

CALIFORNIA NATIVE PLANTS OF HORTICULTURAL VALUE

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INTRODUCTION

California is the third largest state in area in the United States, covering over 150,000 square miles. The state's topography is diverse, ranging from 276 ft. below sea level in Death Valley to 14,494 ft. above sea level at the peak of Mt. Whitney—the lowest and highest elevations in the contiguous United States.

The Sierra Nevada mountains to the east and the Pacific Ocean to the west form the natural boundaries which isolate the native flora. Plants cut off from the relatives of their family or genus evolve and adapt to different environmental conditions. The genetic make-up changes when free pollination among the taxa of the continent does not take place to homogenize the species.

California is a Mediterranean climate zone of winter rainfall, summer drought. This weather pattern creates xeriphytic plants; that is, plants that live in moist conditions while, at the same time, have physiological mechanisms to protect themselves from stress during long, dry periods, an important consideration during a time of dwindling water supply and rising water costs.

California is made up of five biotic provinces. Within the biotic provinces there are 23 plant communities according to the system of Munz and Keck. The 23 plant communities contain 5,000 taxa, 2,000 are endemic to California. Sadly, 93 are Federally listed as threatened, rare, or endangered.

The combination of numerous square miles over diverse and isolated terrain produces a plant palette of great variety. From this plant palette I have selected 15 genera of particular horticultural value. The following plants are relatively easy to propagate and tolerate a wide range of garden conditions. Most of the genera are either commercially available or, in my opinion, would be a welcome addition to any nursery's catalog.

SELECTED NATIVE PLANTS

1. *Cercis occidentalis* Western Red Bud
20 × 15 ft.
Pink flowers, April
Rocky soil, full sun. Deciduous
Dry slopes and canyons in foothills below 3500 ft.
from northern to southern California
2. *Heteromeles arbutifolia* Toyon
20 × 20 ft.
Red berries, Dec.–Feb. Cream flowers, summer

- Well-drained soil but adaptable
 Full sun, evergreen. Can be sheared
 Semi-dry brushy slopes below 4000 ft. Humboldt Co.
 to southern California
3. *Arctostaphylos* spp. Manzanita
 20 × 15 to 1 × 6 ft.
 White, blush-pink, pink flowers. Dec.–Feb.
 Rocky, well-drained soil, full sun
 Evergreen
 Wide spread; 117 taxa
 4. *Ceanothus* spp. Wild Lilac
 20 × 20 down to 14 ft.
 Cobalt-blue flowers to pure white. March–May
 Well-drained soil, full sun
 Evergreen
 Wide-spread; 130 taxa
 5. *Romneya coulteri* 'White Cloud'. Matilija Poppies
 6 × 8 ft. or more
 White flowers, May–June
 Any soil, full sun
 Cut back to ground in fall
 Rocky slopes in Southern California, coastal
 6. *Baccharis pilularis* Coyote Brush
 1 to 3 × 6 ft.
 Well-drained rocky soil, full sun
 Evergreen
 Windswept dunes and headlands, coastal Monterey county to Sonoma county
 7. *Fragaria* spp. ground cover Wild Strawberry
 6 in. to wide spreading
 White flowers in spring, followed by red berries
 Full sun to full shade
 Evergreen coastal and woodland
 8. *Penstemon* spp. Beard Tongue
 1 to 3 × 1 to 3 ft.
 Pink, blue, lavender, red flowers, spring and summer
 Rocky well-drained soil
 Full sun, wide-spread
 Evergreen—cut back in summer
 9. *Diplacus* spp. Monkey Flowers
 2 to 3 × 2 to 3 ft.
 Red, yellow, pink, white, rust, burgundy flowers
 Throughout spring
 Well-drained, rocky soil; full sun/part shade
 Evergreen. Cut back in summer
 10. *Monardella macrantha* red Penny Royal
 16 × 4 in.
 Red flowers, June–Aug.
 Well-drained/high humus soil
 Full sun/part shade
 Evergreen
 Species dry slopes, 2500 to 6000 ft. from Monterey county to Baja, California
 mountain ranges
 11. *Quercus* spp. Oak
 Deciduous and evergreen
 Large trees
 Wide-spread
 12. *Heuchera* hybrids. Coral Bells

- Pale pink to deep pink flowers, Jan. to May
 High humus soil, dappled shade
 Evergreen
13. *Aquilegia formosa* Columbine
 Yellow and salmon-pink flowers between Jan. and May
 High humus, dappled shade
 Evergreen. Cut off spent flowers
14. *Salvia spathacea* Hummingbird Sage
 2 × 3 ft.
 Red flowers Jan. to March
 High humus soil, dappled shade
 Evergreen; cut off spent flowers
 Grassy shaded slopes. Southern to central California
15. *Lilium humboldtii* var. *ocellatum* Humboldt Lily
 3 ft. in flower
 Orange flowers, spring
 Well-drained soil, light shade
 Southern California

CONCLUSIONS

The native flora of California has a wealth of plant material to capture and domesticate. Native plants have a variety of textures and colors which can enhance the home garden. In addition, these plants are adapted to the special weather patterns of their areas.

It is for us to integrate the ecosystems outside our city walls with the landscape therein. We need to broaden our knowledge of cultivation of native plants so we can offer them through our nurseries. As horticulturists, let us use the vast resources from our meadows and hillsides to create landscapes unique to our regions.

REFERENCES

- Bakker, Elna, 1971. *An Island called California*, Berkeley: University of California Press
- Lenz, Lee W. and John Dourley, 1981. *California Native Trees and Shrubs*, Claremont, Calif.: Rancho Santa Ana Botanic Garden
- Munz, Philip and David Keck, 1968. *A California Flora*, Berkeley: University of California Press
- Schmidt, Marjorie G., 1980. *Growing California Native Plants*, Berkeley: University of California Press.

VOICE: Many of these rare species that we collect are on the endangered list. Should we be collecting, reproducing, then selling these endangered species plants?

GERALD STRALEY: You should first check with the local authorities, such as the Agricultural Extension Service for lists of endangered plants. If you can get in ahead of the bulldozers or loggers then take the plant. Use your best judgement. We can do a great service by propagating and maintaining rare plants that would otherwise become extinct. We now have a certain plant in Canada in

cultivation that doesn't exist in the wild anymore.

LINDA ABERBOM: You can also check with the Botanic Gardens. They are continually collecting information on the status of endangered species.

WILBUR BLUHM: In the Pacific Northwest the Botanic Gardens are much involved in this problem. Your question is an excellent one. I think there is an ethic here we must all subscribe to when we are working with endangered species to make sure we are not part of the problem.

MECHANICAL AND HAND METHODS FOR PROCESSING SEED

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Seed processing is a vital part of making available high quality seed. A good seed processing job can assure growers of maximum germination and true-to-type seed, plus the seed will store better. The quality of seed is improved during processing by removal of contaminants such as seeds of other crops, weed seed, inert material, etc. and by upgrading or eliminating poor quality seed.

Seed processing is aided by proper collection of material in the field. There are many methods of collecting seed but all generally produce either dry or wet material to process. The seed processor will evaluate the crop to determine the best method or methods of separating the seed from the contaminants.

An important prerequisite for efficient and effective seed cleaning of dry seed is that the seed is completely threshed and as free flowing as possible. This may require removal of awns or beards or breaking up of pods, seed heads, or seed clusters. To minimize losses of good seed, these clusters, heads, or pods must be completely broken up before the lot is cleaned. Often a debearder machine is used to complete threshing and to remove appendages or hulls that interfere with the flow of the seed.

The debearder has both rotating and stationary beater arms that are permanently fixed inside the machine. When the material is fed into the machine, the seed is rubbed by the rotating arms and is rotated toward the discharge gate. Weights can be placed on the gate to control the length of time the seed is in the debearder. Generally brittle seeds, such as *Isomeris arborea* or lupines are run through the