender stems 6-20' long, which clamber through and over nearby trees and shrubs without strangling them, spilling out into the sun. The leaves are usually from one to two inches long, broadly oval in outline, blue-green in color and furry. At the shoot tips in summer it bears open, of ten large, widely branched flower clusters. The flowers are only about 1/2" long and pale to deep pink in color, usually lighter on the inner surface. Following these are bright red, shiny berries which make a striking show. Hardy to 10°F. or less, in our material.

**interrupta 'Parkfield'**. This species is distinctly shrubby in form. It can make sturdy, almost tree-like trunks, from which the main stems arch out in a broad fountain. The leaves are around an inch long, rather broad, and bright blue-green to light green in color. It carries many clusters of small, pale yellow flowers in the summer months and displays showy red berries, much like those of *L. hispidula*, in the fall. Our offering is particularly bushy and floriferous. Hardy to 10°F. or less.

**LUPINUS.** Lu pine. North and South America, Mediterranean area. A large group including annuals, perennials and shrubs, well represented in California. The stalked leaves are usually divided hand-like into several leaflets. Pea shaped blossoms are scattered or arranged in whorls along the flowering stems at the shoot tips. Often they are highly colored and delightfully fragrant. The following are shrubby natives. Sun, well drained soil, occasional or no watering when established. All should be hardy at least to 15°F.

**albifrons.** A rounded shrub up to 5' tall, eventually developing a picturesque trunk. Both young stems and leaves are covered by silky hairs, giving the plant a silvery sheen. The leaves are of variable size, the leaflets usually narrow. In spring it gives a dazzling display. Spikes up to 1' long carry richly fragrant purple blossoms, marked with white and yellow. This is a perfect plant for dressing up bare banks and often colonizes roadcuts on its own. 10°F. or less.

**var. collinus.** One of the most beautiful of all lupines, though best grown by being neglected. It forms a silvery, deep-rooted mat from which incredible towers of violet to maroon blossoms, marked with white or yellow, issue in spring and early summer. Apart from the rock garden, this variety has its ideal site on bare banks, with no summer watering when established.

**arboreus.** Bush lupine. A coastal species often growing 6' or more tall, usually more openly branched than the last. It has reddish hairy stems and leaves which are dark green above, greyish green beneath. The flowering stems may be 1' long or more, displaying blossoms painted golden yellow or lavender to white. Blooming season is mostly spring and summer. The flowering stems should be removed before seed is set; otherwise the plant can self-destruct after a particularly heavy wave of bloom.

**chamissonis.** This is an other coastal native, though quite distinct from the others. It usually grows 2-4' high in the wild, a little larger in cultivation, and is closely branched. Both the stems and the leaves are clothed in silvery hairs. The flower clusters are shorter than those of *L. arboreus*, usually 6-8" long, but they are crowded with beautiful blossoms. These are of a soft chalky lavender and are beautifully framed by the foliage. It performs best near the coast and needs a sandy, fast-draining soil.

**MAHONIA** North and Central America, Asia. Certain botanists tell us these all properly belong in *Berberis*. However, they are almost universally known by their older name, which may yet rise again. These are rugged evergreen shrubs, often creeping by underground rhizomes to form broad colonies. All have leathery leaves divided lengthwise into pairs of toothed or spiny leaflets. They bear clusters of yellow flowers which develop into decorative, usually dark blue berries, often showing a waxy "bloom" like real grapes.

Most mahonias prefer full sun near the coast, light shade inland, reasonably well drained soil, and moderate to little watering when established. Watch for and control the small loopers (a type of caterpillar) which attack and skeletonize the leaves. Hardiness varies.

**aquifolium.** Oregon grape. The best known of the group, these are 3-6' shrubs native to California and Oregon. The stems are lined by large, shiny, dark green leaves, usually bronzy in new growth. Many 3" sprays of flowers are clustered at the shoot tips in spring, forming sweet, edible berries in summer. We grow the typical form from seed. '**Compacta**' is a dwarf selection, clumping profusely and seldom over 3' tall. It has tightly packed leaves and typical flower clusters. 0°F. or below.

**'Golden Abundance'**. This impressive cultivar was introduced in the 1970s by Rancho Santa Ana Botanic Garden, but has been surprisingly slow to capture the public fancy. It remains a valuable selection. It shows its hybrid vigor in its sturdy, well branched trunks and large size. The plant can easily reach 8' in height and twice that in breadth. The leaves are 6-10" long, with several broad, thick, deep green leaflets. Masses of bright yellow flowers adorn the plant for several weeks in spring, followed by clusters of purple berries.

**nervosa.** Long leaf mahonia. A forest native, quite distinct from other mahonias. It grows slowly, eventually making loose colonies of solitary stems, each usually 1' or less high. The leaves can be 1' long or more and made up of up to 20 satiny, deep green leaflets. These take on a beautiful purple cast in winter. The bright yellow flowers are borne in erect sprays up to 8" long. Berries are of the usual "mahonia blue". This is definitely one for shady nooks, performing better near the coast and in the mountains than in areas with hot, dry summers. Otherwise it is trouble-free.

**nevini.** My favorite among several large, bushy dryland species. It can grow as much as 15' tall but usually remains in the 6-10' range, and is at least as broad as tall. Younger stems are closely lined by 2-3" bluish to greyish green leaves, tinged with pink in new growth. Each leaf is divided into 3-5 toothed,

pointed leaflets. The berries are orange to scarlet and quite decorative. One of the most drought-tolerant mahonias. Evidently hardy to 10°F. or less.

**repens.** A mountain dweller, ranging widely over the western U.S. It is creeping in habit, producing erect shoots usually 1-2' tall at intervals along the rhizomes. The leaves are relatively short, with broad leaflets of dark bluish green. In winter they are brilliantly plum-colored. Flowers and berries are carried in short clusters. Below 0°F.

**'Skylark'**. My own selection from a seedling crop, this may be either actual *M. pinnata*, the California holly grape, or a chance hybrid between it and *M. aquifolium*. It is a roundish, closely branched shrub of 5' or more. Its 6" leaves are dark green with a highly polished surface, brilliant red in new growth and purple-tinted in winter. The leaflets are broader and less crinkled than those of typical *M. pinnata* but nearly as spiny. The spring flowers and summer berries are borne in densely clustered 4-6" spikes. 10°F. or below.

**MALACOTHAMNUS.** Shrubs of the mallow family, interesting for both foliage and flowers. Several make sizeable thickets from underground stems and roots. In individual shoots are usually erect and well branched. The leaves, like those of so many mallows, are usually lobed and more or less maple-like in outline. Both leaves and stems may be hairy, giving the plants a pleasant greyish cast. Five-petaled flowers of the typical mallow form, with central tubes and brushes of stamens, are presented in clusters, mostly in summer. Common colors are white and pink. These are tough, adaptable plants, especially useful on banks and other exposed sites. Their chief drawback is a tendency to pop up uninvited in nearby plantings (they are easily rogued out). Sun, most soils, moderate to occasional watering. Hardiness varies.

**fasciculatus 'Casitas'**. This is a plant I encountered near Lake Casitas, in Ventura County, making ghostly grey puffs in the chaparral. It grows strongly erect, with grey-hairy stems and sharply lobed grey leaves up to 4" long. In late summer and fall, long stalks with well-separated bud clusters extend from the shoot tips. Each bud unfolds into a cupped, upfacing 1-1½" blossom of exquisite silvery pink. Probably hardy to 15°F. or less.

**fremontii.** A widely ranging, highly variable plant. The current unnamed selection is bushy and upright-oval in form, each main shoot growing 4-6' high and 3-4' broad. Before long, new shoots appear from the ground, and eventually a broad colony is formed. The individual branches are rather slender and arching, with grey-felted 2-3" leaves. From July to October it carries loose wands of beautiful cupped, upfacing, silvery pink flowers, each about 1½" broad, at the branch tips. Hardy to 10°F. or less, resprouting easily after damage to the tops.

**palmeri.** Santa Lucia bush mallow. This is the least shrubby of the group in California. Each plant producing several heavy stems from the base, forming a dome up to 8' high. The leaves may be nearly smooth or hairy on the upper surface, hairy and paler beneath, and up to 3" broad. The 1½" flowers are borne in broad clusters from April to July. Flower color is typically rose pink, though it varies to pure white. We offer both forms.

Santa Lucia bush mallow lacks some of the grace of other species. However, it makes a good mass of foliage over all, and the flowers are undeniably lovely. It has been fairly easy to grow, with a little more water than is required by species of the interior.

**MIMULUS** Nearly world wide, subtropics and temperate regions. Mon key flower. A large group of annuals, perennials and small shrubs of the snapdragon family, many of them native to the West. It is difficult to generalize regarding their features, though most are identified by paired leaves and similarly paired, brightly colored blossoms resembling open-faced snapdragons. The following are distinctly shrubby in habit.

**aurantiacus** (*Diplacus* of older texts, more recently a half dozen separate shrubby species under *Mimulus*). Bush mon key flower. One of the more unsettling changes in the world of native plant taxonomy has been the gathering of several distinct shrubby mon key flowers into one species. The change has now been accepted long enough that it seems wise to accept it and get on with life. This species spans much of the length of California and extends from the coast and offshore islands to the Sierra foothills. The plants are generally bushy and more or less erect, growing 1-3' (some times more) tall. Their leaves vary from broad to quite narrow in outline, and are usually deeply veined. From late spring to fall they carry large, colorful flowers in pairs along the stems. For the heaviest bloom, the plants should be cut back two or three times each season. Sun, well drained soil, moderate to occasional watering when established.

Their hardiness varies considerably. I will describe them according to their former species, now simply regional forms.

former **bifidus**. Mock-azalea. One of the most attractive in both foliage and flower. It has narrow, dark green to greyish green leaves and blossoms up to 2½" long and 2" broad, the spreading face often ruffled. They range in color from orange to cream white. We seem to have lost a couple of earlier selections, but their place has been taken by 'Junipero Serra', from the mountain of that name. This is a spreading, bushy shrublet producing quantities of bright orange flowers with white markings. An unnamed selection by Suzanne Schettler has cream-yellow flowers. 10°F. or less.

'**Pinnacles Gold**'. A chance discovery of typical *calaurantiacus* (both past and present) in the wild. This is a bushy plant, growing more or less erect to about 2' tall. The flowers are soft yellow, rather than the usual orange, the centers marked with white. 15°F. or less.

'**Pumpkin**'. This is a particularly attractive hybrid, growing up to 2' high. It is well branched, with dark, shiny leaves. The flowers are large, deep orange overall with redder shading.

former **punicus**. A southern California form, erect in habit, with narrow dark green leaves and scarlet to blood red flowers. We have grown several similar selections over time. Around 20°F.

**MYRICA californica** Wax myrtle. A large shrub or small tree of coastal California and Oregon, with smooth, light brown bark. It can grow 10-20' high but is easily restrained by pruning. Stems in this selection are closely branched, held nearly erect and lined with a neat brush of narrow, shiny, dark green leaves. The yellowish flowers are tiny and inconspicuous but develop into small berries with a spicily aromatic wax, used in making scented candles. Useful as a specimen foliage shrub or small tree, screening shrub or hedge. Sun or shade, most soils, moderate to little watering when established. Hardy to 10°F. or below, although new growth is rather easily burned by sudden hard freezes.

**PHILADELPHUS** Mock-orange. North America, Asia, Europe. A large group of flowering shrubs, much better appreciated in other parts of the world than they are here in California. Most have attractive pale bark, arching branches, and paired, pointed-oval leaves. They are decorated in late spring and summer by clusters of white, usually sweetly fragrant, 4- to 5-petaled blossoms with dense central brushes of stamens. Sun, most soils, moderate to regular watering, depending on the species. Both of the following should be hardy to around 0°F.

**lewisii**. Northern California. We offer two selections of this showy native shrub. Both are large and closely branched, with arching trunks reaching 8', the bark light brown turning to grey. The 3" leaves are conspicuously toothed, pointed-oval in shape and light green in color. For several weeks in summer the plants are decorated by showery clusters of pure white blossoms with central brushes of yellow stamens. Those of our own selection, 'Covelo', are single and up to 2" broad. Those of 'Goose Creek', selected by Ray Collett, are 1½" broad and fully double. Sun, most soils, moderate to little watering when established.

**microphyllus** 'Desert Snow'. California and the Southwest. *P. microphyllus* is one of the smaller mock-oranges, usually 3-6' tall and broader than tall. It has rather small, narrow, dark green to greyish green leaves, paler beneath. The flowers are pure white and up to 1" broad. Their fragrance varies considerably. In this cultivar it suggests a mixture of grape and cinnamon candies.

**PHYSOCARPUS capitatus**. Ninebark. This is a creekside native of the rose family, widely distributed in California. It can take many forms. I once grew a nearly prostrate, broadly mounding selection from Tilden Botanic Garden. The current material, however, represents two tall (about 8'), arching individuals found near Cook & Green Pass. These are deciduous shrubs with shredding reddish brown bark. The leaves are 2-3" broad, three-lobed and deeply veined, resembling those of some of the currants (*Ribes*). They are deep green above, paler beneath. In summer, dense umbrella-shaped clusters of small white five-petaled blossoms are borne at the shoot tips. These give way to attractive reddish seed capsules. Sun or light shade, reasonably well drained soil, moderate watering. Hardy to 0°F. or less.

**RHAMNUS**. Buckthorn. Wide spread. A large group of trees and shrubs, many of them with spine-tipped twigs. Most have pointed-oval to lance shaped leaves, which are often quite decorative. Flowers are small and generally inconspicuous, borne in small clusters in the leaf-axils. However, the berries which follow can be quite showy. Most are rugged and easily grown, and have a variety of uses. Sun or light shade, reasonably well drained soil, occasional watering when established. Their hardiness varies.

**californica**. Coffeeberry. A shrub with quite variable features. It is often large (8' or more), but there are nearly matting forms. It can be sparsely or densely branched, with broadly oval to lance shaped leaves, dark and often shiny above, pale beneath. Hairy-leaved forms were recently carved out by botanists into

separate species and are not included here. Its clusters of small, greenish yellow blossoms are fragrant but inconspicuous. However, the large berries which follow and persist into winter are of ten quite showy, being heavily tinged with red or purple, of ten black when mature. Coffeeberry is adaptable and useful in a variety of landscape settings according to size and shape. Sun or light shade, many soils, moderate to occasional summer watering when established. Hardy in the following selections to 15 °F. or less.

**'Eve Case'**. The most popular of the group, now almost a main stream shrub. It is compact and of moderate growth, usually under 6' high. The stems are closely lined with flat 4" leaves, dark green and shiny on the upper surface. Its berries are unusually large, densely clustered and heavily tinged with red. Introduced by the Saratoga Horticultural Foundation.

**'Mound San Bruno'**. A selection by Roger Raiche, making a broad, relatively low mound. It was originally described as reaching 3' by 7' in the ground after six years, but has already doubled that estimate in well-tended gardens. The plant is closely branched and has very dark leaves, narrower than those of the following selections. It should prove to be the best selection yet for large-scale ground cover.

**'Seaview Improved'**. A seedling of the old Saratoga Horticultural Foundation introduction, 'Seaview', this cultivar is the smallest yet, lying nearly flat on the ground. The leaves are only 2-3" long, flat, dark and shiny on the upper surface. The berries are densely clustered and red when ripe, making quite a show.

***tomentella***. This species includes a variety of entities once placed under *R. californica* and similar in overall appearance. The plants grow as much as 15' tall, though usually half that figure, and are upright-arching to widely spreading in habit. The young stems are often red-dish, developing attractive grey bark as they mature. They are lined by broadly to narrowly oval leaves, up to 4" long, often rolled under at the margins. Their color is deep green to blue green above in the typical form, grey with a dense coat of small hairs beneath. The flowers are small and greenish, like those of *R. californica*, and the berries are quite similar. The **var. *tomentella*** is simply the typical form. I recently stumbled on some particularly nice, bushy plants with exceptionally showy berries, jet-black when mature. Reselections from their seedlings are forthcoming. The **var. *crassifolia*** is a very different plant, at least in its outward appearance. Though of typical size, it is more openly branched than *tomentella*, with fewer and usually larger leaves. These are densely felted with grey hairs on both surfaces, giving the plant an almost ghostly appearance. The berries in the current material pass through a beautiful, bright red phase before turning typically black. 10°F. or less.

***RHODODENDRON occidentale***. Western azalea. This is one of only two California representatives of this immense genus. It is a deciduous native, highly ornamental in itself and extensively used as a hybrid parent in the Exbury and Knaphill series. Western azalea may grow to 6' or more in height with greater spread, often making thickets. The 3-4" leaves are rather narrow, deeply veined and dark green in color. They may take on brilliant yellow to maroon shades in the fall. Round clusters of flaring white to pink blossoms, usually with an orange blotch on one petal, open in late spring and early summer. They have a sweet, heavy fragrance which fills the air around them.

We continue to offer seedlings of superior parent stock, now from populations in Lake County which show unusual purple tones in new growth and blazing fall color; the flowers are mostly white with plain yellow markings. One clonal selection remains: **'SM189'** is one of the Stagecoach Hill selections by Professor Mossman. It has large, ruffled blossoms, white overall but generously shaded with pink and orange. All forms are decidedly less fussy about soil than many rhododendrons, though they need plenty of moisture. All should be hardy nearly to 0°F.

***RIBES***. Currant. Northern Hemisphere, temperate areas. Ornamental shrubs, both evergreen and deciduous. They may take many forms and sizes, though most are of manageable proportions for a home garden. Some have wicked spines at the nodes and even dense prickles in between, while others are smooth-stemmed, often with attractive, glistering bark. The leaves are commonly three- to five-lobed, sometimes resembling those of the maples. Along them, usually in late winter or spring, are carried small, colorful blossoms, either singly or in clusters. Both the frequently pendulous habit of the flowers and the combination of a basal tube, flaring sepals and more closely held petals give them much the appearance of little fuchsias. According to their scale and form, the ribes have several different landscape uses, from ground cover to specimen shrub. The following thrive in sun or shade, though part shade is preferable in the hotter interior. Most need reasonably well drained soil and moderate watering. Their hardiness varies.

**aureum** var. **gracillimum** Golden currant. This is one of the most massive of the currants, growing up to 10' high and often spreading widely. It is profusely branched, creating a billowy profile, with slender twigs and attractive pale bark. The leaves are 1-2" long, bright green and smooth-textured. Appearing with them in early spring are masses of small golden yellow blossoms, borne in short clusters. This is an exceptionally floriferous form, selected by Everett Butts. Probably 0-5°F.

**indecorum** The name of this southern California native means, literally, "not showy"; fortunately the current unnamed clone, received from the Saratoga Horticultural Foundation, fails miserably in living up to its reputation. It is a bushy plant, similar in appearance to some forms of *R. sanguineum* but growing only about 5' high. It has attractive reddish brown bark and resinous bright green 2" leaves. In mid- to late winter it bears dense, spreading clusters of white flowers, much like those of *R. sanguineum* or *R. malvaceum*. Its hardiness is not well tested; assume 20°F., though this may prove to be far too conservative.

**malvaceum** var. **malvaceum** 'Wunderlich'. Chaparral currant. One of my own selections from the wild, this is an erect shrub of 6-8', with stout branches and fuzzy light-green, lobed leaves. Dense, arching 3" clusters of little pink and white blossoms line the branches in late winter and early spring. Semi-evergreen to deciduous. It is quite sun- and drought-tolerant. Probably 5-10°F.

**malvaceum** var. **viridifolium** 'Ortega Beauty'. This is a southern version of the chaparral currant, distinguished, as the varietal name suggests, by deep green rather than grey-green leaves. This was one of the plants I encountered on trips to the Ortega Mountains, and it has proven to be a good one. It was over 6' high and wide in the wild, and I would expect it to grow even larger in cultivation. It has attractive reddish brown, peeling bark and large, resinous dark green leaves. In late winter it makes a striking display of large flowers, as red as those of the best forms of *R. sanguineum*. Probably 15°F. or less.

**nevadense** Mountain pink currant. This is another native rather closely related to *R. sanguineum* but easily distinguished in several ways. The plants are generally smaller (3-6'), the leaves larger (about 3" across in this case) and quite bright green. The flowers are borne in similar drooping clusters but they are held more nearly closed, forming narrow bells. Flower color is usually quite pale, but in this case a nice, soft pink. It should never be allowed to dry out. Hardy to below 0°F.

**sanguineum** Red flowering currant. A deciduous shrub of highly variable size and shape. The branches are held nearly erect and loosely clad with 1-3" lobed, rather maple-like leaves. Arching or drooping clusters of small pink to red blossoms are displayed along the stems in late winter and early spring, usually just before the leaves emerge. By fall, strands of dark blue berries decorate the plant. Hardy to 0°F., except as shown.

'Album' grows about 6' tall, the branches arching attractively. The leaves are light green during the growing season, turning beautiful mixtures of yellow, orange and red in fall and early winter. Pure white blossoms are displayed on 3-6" slightly drooping stems. 'White Icicle' is a similar, newer selection from the University of British Columbia.

'Barrie Coate' is a bushy selection from northern California, now alleged to be long to the type species, rather than the variety *glutinosum*, below. It boasts deep pink blossoms in short, out-facing or only slightly nodding clusters.

'King Edward VII'. A stout-trunked selection growing about 6' tall. The foliage is quite dark green. The flower stems are arching and bear blossoms painted carmine.

var. **glutinosum** 'Spring Showers'. My own selection of the pink flowering currant, native to coastal northern California. It is a bushy, roughly vase-shaped shrub, about 6' tall in the parent plant. It has fuzzy, bright green leaves and light pink flowers, displayed in pendant clusters up to 8" long. Probably 0-5°F.

**speciosum** Fuchsia-flowered gooseberry. A wickedly spiny shrub with arching stems usually 4-6' tall. The ½" to 1½" leaves are roundish and lobed, dark green and shiny on the upper surface. They disappear in summer unless the plant is well-watered, returning in late fall and winter. In late winter and early spring small clusters of pendant tubular, crimson or scarlet to pink blossoms are displayed all along the past year's stems. 'Rana Creek' is a particularly nice selection by Suzanne Schettler, with large, dark leaves and great quantities of bright red blossoms. An ideal candidate for dry shade. Probably hardy to 10°F. or less.

**viburnifolium** Catalina per fume, is a spreading evergreen shrub of ten employed as a tall ground cover for dry shade. It has reddish stems lined with dark green, rounded, spicily fragrant leaves. The flowers and berries are nearly inconspicuous. About 15°F.

**ROSA** Rose. Wide spread in the Northern Hemisphere. California has several roses worthy of cultivation here. They are shrubs of quite variable size, often making impenetrable thickets. They have the typical spiny stems and leaf stalks which make being a rose enthusiast such a bloody business (though usually less viciously hooked than those of exotic species). Their classic five-petaled flowers are borne in clusters at the shoot tips. Most are sweetly fragrant. The “hips”, or fleshy seed capsules, which follow can be quite decorative and make a pleasant tea when dried. The following species prefer sun but tolerate a wide variety of soils and watering regimes. Hardy as noted.

**californica**. A native species, quite common here along the central coast. It forms broad thickets from underground shoots—a useful feature for revegetation and ground cover, as well as a potentially serious problem for the smaller garden. Individual stems are 4-6' tall and closely set with pale green to bluish green leaves. Single pink flowers up to 2" broad decorate the plants most of the summer. The cultivar 'Plena' is usually sold under the species name but is thought to be a hybrid with or selection of *R. nutkana*. This is a somewhat stouter plant, growing quite erect, with red dish stems, darker leaves and rather large semi-double flowers. 10°F. or less.

**woodsii var. ultramontana**. Summer travelers along the east front of the Sierra are treated to the sight of great stretches of this shrub in bloom. It is equally showy in fall color. Like *R. californica* above, it makes substantial thickets, from 2' to 8' or more in height. The leaves are light to medium green and unspectacular until fall, when they take on beautiful shades of yellow to crimson. The single flowers are up to 2" broad, few to a cluster, and variable in fragrance. The hips which follow are blazing scarlet. A tough and interesting shrub. 0°F. or less.

**SALIX** Willow. Nearly world wide, in temperate regions and higher mountains. It may be futile, given the current craze for color, but I cannot resist the temptation to try offering some of our smaller native willows. They offer an unusual seasonal interest, with their soft catkins on bare stems in early spring, their lush summer foliage, bright fall shades and—in some cases—colorful winter stems. Here are two of the best of the natives, in my view. One of them is among the best behaved of all willows; the other will need some restraint. They make interesting specimen shrubs and can be easily shaped by pruning. Sun, most soils, regular watering.

**breweri**. Brewer's willow. This is a sturdy, well branched shrub found along creeks and seeps in barren serpentine soils, though adaptable to ordinary garden conditions. These selected plants grow about 6' high in the wild, 8' or more in cultivation. They have grey-brown bark, covered with velvety hairs in new growth, and broadly oval leaves up to 5" long, green above and felted with grey hairs beneath. Fall color is a bright golden yellow.

**exigua**. Narrow-leaved willow. Streamside thickets of this species provide some striking sights along the foot of the eastern Sierra. The trunks are upright, rising 8-20'. They are dressed with sprays of silvery grey, narrow leaves. These turn bright yellow before dropping in late fall. Where space is limited, it may be wise to contain the plant within a barrier as one would do for the running bamboos. However, it is worth the trouble.

**SALVIA** Sage. World wide. This is a huge and diverse group of mint allies, grown both for ornament and for herbal qualities. Those described here are undemanding shrubs and perennials with rough-textured, aromatic leaves. Usually the leaves are paired along the stems. Colorful 2-lipped flowers are borne in dense heads, whorls or spikes above the foliage. Most prefer a sunny spot with well drained soil and moderate to only occasional watering. They can survive extreme drought, but in a shriveled state are not likely to be appreciated by the gardener.

**apiana**. White sage. This is a common sight in the hills of southern California but not well known in the north. The main body of the plant is usually under 3' high, with several short, stocky stems. These are crowded with nearly white, somewhat bitingly aromatic leaves, up to 4" long. Above them rise openly branched, wandlike flower stems, as much as 6' high. These carry rather few flowers up to 1" in length, white over all with lavender or pink markings. These plants originally from Tree of Life Nursery are particularly nice, with compact habit and large leaves. They will need more sun and better soil drainage than other species but have nearly unlimited drought tolerance. Hardy to 20°F. or less.

**'Bee's Bliss'**. This recent introduction captures some of the best features of *S. sonomensis* with a distinctly less temperamental disposition. It makes broad, dense mats with bright greyish leaves, about 2" long. In spring and early summer it is decorated by many clusters of lavender blossoms, borne at the

shoot tips. This is potentially a valuable ground cover for exposed banks and slopes, and a pretty plant for low borders, if full sun and well drained soil can be provided. Probably 15°F. or less.

**clevelandii hybrids** When closely related salvias come into a garden, it is nearly inevitable that the bees will try their hands (claws?) at hybridizing, and that something beautiful will appear. Several popular shrubby natives were once universally listed as cultivars of *S. clevelandii*, blue sage. Careful study at Rancho Santa Ana and elsewhere showed them to be hybrids with *S. leucophylla* and others. The first to be recognized as such was '**Allen Chickering**', originating at Rancho Santa Ana. This is still my favorite of the group. It is a dense shrub, 4-5' tall with greater spread. The twigs are clothed with 3" grey green, fragrant leaves which make a pleasant tea. In late spring and summer many 1-2' blooming stems rise from the shoot tips, displaying deep lavender blossoms in interrupted ball-shaped clusters. A somewhat larger, slightly looser growing selection, '**Aromas**', was first raised by the late Ken Taylor in the town of the same name. The flower clusters can be even larger and darker than those of 'Allen Chickering'. '**Whirly Blue**' is yet another, similar selection, quite bushy and grey-leaved. Occasional watering when established. Around 15°F.

**'Dara's Choice'**. Sonoma sage. An apparent hybrid of *S. sonomensis* (described under herbaceous perennials), selected by the late Dara Emery at the Santa Barbara Botanic Garden. It is a spreading, semishrubby perennial forming broad carpets of dark green leaves, greyish on their lower surface. It is decorated by many 6-12" spikes of purple flowers in spring. It is exceptionally attractive and more disease-resistant than *S. sonomensis* generally. Useful as a bank cover or for draping over walls and rockery. It tolerates some shade. Little or no watering when established. About 10°F.

**leucophylla 'Figueroa'**. Purple sage. I once set out to find plants with better cold tolerance than what was available in coastal selections of this species. 'Figueroa' is or nominally the best of the resulting selections. It is a compact shrub 3-4' tall, with wider spread. Both stems and leaves are covered with white wool. In summer it produces long stems displaying interrupted clusters of lavender pink flowers. Very heat and drought-tolerant and useful as a cover for dry banks. 15°F. or less.

**'Shirley's Creeper'**. An apparent garden hybrid of *S. mellifera* (the native black sage), selected and given to us for trial by Charles Christiansen. It is initially prostrate but can eventually form a broad mound up to 3' high. The leaves are deep green, textured and aromatic like those of *S. mellifera*, and the flowers are carried in the same interrupted clusters. They are cream-white in color. 15°F. or less.

**SOLANUM**. Night shade. World wide. An extremely large group including perennial herbs, shrubs and vines. The foliage is quite variable. Their five-petalled flowers, usually of purple to white, have a distinctive conical "beak" of crowded stamens. The berries which follow are often or nontoxic. The following selections will thrive in sun or light shade, in most soils, and with moderate to little watering when established. They should be hardy to 15°F. or less.

**umbelliferum var. incanum** In its typical form, the species is often a sprawling, rather shapeless shrub. The variety *incanum* tends to be more compact and mounding, with beautiful grey stems, contrasting blue green leaves and lavender flowers borne in small clusters. These give way to large, shiny green berries. My earlier selection, '**Juniper Canyon**', has been replaced by one even bushier and more floriferous, dubbed '**Indians Grey**', discovered recently in the Santa Lucia Mountains. '**Spring Frost**' is a recent selection by Roger Raiche, similar in habit but featuring pure white flowers.

**xantii 'Salmon Creek'**. A many-stemmed, semishrubby perennial, in this selection about 2' tall and 3' broad. Both the stems and the 1" oval leaves are fuzzy and slightly greyish green over all. It is decorated much of the year by clusters of 1" purple, broad-petalled blossoms, which develop shiny green berries. The plant should be cut back hard occasionally for rejuvenation. Selected by Brett Hall of the U.C. Santa Cruz Arboretum.

**SPIRAEA** Wide spread, Northern Hemisphere. Deciduous shrubs of the rose family, often quite graceful and delicate in texture. They have slender stems, oval toothed leaves and dense, often head-like clusters of tiny flowers. Sun or light shade, reasonably well drained soil, moderate watering. Hardy to below 0°F.

**densiflora 'Trinity Rose'**. Selected by Suzanne Schettler in the Trinity Mountains of California, this is a compact 2½' shrub with attractive bluish green leaves, crowned by 2" clusters of rose pink blossoms in early summer.

**douglasii**. This is another California and northwestern native, though considerably more robust than the last. It makes broad thickets, standing as much as 6' tall. The leaves are pale green to bluish green,

with furry greyish undersides. It blooms in summer. The tall, branched flower clusters are tinted various shades of pink. The current, unnamed selection has particularly large flower clusters, rose pink in color.

**STYRAX officinalis var. redivivus.** Snow drop bush. A beautiful native shrub, found in both light woods and open chaparral. It grows nearly round, to 6-10' high, and is closely branched, with attractive tan bark. The roundish 1-3" leaves are bright green to greyish green in spring and summer, turning yellow to orange in fall and dropping in early winter. Waxy, bell-shaped flowers resembling orange blossoms, pure white with yellow stamens, hang in small clusters from the branches in spring. Fragrance is a frequent bonus. Drought tolerant when established, and hardy to 0-10°F.

**SYMPHORICARPOS albus** This is the familiar snowberry of California creeksides. It can form broad thickets or sometimes narrower fountains, up to 5' high. It has soft, bright green to blue-green leaves, about 1" long on the side shoots but noticeably larger on stronger, suckering shoots from the base. The bell-shaped flowers are only about 1/4" long, light pink or white with a pink tinge. The berries are far showier, swelling to 1/2" and pearly white in color. **'Tilden Park'**, introduced by the botanic garden of that name (and one of my "most recommended" places to visit) is a bushy selection with bright, clean foliage and a reliably heavy crop of large berries. Sun or light shade near the coast, light shade inland, thriving in many different soils with moderate watering, 10°F. or less.

**TRICHOSTEMA lanatum.** Woolly blue curls. This is a spectacular though temperamental native shrub of the mint family, growing about 5' tall with greater spread. Its stiff branches are clothed with narrow deep green leaves, about 2" long. They are strongly and sweetly very aromatic. In spring and summer (nearly all year in mild climates) it carries flowering stems 1' or more long, these and the base of each flower covered by blue to reddish purple (or occasionally white) hairs. The flowers are lavender blue to violet in color and have long, curled stamens. Best suited for open bank and hillside plantings. Sun, very well drained soil, only occasional watering when established. Hardy to 15°F. or less.

**VACCINIUM ovatum** Evergreen huckleberry. A beautiful evergreen shrub of the heath family, common in and around our coastal forests. It forms thickets or fountains of closely branched stems, rising as much as 8' (usually less). The stems are lined by toothed oval, shiny 1" leaves. These are often red- to bronze-tinted in new growth, dark green to blue-green when mature. Clusters of small white urn-shaped flowers dot the branches in spring, developing slowly into sweet, slightly tart, blue-black berries. **'Wunderlich'** is an exceptionally vigorous, large leaved form, selected by Suzanne Schettler. My own selection, **'Blue Madonna'**, is also now available. This is a smaller and more compact shrub, with almost chalky blue leaves, red-tinged in new growth, and profuse clusters of white flowers with pink bases. Probably 5-10°F.

**VITIS.** Grape. Northern Hemisphere, especially North America. These are the most familiar of all vines in California, since commercial selections are grown on a vast scale here for wine and table. They often grow quite large, covering trees and anything else in their path with massive leafy curtains and showing their shredding bark in winter. The leaves are usually large, toothed and sometimes lobed. Opposite them at each node are tendrils which wrap tightly around every possible object as a means of support (Don't turn your back on them). The flowers are small and inconspicuous but borne in generous branched clusters. The grapes are, of course, the part we prize most for consumption and sometimes for ornament. However, fruits of the native species are small and relatively large-seeded. Fall color of the foliage can be dazzling. The chief argument against having them in the garden is sheer size and vigor; I can't think of any others. Sun or—if you don't mind sacrificing production of the fruit—light shade, reasonably well drained soil, moderate watering. The following should be hardy to 10°F. or less.

**californica 'Walker Ridge'**. California grape. This species is often seen along streams in northern California, clamoring over willows and alders and making massive curtains of foliage during the summer months. This selection was part of a maverick population found growing in serpentine soil, fully exposed, and considerably smaller and more colorful than normal. Maximum height and breadth should be around 10'. It has nearly round 3-4" leaves, light green with a greyish cast during the growing season and taking on the reds and oranges of some of the wine grapes in fall. Useful both as a vine and for ground cover, particularly on banks.

**girdiana.** Our southern native, received from the good folks at Tree of Life Nursery. This species is quite similar in most respects to *V. californica* and has the same uses. However, the stems and undersides of the leaves are more densely coated with small hairs, giving the whole plant a distinctly grey cast. Fall color in this form is golden yellow.

## Herbaceous Perennials and Bulbs

**ACHILLEA** Yarrow. Europe, Asia, N. America. Rugged perennial daisies, with finely cut, often aromatic leaves and flat-topped flower clusters. The robust, often garish hybrids are most familiar to gardeners. However, the species are also pretty and often more graceful. They are easily grown in full sun, with well drained soil and moderate to occasional watering when established. The following are hardy to 10°F. and below.

**millefolium 'Pink Island Form'** (formerly classified as *A. borealis*). A pink variant of a normally white flowered species, received from the Santa Barbara Botanic Garden. It forms broad mats of dark green leaves, with clusters of rich pink blossoms rising continually on 2' stems, late spring to fall. We are also growing a race of short-stemmed, white flowered plants from the high Sierra.

**AGERATINA occidentalis**. Mountains of the West. This is a perennial allied to *Eupatorium* but much more delicate in appearance than most members of that genus. It produces small colonies from underground rhizomes, each stem branching and rising 1-2'. Small, nearly triangular grey-green leaves line the stems. Borne at the shoot tips over most of the summer are clusters of small pink "puffs", basically the central portion of a normal daisy, with protruding stamens. Winter deciduous. This is a pretty plant for the rock garden or containers, thriving in sun, with well drained soil and moderate watering. Hardy to well below 0°F.

**ALLIUM**. Wide spread, Northern Hemisphere. In addition to such food plants as the onion, garlic and chives, the alliums include many fine ornamental bulbs for border, rock garden and container culture. A few are ever green; most are deciduous at some time of the year. Most have narrowly strap shaped to cylindrical basal leaves during the growing season, and all display small 6-parted blossoms in umbrella-like clusters (sometimes contracted into spherical heads atop naked flowering stalks). Sun, reasonably well drained soil, moderate watering. The following should be hardy to 10°F. or less.

**dichlamydeum**. This is a small plant (under 1'), each bulb producing a few narrow, flattened, blue-green leaves and in late spring one or more stems displaying dense clusters of tiny dark pink blossoms. Summer dormant and drought tolerant.

**unifolium** is one of the showiest and most easily grown of our native bulbs, quickly forming many-stemmed colonies. It has narrow, flattened 6-12" leaves and large clusters of pink blossoms on 1-2' stems, appearing in late spring. Summer dormant and drought tolerant.

**ANEMOPSIS californica**. Yerba mansa. I first saw this plant blooming in a gigantic patch in a coastal marsh on Santa Cruz Island. The impression was that of a carpet of white anemones. It forms crowns of fleshy, narrowly oval leaves, each several inches long. Rhizomes radiating from each crown quickly form dense colonies. White blossoms 2" or more broad are carried on individual stems above the foliage in summer. Sun or light shade, most soils, regular watering. Hardy to 15°F. or less.

**ANTENNARIA rosea (dioica)**. Northern California to Alaska. Pussytoes. The antennarias are matting perennials closely related to the strawflowers, common on higher open slopes and flats of our western mountains. They have small closely packed, oval leaves, covered with whitish wool. Clusters of chaffy flower heads are borne on short stems above the foliage in summer. Flower color varies from creamy white to pale pink in the typical forms. 'Nyewood' is distinguished by rather bright pink flowers. These are pleasant, easily grown plants for rock and container gardens, even potentially useful as a small-scale ground and bank cover. Sun, reasonably well drained soil, moderate to occasional watering. Hardy to below 0°F.

**AQUILEGIA formosa**. Western columbine. An elegant, easily grown perennial for moist spots in the garden. It makes compact clumps of seasonal shoots from a branched rootstock. The long-stalked blue-green, fern-like leaves, elegant by themselves, form a beautiful foil for branched clusters of large, usually nodding blossoms in spring. Each flower has five vivid red, slightly spreading sepals and five yellow inner petals whose base is drawn out into a neck-bearing spur. Collectively, the flowers will draw humming birds from far and wide. Winter deciduous. Sun or part shade, reasonably well drained soil, constant moisture during active growth. 10°F. or less.

**ARABIS blepharophylla 'Spring Charm'**. Rockcress. Selected seed strain derived from a Pt. Reyes area native in the mustard family (though bearing little resemblance to the mustards themselves). It has tightly clustered rosettes of oval 1-2" dark green leaves and produces open sprays of relatively large (3/4"

in this strain) blossoms, red dish purple in color, mostly in spring but often repeatedly in coastal climates. A fine little rock garden or pot plant. Sun, well drained soil, moderate to occasional watering. Hardy to 10°F. or below.

**ASARUM caudatum** Wild ginger. California and the Northwest. A creeping native perennial, found most often in our coastal redwoods. It bears large, shiny heart-shaped leaves at intervals along the stems, eventually forming rich carpets. Both leaves and stems are fragrant when crushed. The odd, tailed flowers of dull maroon, though usually half-hidden, are most interesting. Deep to medium shade, moist soils (best in loose, deep leaf mold), year-round moisture for best performance. It should be hardy to 10°F. or less.

**ASCLEPIAS speciosa** Showy milkweed. I have admired this western native for many years in the wild and am pleased to be able to offer it to gardeners. This is a robust perennial, with several erect stems rising as much as 4'. Paired at intervals along them are broad 3-6", usually white-woolly leaves. It flowers in late spring and summer, producing broad many-flowered clusters of rose purple to pale pink or white flowers, which are amazingly attractive to butterflies (In the case of the spectacular monarch, the leaves also provide food for the caterpillars). The seed pods are large, inflated and knobby, making an interesting display. When ripe, they release seeds with beautiful silky parachutes to the winds. Sun, moderate to occasional watering, reasonably well drained soil. Hardy, in this material, to 10°F. or less.

**CAMPANULA rotundifolia**. Blue bells. This perennial bell flower occurs in higher mountains of much of the northern hemisphere, including California. It forms a low hummock of vegetative shoots with mostly pointed oval leaves. In summer and fall airy 6-10" stems rise from the foliage to display many small, nodding lavender-blue to violet bells. A fine rock garden and container plant. Sun, many soils, moderate to regular watering. Hardy to 0°F. or less.

**DARmera peltata (Peltiphyllum peltatum)**. In dianthus barb. Northern California, Oregon. A large, bold perennial found along streamsides in the mountains of northern California. It has compact, branched rhizomes from which issue huge (8-15") umbrella-like leaves on long, sturdy stalks. They are bright green during the growing season, adopting yellow, orange and bronze shades before dying down in late fall. Preceding the leaves in spring are large clusters of 1/2" pink blossoms on bare stems, much like those of the related *Bergenia*. A striking plant for poolsides, shade gardens and even containers. Sun or part shade, reasonably well drained, non-alkaline soil, constant moisture. Hardy to 0°F. or less.

**DICENTRA** Bleeding heart. North America, Asia. The bleeding hearts are among the most elegant of our perennials. They form compact clumps from which sprays of much-divided, fernlike leaves issue in spring. Closely following the foliage and continuing into the summer months are slender stems of nodding, heart-shaped blossoms. Winter deciduous. Part shade except near the coast, well drained soil, regular watering during active growth. Some species tend to rot during our wet winters, but the following performs well here. Hardy to 0°F. and below.

**formosa** Western bleeding heart. A native of the Pacific Coast, very easily grown. The typical form is a vigorous, broadly clumping plant with pale green leaves and usually light pink, sweetly fragrant flowers. 'Adrian Bloom' is smaller and even more profuse. It has remarkably blue leaves and bright pink flowers. 'Bacchanal' is a spectacular selection with bright green leaves and intense deep red flowers.

**DUDLEYA** Live-forever. Odd succulents inhabiting rocks and cliffs in California and parts of the Southwest. They have single or branching, ground-hugging rosettes, sometimes elevated in older plants on short trunks. The leaves are large (to 6" or more), flat to cylindrical and often covered with white, waxy powder. Small bell-shaped flowers, painted cream or yellow to red, are carried in open clusters above the foliage in spring and summer. Sun, well drained soil, only occasional summer watering when established. Hardiness varies from below 10° to 25°F.

**brittonii**. A robust species, native to Baja California. It forms dense crowns of tapered leaves up to nearly 1' long, completely covered with white, waxy powder. The flowering stems are 1-3' tall and bear clusters of yellow blossoms in summer. A spectacular container plant. 20-25°F.

**caespitosa**. As it is seen on our central and southern coast, this is a highly variable species which hybridizes and intergrades with several others. Plants of the current material can make just a few or many shoots from a narrow base. Each consists of a tight rosette of grey-green, rather narrow leaves up to 8" long. The flowering stems are branched and 1-2' high, with many yellow flowers. Probably 15°F.

**cymosa**. This plant is a common sight on cliffs and rocky hill sides in northern California. It has compact rosettes with relatively broad, nearly flat leaves. Bright yellow to scarlet flowers are carried in open sprays on 4-8" stalks in late spring and summer. Hardy to 10°F. or less.

**hassei**. A native of Santa Catalina Island. It has short, closely branched trunks and densely clustered, narrow leaves. As in the last species, the leaves are covered with whitish powder. Nearly white flowers are carried on 8-12" stems. This species is attractive as a small scale ground cover. 20°F. or less.

**pulverulenta**. A southern California native with spectacular large rosettes. The leaves measure individually up to 10" long and are quite broad. They are densely covered with white powder. Openly branched stems over 1' tall bear many attractive red flowers. This is a fine plant for walls and rockery, where it can grow facing out, with water draining away from the crowns; otherwise, it needs some protection from winter rains. 20°F. or less.

**EPILOBIUM**. Fireweeds and California fuchsias. Nearly world wide. I have enjoyed the company of a giant fireweed, *E. angustifolium*, on mountain treks and once even offered an alpine perennial, *E. obcordatum*, for sale (that may happen again). However, the current objects of attention are those we have all known, and which stay in my heart, as *Zauschneria*—the California fuchsias. These are showy perennials, most of them native to California. They were reclassified with the fireweeds several years ago, and it seems silly to resist the new scheme any further. These plants spread by underground rhizomes, the feature being much more pronounced in some species and individuals than in others. Some have woody, trunk-like bases, while others produce seasonal shoots directly from the ground. The leaves are usually narrow and hairy, thickly clothing the stems. In late summer and fall, they put forth a dazzling display of clustered tubular, usually scarlet blossoms. They are excellent attractors of hummingbirds. Sun, most soils, moderate to little or no watering when established (except as noted). Their hardiness varies as shown.

**canum ssp. canum**. California fuchsia. As now conceived, this subspecies includes what were formerly known as *Zauschneria californica*, of northern California, and *Z. cana*, of the south. It is an extremely variable entity, at least in vegetative habit. It may be matting, mounding or shrub-like, though in cultivation most forms spread vigorously by rhizomes. '**Catalina**', selected by Mike Evans of Tree of Life Nursery, is the showiest of the taller forms yet introduced. It has unusually broad, nearly white leaves and large, brilliant flowers. '**Cloverdale**' is a prostrate, slightly mounding selection with particularly broad, bright grey leaves and typical flowers. '**El Tigre**', my own selection from El Tigre Peak on Santa Cruz Island, forms broad, dense mats with small, narrow, greyish green leaves. These form a beautiful foil for the 1½" scarlet blossoms displayed in September and October. '**Etteri**' is a hybrid probably involving *E. septentrionale*. It makes low mats with silvery leaves and 1½" scarlet flowers (it should have moderate watering, never going completely dry). '**Solidarity Pink**' is a loose, billowy plant with pale green leaves and interesting flesh pink flowers. It has an unfortunate tendency to show too many old, dead leaves unless periodically cut to the ground. Our '**U.C. Hybrid**' is now claimed by the good folks at the U.C. Botanic Garden in Berkeley not to be "the" 'U.C. Hybrid', but has been grown and sold that way for so many years that a change hardly seems appropriate. This is a bushy plant with grey green leaves, often blooming from July to October and bearing large clusters of scarlet 1½" blossoms. '**Silver Select**', received from the Saratoga Horticultural Foundation, has amazingly bright grey foliage and typical bright red flowers. Hardy to 0-10°F. in most cases, though the southern forms might be a bit more tender.

**canum ssp. latifolium** Mountains of California and the Southwest. This is another diverse entity. Some times it is encountered as a few sprigs of foliage, poking up only a few inches from the ground. Some times it is seen as an 18-24" dome. The plant at hand was once called *Zauschneria arizonica* and is fairly distinct from most of the California material. It is a robust, semishrubby perennial growing at least 2' high. The leaves are bright to deep green in this form, and about 2" long. The flowers are typical of the group in their tubular shape and scarlet coloring, but nearly 2" long.

**septentrionale**. Plants of this species make silvery mounds or mats, otherwise similar to *E. canum*. '**Wayne's Silver**' is the best of a group of seedlings I raised from seeds collected by Wayne Roderick. It makes a tight mound under 1' tall, with a metallic silver sheen to the leaves, and has large flowers of the usual glowing scarlet. '**Select Mattole**' was collected in the wild by Ray Collett and Brett Hall. This is a more broadly matting form, just as silvery and producing an abundance of scarlet flowers.

**EPIPACTIS gigantea**. Stream orchid. A hardy orchid found along stream banks and seeps over much of the western U.S. It has profusely branched rhizomes, sending up ever larger quantities of 1½' to 3' leafy stems. Each bears in early summer a loose cluster of 1" blossoms combining shades of tan, green, pink,

yellow and white. My original plant was one typical of the species, first snatched away as a tiny division from a large creekside clump in Sonoma County. Recently we received a hefty plant of Roger Raiche's amazing wild selection '**Serpentine Night**'. Nearly all parts of the plant—especially the leaves—are heavily tinged with purple. These are delightful plants for containers. Sun, reasonably well drained soil, regular watering in spring and summer. Hardy to 0°F. or below.

**ERIGERON** Distributed mostly over North America. Perennial daisies of easy culture, useful in borders and flower gardens. Sun or light shade, reasonably well drained soil, moderate to occasional watering as noted. The following are probably hardy to 10°F. or less.

**glaucus**. Beach aster. This is a common plant along the coastal bluffs of northern and central California, varying considerably in its ornamental features. Though nearly all forms are showy in flower, many are loose, straggling plants, difficult to use in tended gardens. '**Arthur Menzies**' was given to me for introduction by Wayne Roderick in the '70s and quickly became the standard selection. It forms a dense mound 4-8" tall of bright bluish green leaves. Two-inch pink daisies with large char treuse centers cover the plant in late spring and are scattered more thinly through summer and fall. Lately it has been eclipsed by some newer selections, the most recent of which is '**Sea Breeze**', introduced by Planthaven. This one makes equally tight clumps, though mounding a little higher when crowded, and is packed with bright lavender-pink blossoms during the warmer months. All selections should have their spent flowers clipped off to encourage new rounds of growth and bloom. They are adapted to coastal climates and should be shaded in hot summer areas (even given this treatment, they are less impressive and less durable than they are along the coast). Hardy to 10°F. or below.

'**W. R.**'. A chance hybrid involving *E. glaucus* and another anonymous native, found by Wayne Roderick. It is similar to *E. glaucus* in foliage, but the leaves are longer and packed more densely in basal rosettes. Several-branched flower stems rise in summer, displaying large lavender flower heads with yellow centers. It appears to be more heat-tolerant than *E. glaucus*.

**FRAGARIA chilensis**. Beach strawberry. This coastal native has long been a popular ground cover, making lush, dark green carpets and thriving in a wide range of climates. It has toothed, three-parted leaves up to 2½" broad, with a lacquered surface, and decorative 1" white flowers, resembling little roses. '**Green Pastures**' is a more refined variation on the theme, more profusely branched than other selections, with smaller leaves and larger flowers. Sun or light shade near the coast, light shade in land, in most soils, with moderate watering. Hardy to 10°F. or below.

**HETEROTHECA (Chrysopsis) villosa 'San Bruno Mountain'**. *Heterotheca villosa* is a low perennial of the aster family, scattered over much of the West. This cultivar hails from its namesake mountain south of San Francisco. It makes a dense mat of trailing stems, each lined by fuzzy narrow, dark green leaves. It begins to flower in late spring and can continue, if irrigated and sheared once in a while, until fall, with many ¾" golden yellow "daisies" nestling over the foliage. Unlike its annual cousin, the telegraph weed, this has been a well-behaved plant in the garden. Sun or light shade, most soils, moderate to occasional watering. Probably hardy to 10°F. or less.

**HEUCHERA**. Alum root. North America, Mexico. Tightly clumping perennials with round, scalloped or lobed basal leaves. The blooming stems are more or less erect and carry airy clusters of tiny bell-shaped blossoms, white to deep red in color. California has heucheras large and small, found from nearly the immediate coast to our high peaks. They are useful in borders, for containers and in some cases, for shady nooks. Most thrive in sun or light shade near the coast, part shade in land, with reasonably well drained soil, and moderate to occasional watering when established. Watch for mealy bug! Their hardiness varies.

**Canyon Series** A number of years ago, at the Santa Barbara Botanic Garden, the late Dara Emery began to cross *H. sanguinea*, the coral bells of Arizona, with some of our small mountain natives of the *H. rubescens* complex (see below). Within a short time, his work produced dozens of beautiful hybrids which combined the dense, small hummocks of the natives with flower colors ranging from white to deep, rosy pink. All have smaller flowers than *H. sanguinea*, but usually many more of them. The first round of introductions included four selections, all with closely packed, deep green leaves and 6-12" flower stems. We still offer three. '**Blushing Bells**' has pale pink blossoms, bleaching to nearly white in hot weather. '**Canyon Delight**' offers an incredible wealth of rose-colored flowers, while those of '**Canyon Pink**' are bright pink, with lighter centers. After a quiet period of several years, the Garden released a new round of selections, including perhaps the showiest to date. '**Canyon Duet**' is my personal favorite. The plant is as

dense and small-leaved as those of the high mountain natives, with dozens of flowering stems per plant. The flowers give a glittering impression with their combination of intense dark rose and white. 'Canyon Melody' is similar, with flowers not as dark. 'Canyon Chimes' has uniformly bright pink flowers. 0°F. or below.

**maxima**. Island alum root. This is a native of our Channel Islands and one parent of the Rancho Santa Ana hybrids. It has large, long-stalked leaves of dark green with lighter marbling. Its intricately branched clusters of white to light pink flowers rise 1½' to 3' above the foliage. Probably 15°F.

**micrantha**. The species itself is a common native, usually found on shady cliffs and roadbanks and distinguished by its sharply lobed leaves and exceptionally tiny, slender-stalked blossoms. My own selection from the wild, 'Painted Lady', has leaves beautifully painted with purple and silver-grey and heavily tinted over all with plum purple in winter. The flower stems are purplish red, while the blossoms are white. 'Martha Roderick', one of several horticultural treasures from Mrs. Roderick's garden, is a robust plant with more typical, bright green leaves and tall stems bearing hundreds of rose pink blossoms. 10°F. or less.

'Opal'. A hybrid of *H. maxima* and *H. sanguinea*, introduced by Rancho Santa Ana Botanic Garden. It has large medium green leaves, 2' stems and great numbers of pink buds opening into nearly white flowers. 15°F. or less.

**rubescens complex**. There are several similar species in this group. At various times we will have limited quantities of *H. elegans*, *H. hirsutissima* and *H. rubescens* itself. All are matting plants with small, dark green leaves and short (under 1') stems of white to pink flowers. All are delicate in appearance and ideal for the rock garden. 0°F. or less.

'Santa Ana Cardinal'. Another Rancho Santa Ana hybrid combining *H. maxima* and *H. sanguinea*. It has large dark, shiny leaves, stems up to 3' high and a profusion of large rose-red blossoms. 15°F. or less.

'Wendy'. The last of our current trio from Rancho Santa Ana, featuring the same parentage as 'Opal' and 'Santa Ana Cardinal'. It has large light green leaves and stems about 2' tall carrying hundreds of light, rather fleshy pink blossoms.

**IRIS**. Northern Hemisphere, temperate regions. For years I have had a special interest in this group of colorful perennials. Some of the most beautiful of all are natives of our own woods and meadows, and the hybrids based upon them. All have the flat-topped fans of leaves and general floral form typical of the genus, but they are more delicate in appearance than the better-known European and Asian iris. Sun or part shade near the coast, part shade elsewhere, reasonably well drained non-alkaline soil, moderate to occasional watering when established. Hardy to 0-10°F.

**douglasiana**. One of the most easily grown of the natives, this species has been used extensively in the Pacific Coast Hybrids (see below). It forms compact clumps with evergreen, arching leaves of variable height, usually dark green and shiny on one surface and light green and duller on the other. The spring flowers generally range in color from pale lavender to deep violet. 'Canyon Snow' is an outstanding selection by the late Dara Emery of Santa Barbara Botanic Garden, with broad, exceptionally shiny leaves and branched stems of large, pure white blossoms with yellow markings. 'Goat Rock' and 'Portuguese Beach' are selections I made a number of years ago from broadly matting populations along the northern coast. They have smallish flowers, lavender in the first case, deep violet in the second. It is perhaps the easiest of the native species to grow.

**innominata**. One of the species most used in the Pacific Hybrids, below. It forms dense neat clumps under 1½' tall, with very narrow, usually shiny leaves. The proportionately large flowers come in many colors, ranging from purple to yellow to white. Those of the current form, received several years ago from the late Ed Wood, are a vivid violet shade with white markings. The plants should never dry out completely.

**macrosiphon**. A rugged native species of deceptively delicate appearance. It forms neat, fountainlike clumps with narrow, arching bluish green leaves. Graceful narrow-petalled blossoms colored white to deep violet decorate the plants in early and mid-spring. Our own selection, 'Mt. Madonna', has violet falls and lighter standards. This is one of the toughest and most drought-tolerant of the native iris. 10°F. or less.

**Pacifica** or **Pacific Coast Hybrids**. This is a diverse group derived from various California and Oregon natives, particularly *I. douglasiana*, *I. innominata*, and *I. munzii*. Both in growth and in bloom, they tend to show classic hybrid vigor, showing a sometimes astonishing rate of proliferation. All form handsome

clumps with 6" to 2' leaves, shiny or dull in surface and blue-green to dark green in color. The large flowers are borne in spring, two or more per stem. They include nearly a rainbow of hues, from purple or deep blue, maroon or mahogany to yellow and white. Our offerings began with selections from the noted hybridizer Joseph Ghio and now include both a number of his more recent crosses and some of our own. Some of the latter include '**Lavender Lace**', with huge, ruffled flowers, pale lavender in color; '**Little Warrior**', a dwarf plant with flowers combining orchid, deep red dish purple and white; '**Orchid Glow**', another dwarf, with orchid standards and a deep red dish purple, velvety eye; '**Royal Velvet**', with rosy standards and velvety maroon falls; and '**Silver Moon**', with white and pale lilac standards and rich, deep purple falls. An older selection from Wayne Roderick is '**Wayne's Violet**'. It has very attractive, upright leaves favoring *I. douglasiana* and vivid red-violet flowers with yellow markings on the falls.

**LEWISIA**. Western U.S. and Canada. These are beautiful though sometimes temperamental native succulents for rock garden and pot culture. They produce crowns of spatula-shaped to cylindrical leaves and carry umbrella-like flower clusters above the foliage in spring and early summer (also some times in fall, in coastal climates). The several to many-petalled blossoms range in color from white through pink, yellow and salmon shades to red dish purple. Sun or light shade near the coast, light shade inland, perfectly drained soil dressed with gravel around the crowns of older plants, and watering only when dry. Hardy to 0°F. or below.

**columbiana ssp. rupicola**. A Northwest native making tight, low clumps with narrow, dark green leaves, about 2" long. The flowers are small, borne many to each airy spray, and colored rose-purple. One of the easier of the lewisias to grow.

**cotyledon** This highly variable species is one of the great treasures encountered in the natural rock gardens of the mountains of northern California. It forms flat rosettes of roughly strap-shaped leaves 2-6" long. The flowers are held well above the rosette, many to a spray, and can measure individually 1" or more across. The typical form has smooth-edged leaves and candy-striped blossoms, each petal showing a pink to red central band on a lighter background. The variety **howellii** is distinguished by toothed and wavy-edged leaves and exceptionally large, broad-petalled blossoms colored white to deep rosepink.

'**Dark Cloud**' and '**Pink Cloud**'. Our own floriferous seedling strains, the result of backcrossing one of the reddest 'Sunset Strain' selections with a large pink *cotyledon howellii*. Like 'Sunset Strain', they bloom at nearly any time of year in a coastal climate. Most plants have 6-10" stems, each bearing many large blossoms. Those of 'Dark Cloud' are purplish red, while those of 'Pink Cloud' are bright pink.

'**Sunset Strain**'. By now this should probably be described as "strains", since several hybridizers, including ourselves, have followed their own particular tangents, producing some interesting variations. The leaves generally resemble those of *L. cotyledon*, the dominant parent, but they can be broad or narrow, smooth or wavy-edged, shiny or dull in surface. The flowers have a dazzling array of shades, from apricot to rose and even maraschino cherry red. I have had a fine time making specific clonal selections and launching new color strains from time to time. Received from Allen Robinson, Don Mann and Jack Drake in England.

**LILIUM**. Lily. Northern Hemisphere, temperate regions. Native lilies have been a pleasant pursuit for me for many years. They are as beautiful as the far better-known exotics but add their own touch of delicacy and grace. All have the familiar scaly bulbs, erect to arching stems and whorls or continuous brushes of narrow, shiny leaves. Their large, colorful blossoms are usually of the "tiger lily" form, with the segments curved back on themselves. Some are powerfully and sweetly fragrant. All should have a slightly acid, well drained mix with the bulbs shaded or otherwise kept as cool as possible during the summer months, and moderate to regular irrigation. The following should be hardy to 0-10°F.

'**Corralitos Hybrids**'. This is my name for a group of crosses first performed in the 1980s, using our best clones of three native species, *L. pardalinum* (see below), *L. pitkinense* (now included in *L. pardalinum*), and *L. kelloggii*. The results have combined the features I had hoped for: Over all hybrid vigor, floriferousness, and an interesting range of flower colors—in this case, from crimson and scarlet to soft coral pink and orange. Fragrance is a frequent bonus. An earlier generation of named selections was unfortunately lost during the integration of Wintergreen Nursery and Suncrest Nurseries. However, the process of reselection is being repeated, with some gratifying results.

**pardalinum**. Leopard lily. A vigorous and easily cultured native, often growing 5-6' tall. The stems are set at intervals with whorls of leaves and topped in early summer by loose clusters of nodding red and or

ange blossoms spotted with purple, the petals reflexed like those of the tiger lilies. Sun or part shade near the coast, part shade inland, continuous moisture. Near 0°F.

**LINUM lewisii**. Blue flax. This is one of the stunning wild flowers which greets the traveler in the high mountains of California. It is a plant of deceptively delicate appearance, with slender, wiry stems rising about 1', closely lined by very narrow, blue-green leaves. 1" lavender blue flowers with a silky sheen are loosely clustered at the shoot tips in summer and fall. Sun, well-drained soil, moderate to occasional watering. Hardy to below 0°F.

**MAIANTHEMUM dilatatum** Coltsfoot. This unusual little perennial is encountered in moist coastal woods from northern California to Alaska. The rhizomes creep and branch underground to form broad carpets. In spring many shoots, 6-8" high in this section, rise from the ground, each carrying a pair of deeply veined, roughly heart-shaped leaves and tipped with a short spike of tiny white flowers which develop in summer into little red berries. Winter deciduous. A lush, pretty ground cover for shady spots. Reasonably well-drained, acid soil, regular watering from spring to fall. Hardy to below 0°F.

**MIMULUS** In addition to the shrubby species, California has several showy perennial monkey flowers. They vary considerably in size and habit, though they share the features of paired, toothed leaves and colorful two-lipped flowers which resemble those of the snapdragons. The following are plants of streambanks and seeps, thriving with sun and regular watering. All should be hardy to 0°F. or below.

**cardinalis**. Scarlet monkey flower. A streamside native, making dense clumps. The stems grow 1' to as much as 3' tall. Both these and the toothed oval 2-3" leaves are light green in color. Throughout the warmer months clusters of scarlet 2" blossoms, with lobes swept back along the sides giving them a somewhat pinched shape, are borne at the shoot tips. Shear them back occasionally to remove old dead flower stalks and renew the show. Winter deciduous.

**lewisii**. This is a plant of higher elevations, resembling *M. cardinalis* in size, habit and foliage. However, the leaves have a distinctly greyer cast. The flowers are of similar size but spreading widely at the face. They are bright to pale pink overall, with white and sometimes darker pink markings in the centers. Winter deciduous.

**primuloides ssp. linearifolius** A matting native with bright green, very narrow leaves and small, bright yellow blossoms, presented on wiry 3-6" stems in late spring and summer. Well suited for the rock garden.

**tilingii**. Another matting native for rock garden use. It has broader leaves than the last, distinctly toothed and pressed to the ground. From June to August it displays cheery yellow flowers, proportionately quite large for the plant.

**MONARDELLA**. Coyote mint. A group of annuals, perennials and subshrubs well represented in California. The following are two woody based perennials of quite different habit. Both have paired, broadly oval aromatic leaves and bear dense heads of tubular blossoms at the shoot tips, mostly in summer. Sun, well-drained soils, occasional watering when established. Both should be hardy to around 10°F.

**macrantha 'Marian Sampson'**. Scarlet monardella. This species forms low mats with dark green, shiny leaves. In late spring and summer its heads of large scarlet, tubular flowers nestle among the leaves. From Ed Sampson at Mourning Cloak Ranch we received the most striking form I have seen to date. We named it in honor of his late wife, Marian. It forms tight mats of small, dark leaves, with brilliant red flowers. Well suited for rock garden and container use.

**villosa**. In its typical form, this is a bushy perennial usually 1-2' tall, with furry, grey-green leaves and heads of pink to lavender blossoms. We are growing small quantities of this form as well as material of the subspecies **subglabra**, distinguished by bright green leaves and stems. This particular selection, received from Santa Barbara Botanic Garden, is also unusually floriferous and large flowered. Tough perennials quite at home on exposed, dry banks and other neglected spots.

**OXALIS oregana**. Red wood sorrel. An evergreen, carpeting native of our coastal red woods, grown primarily as a foliage plant and ground cover. It has large (2" or more), broadly parted leaves, resembling those of the clovers, marked with light green or white. In spring large, white to light pink blossoms with darker veining are carried above the foliage on individual stems. Our latest selection, **'Forest Lights'**, has unusually dark green leaves with bright purplish red undersides and stalks. Shade, non-alkaline soil, constant moisture. 0-10°F.

**PENSTEMON** Beard-tongue. Mostly North America, Mexico. A large and fascinating group of perennials and shrubs placed until recently in the snap dragon family, now a subject of hot taxonomic debate. Some grow narrowly erect, others are relatively broad and bushy, while still others are ground-hugging mats. The leaves are also quite variable in size, shape, color and texture. Flowers are usually large relative to the plants and are often presented in dense spikes. They are tubular to bell shaped and brightly colored, usually in shades of red, blue or purple to white. The odd common name comes from the brush of hairs lining one of the stamens in flowers of many species. Sun, well drained soil. Watering requirements vary, though most of our native species are drought tolerant. Hardy to 0°F. or below, except as noted.

**centranthifolius**. Scarlet bugler. A common plant of dry places in central and southern California; this material is from the Santa Lucia Mountains. It produces several sturdy, upsweeping stems from a narrow base. Paired along these are broad, tapered leaves up to 4" long, clasping the stems. The leaves are strikingly colored, some times ashy grey, some time bright blue-green. Loosely spaced on long stalks above the foliage are narrowly tubular, bright red blossoms. It needs particularly good drainage and full exposure and is often short-lived in the garden. However, new plants are readily started from seeds. 10°F. or less.

**heterophyllus**. A highly variable plant, semishrubby in some forms, herbaceous in others. The plants have attractive narrow, shiny, bluish green leaves some times heavily tinged with red. Dense spikes of narrowly bell shaped blossoms, varying in hue from deep blue to red dish purple, grace the plants from late spring to fall. 'Carman's Best' is a more floriferous replacement for the better-known 'Blue Bedder', with bright blue flowers. It was selected by the late Ed Carman. 'Lodoga Strain' is my own wild seed strain with similarly bright flowers on bushy plants up to 2' tall. I am particularly impressed by a recent introduction by the good folks at Las Pilitas Nursery, 'Margarita BOP' (not a reference to a '50s dance, but rather to "back of porch", at Las Pilitas Nursery, where it was discovered as a chance seedling). The plants are quite full, floriferous and resistant to disease. 10°F. or less.

**parvulus** 'Siskiyou Beauty'. There was once a time (quite a few years, actually) when I was reckless enough to bring back cuttings of every new penstemon which enchanted me in the California wilds. Soon afterward, I would offer it for sale, usually with some disclaimer like "rock garden conditions", suggesting that it was less than easy to grow. There are few of these beauties left, except in my own rather ragged garden. This is a new selection of an old "friend", often encountered in open, rocky places in the Klamath Mountains. It makes low mounds with attractive grey-green leaves. Elevated above these are clusters of bright blue to violet flowers. This is a particularly floriferous selection, with vivid bluish purple flowers. It is definitely one for the rock garden. Below 0°F.

**rostriflorus** (*bridgesii*). If you have traveled the High Sierra in summer, you have probably seen—and been suitably impressed by—this showy native. It forms broad mounds with upswept slender stems. The leaves are narrow, usually 1-2" long, and pale green to slightly grey-green in color. Slender 1-3' flower stems carry many clusters of bright red to orange-red, trumpet-shaped blossoms, each about an inch long. This is a fine perennial for neglected sunny banks, and hardy to below 0°F.

**POTENTILLA glandulosasp. ashlandica**. This is the identity provided by botanist friends for a perennial potentilla whose seeds I collected in the Yolla Bolly Mountains of northern California. It forms attractive broad colonies, with rosettes of several-parted, toothed leaves up to 8" long. It flowers in late spring and much of the summer, carrying 1' sprays of soft yellow five-petalled blossoms, each a little under an inch across.

**ROMNEYA coulteri** Southern California. Matilija poppy. A giant semi-shrubby perennial, spreading by rhizomes underground to form large colonies of thick, branched stems up to 10' tall. Both these and the divided, toothed 2-6" leaves are bright bluish green in color. Clusters of white blossoms with golden centers, measuring up to 8" across, are carried at the shoot tips in summer. Their petals are broad and textured like crepe paper. We offer material of two clonal selections: 'White Cloud', is distinguished by its vigor, heavy flower production and huge flowers. 'Butterfly', our own selection, is a more profusely branched plant. Its smaller flowers have round, overlapping petals. Sun, well drained soil, moderate to no watering when established. Invasive shoots should be pulled or spaded out from time to time. Hardy to 5-10°F.

**SALVIA** Sage. The perennial sages of California are dominated by the shrubs, described above. However, the two more or less herbaceous species (even these have some woody tissue near the bases of the shoots) are both beautiful and useful. Both have textured, aromatic foliage, as described below, but other

wise resemble each other only in the irregular, two-lipped form of the flowers. Their culture is also distinct.

**sonomensis.** Sonoma sage. This is a prostrate, semi-shrubby perennial, often seen making broad carpets in the California chaparral. The stems are closely lined by rather narrow, pleasantly but rather aromatic leaves, about 2" long. They are covered by short hairs, especially on the lower surface, and can be almost ashy grey in color (some forms have tired-looking yellowish green leaves, but one would hardly consider these for the garden). Rising straight up off the mats in spring are slender stems carrying interrupted clusters of deep purple to white—unfortunately, usually “dirty white”—blossoms. My recent selections are from the nearby Gabilan Range and combine bright grey leaves with violet flowers. This is an ideal ground cover for steep, dry banks, needing full exposure and excellent soil drainage to reliably persist. 10°F. or less.

**spathacea ‘Kawatre’.** An unusual native perennial, in this case from the Santa Lucia Mountains. It forms broad, dense clumps with arrow-shaped, interestingly textured 6-8" leaves clustered at the base. Leafy 2' stems appear in spring and fall, carrying large interrupted ball-shaped clusters of 2" blossoms which are deep magenta on opening, changing to orange-red. A recent addition from the wild, even more robust and with generally darker flowers, is **‘King Crimson’**. All parts of the plant are strongly and pleasantly aromatic. Tolerates some shade. Moderate to very occasional watering. Probably 5-10°F.

**SATUREJA douglasii.** Yerba buena. Southern California to British Columbia. A trailing perennial of the mint family, eventually making loose carpets or draping attractively over walls and banks. The paired, shiny 1" leaves are delightfully aromatic and make a refreshing tea. Small white blossoms are paired along the stems in spring and early summer. Sun or part shade near the coast, part shade inland. Hardy to 0-10°F.

**SEDUM spathulifolium.** A matting succulent, often encountered on rock cliffs and shady banks. Its small, flattened leaves are packed into flat rosettes, from which spoke-like clusters of yellow flowers appear in summer. **‘Cape Blanco’** is the most widely circulated cultivar. It makes broad, dense mats with bright grey leaves. **‘Purpureum’** is another particularly compact selection, its leaves heavily tinged with purple, deepening in winter. They are useful in small scale ground cover and attractive in containers and among rocky. Both are best in part shade, except near the coast. They thrive in loose, well-drained soil with only occasional watering. Hardy to 10°F. or less.

**SIDALCEA** Western North America. It is always a treat to encounter one of these perennial mallows in the wild, usually perched by some seep or creeklet on a meadowy hillside. Though closely related and similar to the hollyhocks (*Alcea*), they are more refined, with attractive clumps of rounded, usually lobed basal leaves and slender stems of white to deep rose blossoms, often with darker veining. They are useful in borders, for pool side plantings and in informal flower gardens. Sun, most soils, constant moisture at least through spring. Hardy to 10°F. or less.

**malvaeflora.** Widespread in California; Mama plant for our original stock was found a few miles south of San Francisco. This selection grows about 1½' tall, the flower stems reclining somewhat and arching up at the tips. Leaves and stems are bluish green in color. The flowers are up to 1½" broad, bright pink over all with red veining. More recently we acquired a lower growing clone with larger, darker green leaves and darker flowers, one of a group of selections made by Roger Raiche and distributed by California Flora Nursery. In either case, plants can be kept growing and blooming through summer with regular watering, or allowed to dry out completely, reappearing with the fall rains.

**SISYRINCHIUM.** The Americas. Perennials of the iris alliance, producing compact clumps of grass or iris-like leaves and displaying small 6-parted flowers in branched clusters or spikes, mostly in spring and early summer. Some of them self-seed rather freely, but the seedlings are easily rogued out. Sun, reasonably well drained soil, regular to little or no watering, depending on species. The following are hardy to 10°F. or be low, except as noted.

**bellum,** Blue-eyed grass, is a common but beautiful wild flower, sprinkled over grassy slopes in much of California. Typically it forms clumps of grassy, 6-12", bluish green leaves. Taller, branched stems appear in spring with 1/2" to 1" purple blossoms, their centers marked by golden stamens. **‘Merk’s White’** has typical foliage and large, pure white flowers. **‘H Bar H White’** is similar but slightly more floriferous. **‘Bluette’** is a dwarf plant with unusual sky-blue flowers. **‘Occidental’** is a 1' plant, very profuse in growth and bloom, with more typical purple flowers. **‘Rocky Point’** is a more recent selection, of dwarf habit, with broader leaves and violet blossoms. **‘Ft. Bragg’** is similar in habit but the flowers are soft lavender in

color, with violet centers. '**Arroyo de la Cruz**' has the largest and darkest flowers of all. Unwatered plants may shrivel in late summer but are quickly renewed by fall rains.

**californicum**. Yellow-eyed grass. This is a plant of moist places, of ten colonizing roadside ditches. It forms compact clumps with leaves similar to those of *S. bellum*—though distinctly greener. The flowers, which are a little less freely produced, are of similar size but colored bright yellow throughout. It should be kept moist in the garden.

'**E. K. Balls**' ('Balls' Mauve'). An outstanding selection, sometimes listed under *S. bellum*; however, I suspect that its background includes the northwestern *S. macounii*. It makes dense colonies of shoots, growing only about 6" high. The leaves are relatively broader than those of most forms of *S. bellum* and dark green in color. It flowers profusely in spring and early summer, carrying clusters of bright purple flowers at every shoot tip. Probably hardy to around 0°F.

'**Wayne's Dwarf**'. This is considered a probable hybrid between *S. bellum* and *S. macounii*. It grows only about 6" tall, is a little broader leaved than our *bellum* selections and has deep purple blossoms. Culture as for *S. bellum*. Received from Wayne Roderick.

**TELLIMA grandiflora**. Fringe-cups. A native perennial closely related to and resembling *Heuchera*. It forms dense, ground-hugging clumps of foliage from a branched rootstock. The long-stalked, hairy 2-4" leaves are nearly round in outline, lobed and toothed. They are painted bright green most of the year, red tinged in winter. Wand-like 1-3' flower stems appear in spring and summer, displaying small fringed blossoms which change from pale green to red. A nice plant for shady spots, though it will thrive in full sun near the coast. Most soils, moderate watering. Hardy to 10°F. or less.

**THALICTRUM**. Meadow-rue. Northern Hemisphere, temperate regions. A large group of perennials, valued for their often huge, much-dissected leaves resembling those of the related columbines. Clouds of small blossoms are displayed on intricately branched stems above the foliage in summer. Many have petal-like sepals and showy brushes of stamens. Winter deciduous. They are at their loveliest in large drifts, should you have the space. Light to medium shade, reasonably well drained soil, regular watering. Hardy to be low 0°F.

**fendleri var. polycarpum** (*T. polycarpum*). This is one of four California native meadow rues under the latest taxonomic scheme, and the one most likely to be met by casual hikers. It is a highly variable species, with plants from 2' to over 6' tall. The large, highly dissected leaves are bright green to greyish green in color. The flowers are less likely to be noticed, for they can be the same color as the leaves, though often they are tinged with purple. Even without flowers, it would be well worth using, as one would use a large fern, in the woodland garden.

**TRITELEIA**. California and the West. This is a wonderful group of cormous native perennials, formerly included (and still largely known to gardeners and hikers) in *Brodiaea*. They form dense colonies where adequately protected against rodents (this can be a challenge, as these and other animals find them irresistible). Each seasonal shoot consists of a few long, channeled leaves, often lying close to the ground, and a stalk of a few inches to nearly 3', topped by an umbrella-like flower cluster, appearing in spring or early summer. The individual blossoms have a basal tube or cup and six flared, often highly colored segments. Sometimes the anthers are also colored. These are fine subjects for rock gardens and open meadows, though most easily protected in large pots. They thrive in full sun or light shade and any reasonably well drained soil. Once the leaves have withered, they need no further watering. The foliage are hardy to 10°F. or less.

**hyacinthina**. A spring-blooming species, usually found in meadowy spring seeps. It has 1-2' stems bearing pure white, star-shaped blossoms with dark centers.

**laxa** '**Queen Fabiola**'. This appears to be simply a good color form of *T. laxa*, known popularly as Ithuriel's Spear. It is a robust plant, bearing broad clusters of trumpet shaped lavender blossoms on sturdy 1-2' stems in late spring.

**peduncularis**. Long-rayed brodiaea. One of the most vigorous species, quickly forming many-stemmed clumps in cultivation. It blooms in late spring and early summer, with stems of ten 1' or more tall. These carry many white blossoms on long, spokelike stalks.

**VANCOUVERIA**. Native perennials related to and much resembling *Epimedium*. They form broad, lacy carpets from branched underground rhizomes. Each crown produces several large, divided leaves with many broad, angled, leathery leaflets held on wiry stalks. Airy clusters of little white to yellow, beaked

blossoms appear above the leaves in early summer. Attractive subjects for pots and hanging baskets. Light to medium shade, reasonably well drained soil, moderate to regular watering. Hardy to 0-10°F.

**hexandra.** People are forever confusing this with the following species. It is semi-evergreen to deciduous, depending on winter temperatures. The leaves are divided into many pale to bright green, thin-textured leaflets. The blossoms are a little under ½" broad, pure white in color.

**planipetala.** In side-out flower. This species is very close to *V. hexandra* in general appearance, uses and culture. However, it is slower growing and normally ever green, each leaf having fewer, larger, thicker and darker green leaflets with a lacquered surface. The flowers are smaller than those of *V. hexandra* but more abundant. Certainly one of the prettiest fern look-alikes.

**VERBENA lilacina.** A native of Baja California, this perennial vervain promises to be a useful ground cover for difficult situations—for example dry banks. It is usually 1' high or less, spreading to 3' or more. The deeply cut leaves resemble those of the better-known *V. tenuisecta* but are lighter green. It blooms continuously from spring to fall, bearing clusters of lilac-colored blossoms with a light fragrance of heliotrope. Sun, well-drained soil, moderate watering for best appearance. Hardy to around 18°F.

**VIOLA adunca.** A charming native violet. Our selection was taken from the northern coast. It forms compact mats from a branched rhizome. The 1" to 1½" stalked leaves are nearly round, shiny and dark green. In spring and summer it bears many ¾" blossoms, violet with white centers, just above the foliage. Sun or light shade, most non-alkaline soils, regular watering. Hardy to 10°F. or less.

**XEROPHYLLUM tenax.** Rocky Mountains to California. This is a most unusual member of the lily family, easily mistaken most of the time for a large grass. It clumps tightly at the base, producing beautiful fountain-like clusters of very narrow, rough-edged leaves, each up to 3' long. After several years, or in response to fire or other stress, a crown will produce a stalk as much as 6' tall, bearing a spectacular torch of small white flowers. This is an impressive plant for open banks, naturalistic meadows, and even shady nooks, given really well drained soil, with moderate to only occasional watering. It is hardy to below 0°F.

**YUCCA whipplei.** Lord's candle. It is with some trepidation that we offer this spectacular native. It is a dangerous neighbor, particularly for small children, and best placed on banks and walls out of the line of traffic. However, it is striking both in foliage and in flower. It makes crowns of stout, viciously pointed, pale green to silvery grey leaves up to 2' long. From the crown, after several years, issues a stalk resembling a giant asparagus spear and rising as much as 10'. This develops into a many-branched panicle of large white bells. The effect is stunning. If offsets have been produced by flowering time, they take over the task of perpetuating the plant as the old crown dies. Otherwise, it is time to plant a new one from one of the thousands of seeds which have probably developed. Sun, well-drained soil, occasional watering. Hardy to 10°F. or less.

**ZAUSCHNERIA** See *Epilobium*.

## Grasses, Sedges and Rushes

**CALAMAGROSTIS.** Wide spread, temperate regions. A variable group of grasses, ranging from a few inches to several feet tall, with fine to quite bold foliage. The flower clusters are often quite decorative. Culture and hardiness vary.

**breweri.** A small, finely textured bunchgrass native to our own Sierra and northern mountains, at middle and higher elevations. The shoots are densely clustered at the base, rising a few inches (in this selection) to about 1'. The leaves are quite narrow and rolled, bright green in color. In summer it bears many open, purple-tinged flower panicles, especially beautiful when backlit. Sun, well drained soil, moderate to occasional watering. Below 0°F.

**foliosa.** A coastal native, growing 1-2' tall. It has densely clustered stems, bluish green leaves and paler, feathery flower panicles. Probably most soils, moderate to occasional watering. Hardy to 10°F. or less.

**CAREX.** Sedge. World wide, but mostly in temperate regions. A huge group of generally rugged, undemanding perennials. Now that a wave of grass and sedge in sanctity seems to be dying down, we all have a chance to scrutinize them more closely and separate the best from the rest (we are still a good distance from the end point in this process). The sedges generally resemble the grasses, except in their flowering heads, and are compatible with them in the landscape. The following form dense basal clumps or mats of shoots with narrow, arching leaves. These give a fountain-like effect. Clusters of tiny, chaffy flowers

borne on slender stems above the leaves—usually in summer—are mildly decorative. Various selections are useful in borders, as drifts on banks or in pool side plantings. Sun or part shade, reasonably well drained soil, moderate to regular watering. The following should be hardy to 15°F. or less.

**pansa**. Meadow sedge. A coastal California native, making what Munz terms “scattered tufts” as the rhizomes wander. Better forms produce a nearly solid turf. The leaves are narrow and usually 3-8” long, dark green and softly shining. Flowering stems may rise to 1’. This material received from John Greenlee should make a fairly dense cover.

**spissa**. A native of southern California, growing 3-5’ tall. It is distinguished by bold, greyish green leaves. The flower clusters are nearly black. This is nearly an aquatic plant and is probably best used at pool side and in other moist spots.

**tumulicola**. This is a native of California and the North west. It makes spreading hummocks, usually under 1’ tall, with arching deep green, shiny, very narrow leaves. It is one of the best of the sedges for large-scale ground cover.

**DESCHAMPSIA cespitosa**. One of the most cosmopolitan of the bunchgrasses, found nearly around the world in northern latitudes. Its shoots are densely clustered, leafy, and of quite variable height. Leaf blades may be broad to quite narrow and are of ten rather stiff. The flowering stems are much taller and openly to narrowly branched, making broad fountain. They are of ten highly ornamental. We have recently grown seedling crops of the western native subspecies **holciformis**, selecting some promising individuals for propagation. In general these have longer, narrower leaves than the exotic cultivars and narrower, more congested flower clusters. All are especially attractive when massed on banks and in borders. Sun or part shade, most soils, moderate to occasional watering. Hardy to 10°F. or less.

**FESTUCA**. World wide, in temperate regions. Except for the lawn fescues and the ubiquitous blue fescue, *F. cinerea*, this group was long ignored for ornamental use. Finally public interest in these and other perennial bunchgrasses seems to be taking off. The following selections make thick hummocks of narrow leaves. Their slender, wand-like flowering stems bear airy sprays of flower and seed heads. Though attractive for border use, many are best appreciated on banks and hill sides, where they can also assist in erosion control. Sun or (for some species) light shade, well drained soil, moderate to no supplemental watering when established. The following should all be hardy to 10°F. or less.

**californica** ‘**Blue Fountain**’. California fescue. California fescue is one of the largest of the clan, broadly distributed in California. This is a selection I made in the Mt. Hamilton Range. Like the species as a whole, it is an elegant tall bunchgrass, clumping tightly at the base, with leaves arching to 2’ or more. In this selection the leaves are colored a chalky blue. Graceful flowering stems rise 3-4’ in summer, displaying open sprays of large flower heads. California fescue is among the most shade-tolerant of the group.

**idahoensis** ‘**Warren Peak**’. This is a good example of the joys of prowling the backcountry of California. It was just one of many small treasures encountered on a trip to the Warner Mountains, one of our true botanical wonderlands. It makes 6” hummocks of very narrow leaves, bright green at first and becoming greyish green in age. The 1-2’ blooming stems are silvery to pale pink in color. Both these and the glistering seed heads are most attractive. Two more recent kidnappings resulted in ‘**Snow Mountain**’ and ‘**Muse Meadow**’, both with bluer foliage. ‘**Snow Mountain**’ is a robust plant with stems to 2’. ‘**Muse Meadow**’ is about half that size, with the darkest, prettiest leaves of all.

**rubra** ‘**Jughandle**’. Red fescue. California has many clumping forms of red fescue, whose spreading forms are used as lawn grasses. Typically ours are mop-like in habit, with limp, narrow, dark green leaves. This selection is distinguished by relatively short, sturdy stems and leaves but even more by its chalky bluish green color. It should be one of the more shade- and water-tolerant of the fescues.

**JUNCUS patens**. California and Oregon. A common rush, found in marshes, seeps and swales over much of California. It forms dense fountains of slender, bluish green stems, about 2’ tall in our selection. The flowers are mostly brown and inconspicuous. This is a dramatic accent plant for pool side and is useful in naturalistic meadows. Sun or light shade, many soils, moderate to regular watering. Hardy to 10°F. or less in this material.

**LEYMUS**. Wide spread, temperate regions. Mostly perennial grasses with erect leafy stems, usually colonizing by means of underground rhizomes. The flower spikes are narrowly cylindrical and often borne well above the foliage. Their chief ornamental features are their bold texture and of ten bright stem and leaf colors. They also have considerable value in erosion control. The following native species are tough

and easily grown. Sun or light shade, most soils, moderate to occasional watering when established. These should be hardy to 10°F. or less.

***condensatus*** ‘Canyon Prince’. Giant wild rye. Typical forms of the species can grow as much as 8’ tall, though they make dense clumps, much narrower than those of some other species. This selection is of more manageable scale, though still in the 3-4’ range. The leaves are stout, up to 1’ long and bluish green in color. Flower clusters, when produced, are elevated well above the foliage.

***triticoides*** ‘Grey Dawn’. About the same size as the last and often forming extensive colonies. However, all parts of the plant are more slender and delicate in appearance. In this selection, made near the old Wintergreen Nursery site, the leaves have a beautiful silvery cast in summer. Flowering stems are slender and wandlike, holding the flower clusters well above the foliage.

**MUHLENBERGIA rigens**. Deer grass. I admired this California native for years in botanical gardens before recognizing it as a frequent companion on my trips in the wild. It forms dense, fountainlike clumps, 2-3’ tall in leaf, up to 6’ in bloom. The narrow light green leaves extend to nearly 2’ long. Short flower clusters are narrowly pressed along the tall blooming stems, giving them a wandlike appearance. They persist through the winter, creating beautiful silhouettes. Sun or light shade, most soils, moderate to occasional watering. Hardy to 10°F. or less.

**SPOROBOLUS airoides** Alkali dropseed. A perennial native grass of deceptively delicate appearance. It makes attractive fountains of narrow, greyish green leaves. Wiry stems rise as much as 6’ from the clumps in summer, carrying broad, widely branched clusters with hundreds of tiny flower heads. These are pinkish to purplish at first, gradually changing to pale tan and remaining showy for months. It delights in a sunny spot, tolerating many soils and moderate to very occasional irrigation. Hardy to 0°F. or less.

**STIPA cernua** ‘Benicia’ (*Nassella* c.). Needle grass. A beautiful native grass, growing 2’ or more tall. Both leaves and the gracefully arching stems are an attractive blue green color, while the flowering/seeding heads have a beautiful silvery sheen. At the end of each flowering spikelet is a long needle-like extension. This is a particularly beautiful subject for naturalistic meadows, and provides a low-maintenance cover for banks. Sun, reasonably well-drained soil, occasional summer irrigation. Hardy to 15°F. or less.

## Ferns

**ADIANTUM**. Maidenhair fern. A large group of ferns, mostly of the tropics but with a few species found as far north as Alaska. Most have wiry, darkly colored stalks and fronds intricately divided into thin-textured, oval to wedge-shaped *pinnules*, or leaflets. They are well adapted to container culture and to moist, well drained, shady nooks of the garden. Unlike many ferns, the following selections do not need acid soil, though they seem to tolerate it. Hardiness varies with their origin.

***capillus-veneris***. Southern maidenhair. This might as well be dubbed the traveling fern, for it is found throughout the milder portions of the U.S., including southern California, and much of the warm-temperate world. It is extremely variable but generally under 2’ tall, with wiry blackish stalks and 2- or 3-times-divided fronds. Hardy to 20°F. or less.

***pedatum***. Five-finger fern. Though it has all the airy grace one associates with the ferns, this Pacific Coast native is most unusual in form. Nearly black, wiry, arching stalks rise to 2½’ from a compact base. At the ends of these stalks the fronds are divided handlike into several flat, tapered segments, each of these divided again. Hardy to below 0°F., though the fronds may be cold-scorched at around 20°F.

**ATHYRIUM filix-femina** Lady fern. An elegant California (and northern hemisphere, generally) native with a stout above-ground rhizome, eventually forming a short trunk. Lacy 3-6’, apple-green fronds rise in symmetrical whorls in spring and summer, dying down in late autumn. It is one of the easiest of all ferns to grow, even volunteering from spores in protected parts of the garden. Light to medium shade, many soils, moderate to regular watering. Usually hardy to 0-10°F.

**DRYOPTERIS**. An enormous group of ferns, well scattered over the globe, with few common features recognizable by anyone but a professional botanist. The following should give some impression of their diversity. Culture and hardiness as shown.

***arguta***. Wood fern. A plant of summer-dry woods in California, thriving under conditions intolerable to most typical ferns. It has short, slowly creeping rhizomes, from which erect, lacy fronds appear a few at a time, rising 1’ to 2½’. The fronds are ever green. Sun or (preferably) light shade near the coast, light shade

inland, most soils, only occasional summer watering (the plants can go quite dry when established). Hardy to 10°F. or less.

***dilatata***. The Californian native populations formerly grouped under this species have been reassigned to *D. expansa*; this is probably the correct identity of the current material. This is a plant of moist, usually shady spots, always standing out from the bracken and woodwards which tend to share its habitat. The leaves are produced in a broad fountain, like those of lady fern (*Athyrium filix-femina*), but they are quite wide relative to their height, which can be over 3'. The fronds are twice to three times divided and have an intricate, lacy appearance. It should have a consistently moist, shady spot in the garden. Probably hardy to 0°F.

***PELLAEA mucronata***. Bird's foot fern. An unusual small fern found on rocky hill sides over much of California. It can form sizeable clumps with short, branched rhizomes underground, each branch bearing several erect 1-2' fronds. Each consists of a stiff, black, wiry stalk and a blade intricately branched into triplicately narrow, bluish green "leaflets". Though the plant is summer dormant in the wild, each year's fronds can last well into a second season. Sun or light shade, well drained, preferably sandy soil, moderate to occasional watering (the plants may be dried out completely in summer or maintained by watering in active growth). Hardy to 10°F. or below.

***POLYPODIUM californicum***. Polypody. An attractive small fern which often forms large colonies on shady banks and cliffs, nearly throughout the coast ranges of California. It has branched, creeping rhizomes, from which once-divided fronds about 1' tall, bright green in color, rise in early fall, lasting into spring. 'Sarah Lyman' is a selected form with deeply cut fronds giving a fringed appearance. The fronds die to the ground in summer, after which little or no water should be applied until fall. Hardy to 10°F. or less.

***POLYSTICHUM munitum*** Western sword fern. A boldly textured, evergreen fern, eventually 4' or more in height and breadth. It has long, narrow once-divided fronds which are quite leathery in texture, dark green in color. Planted in the shade garden, in almost any non-alkaline soil, it requires very little attention and will even survive periods of drought. Hardy to 0°F. or below.

***WOODWARDIA fimbriata*** Giant chain fern. Our largest native fern, often encountered along creeks and mountain seeps. Rather coarsely cut, light green fronds rise 4-9' each spring from a creeping rhizome and persist until late winter. This plant tolerates full sun along the coast and thrives in part shade anywhere. Most soils, regular watering. Hardy to about 0°F.