SOUTHERN CALIFORNIA NATIVE PLANTS FOR SCHOOL & URBAN GARDENS

By Betsey Landis Los Angeles/Santa Monica Mountains Chapter California Native Plant Society August 2011

For the convenience of teachers, the Southern California Native Plants for School & Urban Gardens book has been split into three sections and saved as four separate pdf files (Section II: Planting has been split into two files because it is too big to conveniently download as one file). These files in part or as a whole are free to educators, those working on school garden projects, and those working on public urban garden sites, but the contents of the files may not be sold without permission of the Los Angeles/Santa Monica Mountains Chapter of the California Native Plant Society. The Los Angeles/Santa Monica Chapter will print copies of the book in small quantities for special orders.

Go to www.lacnps.org and find Southern California Native Plants for School & Urban Gardens to download the pdf files. The book, Southern California Native Plants for School & Urban Gardens and the author, Betsey Landis, should be cited as the source of any information, illustrations or photos from this book used in electronic media or in print.

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Section I

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SOUTHERN CALIFORNIA NATIVE PLANTS FOR SCHOOL & URBAN GARDENS

by Betsey Landis, (CNPS, L. A./Santa Monica Mountains Chapter website: www.lacnps.org)

Section IIa

Planting: Planting advice Column headings and terms for landscaping tables Southern California native plants suitable for containers: Introductory text Table of southern California native plants suitable for containers Plant community gardens: Introductory text Tables of information on the following plant community gardens: Chaparral Coastal sage scrub Grassland Riparian Woodland Native American gardens: Introductory text Tables of information on the following native American gardens: Chaparral Coastal sage scrub Riparian Butterfly gardens: Introductory text Tables of information on the following butterfly gardens: Chaparral Coastal sage scrub Riparian Extra tables for garden planners

Section IIb

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Section III

Two sheets of photos (may be used as covers for Section III) Appendices: Glossary Native plant nurseries

Native plant nu References



TUJUNGA WASH





NATIVE AMERICAN BASKET & NATIVE PLANTS BUSH SUNFLOWER WITH CHECKERSPOT Southern California Native Plants for School and Urban Gardens (Photos and text by Betsey Landis)

SOUTHERN CALIFORNIA NATIVE PLANTS FOR SCHOOL & URBAN GARDENS by Betsey Landis

The top photo is part of the broad Tujunga Wash which channels water and debris from a major area of the San Gabriel Mountains. The yucca are enormous, with tall stalks of flowers. Around the many yuccas are California buckwheat and many other hardy shrubs. In the background are cars moving along a local road.

On the left at the bottom is a native American basket made of Torrey pine needles. The basket nestles in some useful plants: puffy balls of California buckwheat flowers, sticky red fruits of sugar bush, deep blue grapes and leaves from a native grape vine and the seed stalks of white sage.

On the right a checkerspot butterfly enjoys a sip of nectar from the bush sunflower, a very popular flower for many insects, birds, rodents and gardeners.



CALIFORNIA NATIVE PLANT SOCIETY OCTOBER PLANT SALE



GOLDEN YARROW, PENSTEMONS, & MORE



DOUGLAS IRIS CULTIVAR

Southern California Native Plants for School and Urban Gardens (Photos and text by Betsey Landis)

SOUTHERN CALIFORNIA NATIVE PLANTS FOR SCHOOL & URBAN GARDENS by Betsey Landis

The top photo shows people enjoying shopping for native plants and seeds at the annual fall native plant sale of the Los Angeles / Santa Monica Mountains Chapter of CNPS. This plant sale usually is held at the Sepulveda Garden Center in Encino.

The bottom photo on the left is a mass of flowers in spring in a small yard. In front of the golden yarrow and the tall stalks of showy purple and scarlet penstemons are small white many-branched popcorn flowers. A few deep blue Parry's phacelias are peeking out of the popcorn flowers. The bottom photo on the right is a Douglas iris cultivar that needs some shade when the weather gets hot. It does well in the shade of a large bush.

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GLOSSARY OF BIOLOGICAL TERMS

Southern California Native Plants for School & Urban Gardens, Section III, Appendices

Abdomen: The hindmost of the three regions (head, thorax, abdomen) of the insect's body.

Acorn cup: Receptacle that holds the acorn until it is ripe. The cup is derived from the bracts that protect the ovary when the female flower first opens.

Antenna: Feeler-like appendages located on head of insect above the mouth parts.

Anther: Pollen-forming portion of a stamen.

Axil: The upper angle between axis and branch (for instance, between a stem and a leaf).

Axis (Axes): Line of direction, growth, or extension; structure occupying such a position (for instance, the main stem of a plant or inflorescence or the midrib of a leaf).

Blade: Expanded portion of a leaf, petal or other structure, generally flat but sometimes folded, rolled or cylindric.

Bract: Small leaf- or scale-like structure associated with an inflorescence or cone.

Calyx: Collective term for sepals; outermost or lowermost whorl of flower parts, generally green and enclosing remainder of flower in bud. Sometimes indistinguishable from corolla.

Carpels: The basic female structure of flowering plants.

Chrysalis: The pupa of a butterfly.

Compound: Composed of two or more parts, as a *compound leaf* is composed of leaflets.

Corolla: Collective term for petals; whorl of flower parts immediately inside or above calyx, often large and brightly colored.

Cotyledon: The first leaves of a seedling. Cotyledons usually look quite different from the other leaves. Sometimes, as in the case of oaks, cotyledons don't emerge from the seed at all.

Epicotyl: The growing tip of the embryo. This growing tip ultimately produces the entire aboveground shoot system that eventually becomes (in oaks) the trunk, branches and leaves of the mature tree.

Filament: Anther-stalk; the often thread-like portion of a stamen.

Germination: The beginning or resumption of growth by a spore, seed, bud or other structure.

Hypocotyl: The part of the embryo plant between the epicotyl and root (radicle) and responsible for the stem of the new seedling up to the cotyledons.

Inflorescence: An entire cluster of flowers and associated structures.

Labium: Lower "lip" of mouth parts in insects.

Labrum: Upper "lip" of mouth parts in insects.

Larva: Immature, feeding stage (for instance, a caterpillar) between egg and pupa of insects which undergo a complete metamorphosis.

Leaf: Stem appendage with a structure such as a bud, branch, or flower in its axil, generally green and often composed of a stalk (petiole) and a flat, expanded, photosynthetic area (blade).

Leaflet: One leaf-like unit of a compound leaf.

Lobe: 1. A major expansion or bulge, such as on the margin of a leaf or petal or on the surface of an ovary. 2. The free tips of otherwise fused structures, such as sepals or petals.

Metamorphosis: A series of marked changes in the form of a developing insect.

Ovary: Ovule-bearing, generally wider, portion of pistil, normally developing into a fruit as ovules become seeds.

Ovule: Structure containing an egg; a seed prior to fertilization.

Palmate: Radiating out from a common point (like fingers from the palm of the hand). Generally said of veins, lobes or leaflets.

Pedicel: Stalk of an individual flower or fruit.

Petal: Individual member of the corolla, whether fused or not, often conspicuously colored.

Petiole: Leaf stalk, connecting leaf blade to stem.

Pistil: Female reproductive structure of a flower, composed of an ovule-containing ovary at the base, one or more pollen-receiving stigmas at the tip and generally one or more styles between ovary and stigma. A flower may have one or more *simple pistils* (each a single, free carpel with a single ovary chamber, placenta and stigma) or one *compound pistil* (two or more fused or partially fused carpels, the exact number often equaling the number of ovary lobes, ovary chambers, placentas, styles or stigmas).

Pollen grain: A microspore containing a mature or immature microgametophyte (male gametophyte). Pollen grains occur in seed plants, i.e. angiosperms (plants with true flowers) or gymnosperms (woody plants with seeds in cones or bare on branches).

Pollen: A collective term for pollen grains.

Pollination: In angiosperms, the transfer of pollen from an anther to a stigma to fertilize an egg. In gymnosperms, the transfer of pollen from a pollen-bearing cone directly to an ovule.

Proboscis: Tube-shaped structure of the head that takes liquid food; modified mouth parts of some insects (such as butterflies).

Pupa: Immature stage after the larva in which transformation to the adult stage occurs in insects undergoing complete metamorphosis.

Radicle: The future root end of the embryo inside a seed.

Receptacle: 1. In individual flowers, the structure to which flower parts are attached. 2. In heads or head-like inflorescences, especially in Asteraceae, the structure to which flowers or sometimes heads are attached.

Sepal: Individual member of the calyx, whether fused or not, generally green.

Simple: Composed of a single part; undivided; unbranched (as in a simple leaf.).

Stamen: Male reproductive structure of a flower, typically composed of a stalk-like filament and a terminal pollen-producing anther. Filaments sometimes partly fuse to the corolla, or to other filaments to form a tube.

Stem: Axis or axes of a plant, bearing appendages such as leaves, axillary buds and flowers.

Stigma: The part of a pistil on which pollen is normally deposited, generally terminal and elevated above the ovary on a style, generally sticky or hairy, sometimes lobed.

Style: Stalk-like portion that connects ovary to stigma in many pistils.

Thorax: The middle or second of the three main regions (head, thorax, abdomen) of the insect's body; bears the legs and wings.

Whorl: Group of three or more structures of the same kind (generally leaves or flower parts) at one node (position on an axis from which one or more structures arise).

Definitions from:

Hickman, James C. editor. 1993. The Jepson Manual, higher plants of California. UC Press. Hogue, Charles L. 1993. Insects of the Los Angeles Basin. Natural History Museum of Los Angeles County.

Keator, Glenn. 1998. The life of an oak, an intimate portrait. Heyday Books and California Oak Foundation.

Powell, Jerry and C.L. Hogue. 1979. California Insects. UC Press.

Raven, Peter, R. F. Evert and S. E. Eichhorn. 1992. Biology of Plants, 5th Edition. Worth Publishers.

NURSERIES CARRYING NATIVE PLANT MATERIAL Southern California Native Plant School & Urban Gardens, Section III, Appendices

El Nativo Growers

200 S. Peckham Road Azusa, CA 91702 626-969-8449 (wholesale) www.elnativogrowers.com retailsales@elnativogrowers.com

Las Pilitas Nursery (north)

3232 Las Pilitas Road Santa Margarita, CA 93453 805-438-5992 www.laspilitas.com

Las Pilitas Nursery (south)

8331 Nelson Way Escondido, CA 92026 760-749-5930 www.laspilitas.com

Matilija Nursery

8225 Waters Road Moorpark, CA 93021 805-523-8604 www.matilijanursery.com

Mockingbird Nursery, Inc.

1670 Jackson Street Riverside, CA 92504 951-780-3571 www.mockingbirdnursery.com

Moosa Creek Nursery

11760 Betsworth Road Valley Center, CA 92082 760-749-3216 www.moosacreeknursery.com

Native Sons Wholesale Nursery

379 W. El Campo Road Arroyo Grande, CA 93420 805-481-5996 www.nativeson.com

Rancho Santa Ana Botanic Garden

1500 N. College Avenue Claremont, CA 91711 909-625-8767 www.rsabg.org California Garden Shop sells plants. Brentwood VA site also sells plants. Plant Sale events in fall and spring

RECON Native Plants

1755 Saturn Boulevard San Diego, CA 92154 619-423-2284 www.reconnativeplants.com

S & S Seeds

(wholesale with retail outlet) P.O. Box 1275 Carpenteria, CA 93013 805-684-0436 www.ssseeds.com

San Marcos Growers (wholesale)

125 S. San Marcos Road P.O. Box 6827 Santa Barbara, CA 93111 805-683-1561 www.smgrowers.com

Santa Barbara Botanic Garden

Garden Growers Nursery 1212 Mission Canyon Road Santa Barbara, CA 93105 805-682-4726 www.sbbg.org Plant Sale events in fall and spring

Theodore Payne Foundation

10459 Tuxford Street Sun Valley, CA 91352 818-768-1802 www.theodorepayne.org

Tree of Life Nursery

3321 Ortega Highway P.O. Box 635 San Juan Capistrano, CA 92675 949-728-0685 www.californianativeplants.com Retail sales Thursday, Friday, sometimes Saturday, 9 am – 4 pm

California Native Plant Society Sacramento office www.cnps.org

Southern California Chapters Check Chapter websites for dates of

spring and/or fall plant sales

Channel Islands Chapter www.cnpsci.org

Los Angeles/Santa Monica Mountains Chapter www.lacnps.org

Orange County Chapter www.occnps.org

Riverside/San Bernardino Chapter www.enceliaCNPS.org

San Diego Chapter www.cnpssd.org

San Gabriel Mountains Chapter www.cnps-sgm.org

> South Coast Chapter www.sccnps.org

REFERENCES

Southern California Native Plants for School & Urban Gardens, Section III, Appendices

The following references are intended to enhance the information contained in the native plant data base and to aid teachers, parents, and students in learning more about native plants in their native habitats and in the garden. Books are available from local California Native Plant Society (CNPS) Chapters, the authors, State CNPS, University of California Press (UC Press) or various commercial websites. A list of websites is provided for references available on the web.

Wildflower posters (Spring Wildflowers, Wildflowers of the Desert, Wildflowers of the Coast, Shrubs of the Coastal Ranges, Wildflowers of the Sierra Nevada and Wildflowers of the Redwood Forest) are available from CNPS, 2707 K Street, Suite 1, Sacramento, CA 95816-5113 or from local CNPS Chapters.

Bean, Lowell John and Katherine Siva Saubel. 1972. Temalpakh: Cahuilla Indian knowledge and usage of plants. Malki Museum Press, Morongo Indian Reservation. *Best reference on native American usage in southern California*.

Bornstein, Carol, B. O'Brien and D. Fross. 2005. California native plants for the garden. Cachuma Press. *Best reference for information on designing and using native plants*.

Bornstein, Carol, B. O'Brien and D. Fross. 2011. Reimagining the California lawn. Cachuma Press. *Water-conserving plants, practices and designs. Includes nonnative plants as well as native plants. Full of good ideas.*

Bremner, Elizabeth and John Pusey. 1990. Children's gardens. University of California Cooperative Extension, Common Ground Garden Program. *Guide for schools and parents*.

Clarke, Charlotte Bringle. 1977. Edible and useful plants of California. UC Press. *Good reference for modern usage of some native plants and includes recipes*.

Dagit, Rosie. 1996. Grandmother oak. Roberts Rinehart Publishers. History of an oak.

Dale, Nancy. 1986. Flowering plants of the Santa Monica Mountains, coastal and chaparral regions of southern California. Capra Press. *Field guide developed by local Chapter, CNPS*.

Emery, Dara and Jacqueline Broughton. November, 1969. Native plants for southern California gardens. Leaflets of the Santa Barbara Botanic Garden, Vol.1, No. 12. *Gardening guide*.

Emery, Dara. Seed propagation of native California plants. 1988. Santa Barbara Botanic Garden. *Gardening guide for native seeds*.

Emmel, Thomas C. and John F. Emmel. November 30, 1973, The butterflies of southern California. Science Series 26. Natural History Museum of Los Angeles County. *Excellent*.

Evans, Arthur and J. N. Hogue. 2006. Field guide to beetles of California. UC Press. *Excellent guide to beetles*.

Faber, Phyllis, editor. 1997. California's wild gardens, a living legacy. California Native Plant Society for The California Department of Fish and Game. *Beautiful book. Lots of pictures*.

Fillius, Margaret L. 2007. Native plants, Torrey Pines State Reserve and nearby San Diego County locations, 2nd Edition. Fillius Interests, contact: book@filliusinterests.com *Great photos and lots of information about native plants in this area.*

Fross, David and D. Wilken. 2006. Ceanothus. Timber Press, Inc. *Everything you want to know about native Ceanothus. Very interesting.*

Garcia, Cecilia and James D. Adams, Jr. 2009. Healing with medicinal plants of the west, 2nd edition. Abedus Press, P.O. Box 8018, La Crescenta, CA 91224-0018. A Chumash healer and spiritual leader worked with an Associate Professor of the USC School of Pharmacology to provide a cultural and a scientific basis for the use of these plants as medicine. Great book!

Halsey, Richard W. 2008. Fire, chaparral, and survival in southern California, 2nd edition. Sunbelt Publications, Inc. Contact: www.sunbeltbooks.com. Very good set of essays on this topic. Should be required reading for anyone living in wildfire areas in southern California.

Harrington, H.D. 1977. How to identify grasses and grasslike plants. Swallow Books, Ohio University Press. *Explains clearly the terminology and methods used in identifying grasses*.

Heizer, Robert F. and Albert B. Elsasser. 1980, The natural world of the California Indians. UC Press. *Lots of information on local tribal use of plants*.

Hickman, James C., editor. 1993. The Jepson manual: higher plants of California. UC Press. *Technical botanical key but has good pictures and good definitions of terms. Second edition under preparation as of July 2011, available on web as "Jepson Manual 2"*.

Hogue, Charles L. 1993. Insects of the Los Angeles basin. Natural History Museum of Los Angeles County. *Good field guide and introduction to insects*.

Huffman, Margaret. 1998. Wild heart of Los Angeles, Santa Monica Mountains. Roberts Rinehart Publishers. *Naturalist's stories of the Santa Monica Mountains*.

Johnston, Verna R. 1994. California forests and woodlands. UC Press. *Interesting natural history*.

Keator, Glenn and A. Middlebrook. June 4, 2007. Designing California native gardens: The plant community approach to artful, ecological gardens. UC Press. *Useful reference*.

Lanner, Ronald M. May 1999. Conifers of California. Cachuma Press. *Beautiful book, well-written, full of good information*.

Lightner, James. 2011. San Diego County native plants. 3rd edition. San Diego Flora, 1220 Rosecrans Street, Suite 293, San Diego, CA 92106. www.sandiegoflora.com. *Very good!*

Mattoni, Rudi.1990. Butterflies of greater Los Angeles. Lepidoptera Research Foundation, Inc. www.lepidopteraresearchfoundation.org. *Field guide to local butterflies filled with information*.

McAuley, Milt. 1996. Wildflowers of the Santa Monica Mountains, 2nd edition. Canyon Press. User-friendly field guide to plants of the Santa Monica Mountains.

Moore, Michael. 1995. Medicinal plants of the Pacific west. Red Crane Books. *Entertaining guide to properly preparing plants for medicinal use. Covers more than native plants.*

Murphey, Edith Van Allen. 1987. Indian uses of native plants. Mendocino County Historical Society. *Fairly useful guide to native American uses of native plants*.

O'Brien, Bart, B. Landis and Ellen Muick. June 2006. Care and maintenance of southern California native plant gardens. In English and Spanish. Metropolitan Water District of Southern California. *The only book on care and maintenance of native plant gardens. Every native plant gardener should have a copy*.

Pavlik, Bruce M., Pamela C. Muick, Sharon Johnson, and Marjorie Popper. 1991. Oaks of California. Cachuma Press. *Excellent reference on oaks with beautiful pictures and well-written information on habitat and usages*.

Powell, Jerry A. and Charles L. Hogue. 1979. California insects. UC Press. Field Guide.

Roberts, Fred M., Jr. 1995. Illustrated guide to the oaks of the southern Californian floristic province. F.M.Roberts Publications. *Specialized field guide with good drawings and maps*.

Santa Barbara Museum of Natural History. 1991. The Chumash people, materials for teachers and students. *Some interesting information on native American uses of native plants*.

Sawyer, John O., T. Keeler-Wolff and J.M. Evens. 2009. A manual of California vegetation, 2nd edition. California Native Plant Society. *Technical guide to describing California native vegetation*. *Useful for deciding which trees and shrubs will do well together in the garden*.

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Stromberg, Mark R., J. D. Corbin and C.M. D'Antonio, editors, 2007. California Grasslands: ecology and management. UC Press, Berkeley and Los Angeles. *Learn about native grasslands*.

Native Plant Checklists:

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Roberts, Fred M., Jr. 1998. A Checklist of the Vascular Plants of Orange County, California, 2nd edition. F.M. Roberts Publications, San Luis Rey, CA

Roberts, Fred M., Jr., S.D. White, A.C. Sanders, D.E. Bramlet and S. Boyd. 2004. The Vascular Plants of Western Riverside County, California, An Annotated Checklist. F.M. Roberts Publications, San Luis Rey, CA.

Websites (as of July-August, 2011):

California Native Plant Society. www.cnps.org. Click on "GrowingNatives" to access the horticulture section of the website. *Lots of useful information there for native plant gardeners*.

The Manual of California vegetation, digitized version, is found at www.cnps.org/cnps/vegetation/manual-2ed.php.

The CNPS inventory of rare, threatened and endangered plants of California is found at www.cnps.org/cnps/rareplants/inventory/

CalFlora. www.calflora.org. *Database of all 8375 currently recognized vascular plants in California. Ten thousand photos of plants.*

CNPS Chapter websites have event calendars for public programs, hikes, work parties and offer much local information about native plants (CDs, Apps, books, booklets, lists, photo databases).

The southern California CNPS Chapters are:

Channel Islands Chapter. www.cnpsci.org

Los Angeles/Santa Monica Mountains Chapter. www.lacnps.org

Orange County Chapter. www.occnps.org

Riverside/San Bernardino Chapter. www.enceliacnps.org

San Diego Chapter. www.cnpssd.org

San Gabriel Mountains Chapter. www.cnps-sgm.org

South Coast Chapter. www.sccnps.org

Las Pilitas Nursery. www.laspilitas.com. Bert Wilson has a huge website filled with information for all native plant gardeners and designers. Wonderful resource.

Los Angeles/Santa Monica Mountains Chapter, California Native Plant Society. www.lacnps.org. Recommended list of native plants for landscaping in the Santa Monica Mountains. Available on the chapter website as a downloadable pdf file. *Basic native plant* gardening guide for the Santa Monica Mountains. Includes list of invasive nonnative plants.

Tree of Life Nursery. www.californianativeplants.com. *Nursery catalog and planting guide*. *Useful information about habitat preferences, sizes of plants. Has actual garden designs on site.*

S & S Seeds. www.ssseeds.com. Has very large selection of both native and nonnative seeds. Note: Always check the seed list when ordering seed mixes (especially any mixes marked "Wildflower Mix") to make sure the seeds are California natives. Many of their"Wildflower" seed mixes contain nonnative annuals and nonnative short-lived perennials, though the labels may say the "Wildflower" seeds are suitable for regions in California.

Other Resources:

Rancho Santa Ana Botanic Garden. www.rsabg.org. *Beautiful large native plant and native plant cultivar garden designed around dry inland climate conditions. Has some plants for sale and schedules two very popular plant sales every year. Offers classes on native plant and water-conserving gardening. Has excellent herbarium and a well-stocked gift shop. Has a branch nursery and sells plants at the Veterans Administration site in Brentwood in west Los Angeles.*

Santa Barbara Botanic Garden. www.sbbg.org. Also a wonderful large native plant and native plant cultivar garden, this time designed around coastal climate conditions. Also sell some plants and schedules popular plant sales. Offers frequent classes on native plant and water-conserving landscaping. Has large herbarium and a large gift shop.

Theodore Payne Foundation for Wildflowers. www.theodorepayne.org. *Excellent foundation devoted to native plants. Sells native plants and native plant seeds as well as books. Offers classes and workshops covering everything about native plant gardening. Sponsors a spring garden tour of many local residential native plant and water-conserving gardens.*

Note: These are just a few of the many sources of information and education about native plants and native plant gardening in southern California. The native plant gardening learning curve is full of color, mystery, excitement, surprises and is never-ending.

