Friends of the Palomar College ARBORETUM

NEWSLETTER

Volume 2 Number 1 February 14, 2012

2012 Calendar of Events for Late Winter and Spring

http://www.palomar.edu/arboretum/calendarEvents.htm

Events, Workshops, Lectures and Tours for 2012

Saturday, January 28

10:00 am – 1:00 pm

Basic Tree Trimming workshop

with Tony Rangel and Todd McGurn

Meeting in front of the Arboretum entrance. The workshop is free and open to the public.
Please park in Parking Lot 5.
(free parking for attendees for this workshop only)

Saturday, February 25

9:00 am – 11:00 am

California Native Plants

with Wayne Armstrong

Room: NS-139

Free lecture and plant sale open to the public. Please park in Parking Lot 5. *(free parking for attendees for this lecture and plant sale only)*

Saturday, February 25

11:30 am – 1:30 pm

California Native Plant Sale - The Return of the Native

with Ed Schwind

Outside the NS building

Saturday, March 10

10:00 am – Noon

Beginner's Approach to Growing Palms & Cycads in Southern California

with David Minks and Tony Rangel

Room: NS-139

The lecture is free and open to the public. Please park in Parking Lot 5. *(free parking for attendees for this lecture only)*

Saturday, April 21

9:00 am – 3:00 pm

Arboretum Beautification Day

Patron's Pavilion in the Arboretum

More information to come!

Saturday, April 28

10:00 am – 2:00 pm

Palomar Cactus and Succulent Society 50th Anniversary Celebration

Open House at the Cactus & Succulent Garden and meet at the Patron's Pavilion for lunch
More information to come!

Saturday, May 5

9:30 am – Noon

Coastal Sage Scrub Walk

with Wayne Armstrong

Room: NS-139

The lecture is free and open to the public.
Please park in Parking Lot 5.
(free parking for attendees)

Wednesday, May 9

5:30 pm – 7:30 pm

Members Appreciation Dinner

Patron's Pavilion in the Arboretum

Please park in Parking Lot 5.
(free parking for attendees)

Saturday, May 12

9:30 am – 11:30 am

The Ins and Outs of Growing Tomatoes and Other Veggies

with Richard Borevitz

Room: NS-139

Read a short bio about Richard.
(on the Speaker's webpage - http://www.palomar.edu/arboretum)
The lecture is free and open to the public.
Please park in Parking Lot 5.
(free parking for attendees)

Saturday, June 2

10:30 am – 12:30 pm

Cactus and Succulent Care Workshop

with Dick Henderson

Cactus Garden Gate. The workshop is free and open to the public.
Please park in Parking Lot 3B & 3.
(free parking for attendees)

Saturday, June 9

10:00 am – Noon

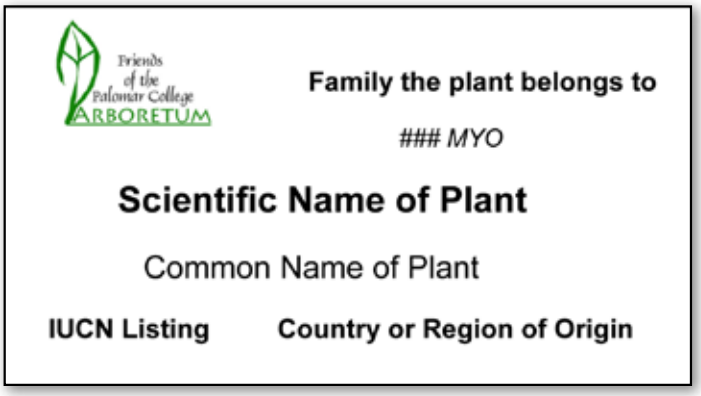
Discover the Plants of Palomar College Walking Tour

with Tony Rangel

Front of the Boehm Gallery
The tour is free and open to the public.
Please park in Parking Lot 5.
(free parking for attendees)
Because the tour will finish up at the Arboretum.

Plant Labels on Campus (Part 2)

by Tony Rangel



Why install plant labels ? The plant collection on campus at Palomar is vast and unique and we felt it was important to educate the staff and visitors about the plant diversity found here. As our populations grow and encroach on wilderness areas, our world's biodiversity continues to diminish. Some of the plant species on campus are threatened and endangered in their native habitats. The labels were given a basic and standard layout for easy reading and interpretation.

What does the "###MYO" stand for? The "###MYO" stands for how many years old the plant or plant family is in the fossil record, as we understand it today. This information only appears on species with a known fossil record.

What does the IUCN Listing refer to? IUCN stands for International Union for the Conservation of Nature. This union is a consortium of Scientists, Naturalists, Institutions, and Governments who are working together to continually analyze and quantify the populations of living things on our ever-changing world. The IUCN works diligently to gather information to help them determine whether a given species is stable in the wild and can sustain itself in its natural state. Factors affecting the stability of a species include abnormally low population densities, low or poor reproductive rates, fragmented natural range of distribution, negative environmental impacts on habitat and /or negative human impacts. From this data, the IUCN can determine to what extent the species is in danger of becoming extinct. The species then may be placed on any of the following lists: Threatened, Vulnerable, Endangered, Critically Endangered, Extinct in the Wild, or Extinct. If the species in question is not on the list, it is considered "Stable," "Of Least Concern," or "Data Deficient," and the plant labels indicate that the species is secure… for now. Here is a quick breakdown of what these listings mean.

Threatened: A species is Threatened (or Near Threatened) with becoming extinct when population densities and reproductive rates begin to drop significantly. A species may also have or be facing a small or reduced natural range of distribution, often exasperated by negative environmental impacts on its natural habitat.

Vulnerable: A species is Vulnerable with becoming extinct due to less than ideal population densities, low reproductive rates, and a small or reduced natural range of distribution. A species may also have, or be facing a small or reduced natural range of distribution, often exasperated by negative environmental impacts on its natural habitat. Negative human impacts on a species are usually harvesting or habitat destruction.

Endangered: A species is endangered of becoming extinct when population densities and or reproductive rates, have dropped well below the levels needed to sustain themselves without protection and intervention. This could be exasperated by a small or reduced natural range of distribution, extremely negative environmental impacts on habitat and or human over harvesting. At this point without constant human diligence, a species is not expected to survive.

Critically Endangered: A species is considered Critically Endangered when it is inevitably expected to become extinct because population densities and or reproductive rates have dropped so low that the levels needed to sustain themselves, without protection and intervention, are no longer present. The over harvesting of species is also a critical factor and if not reconciled will lead to extinction. If quick and affirmative actions are not taken to preserve what is left of a species genetic pool the species will be lost.

Extinct in the Wild: A species is considered Extinct in the wild when all efforts to confirm the existence of a wild population or specimen throughout a species historical known range, have been unsuccessful. The species however may still exist, Ex–Situ (In Captivity) elsewhere.

Extinct: When no specimens of a given species remain alive on earth, either in the wild or Ex-Situ (Plant or Animal in Captivity), then a species is considered Extinct. This listing is reserved for those species whose habitat has been thoroughly surveyed numerous times to no avail.

If a species is placed on the IUCN Red list, it then becomes the responsibility of the world or at least the country or origin to provide appropriate protection. Depending where it is placed on the list, its import and export from country to country should be restricted to permitted individuals or institutions. The higher on the list; I.E. closer to critically endangered a species may be, the more stringent the exploitation restrictions should become.

Botanical gardens are an invaluable resource for the preservation of genetic material of plants. Many of the world's rarest plants are grown in botanical gardens across the globe in an effort to preserve species, or in some cases provide a resource for the reintroduction of a species should it go extinct in the wild. B.G.C.I. (Botanical Gardens Conservation International) is a consortium of individuals and institutions who are working towards that end. In 2009 the "Friends of the Palomar College Arboretum" requested that the Palomar College Arboretum be listed as one of the "Botanical Gardens" who are helping to conserve plants from around the globe. Our Membership was accepted later that year.

By helping botanical gardens work together to conserve nature through education and propagation, The Friends of the Palomar College Arboretum, and all B.G.C.I member gardens, are making a difference in our ever-changing world. The Grounds Department at Palomar College operates its own in-house nursery complete with a green house, hot house and large shade house. The plant database for the entire campus has been stated and is expected to be complete in the next 24 months. This database will provide a myriad of information about each plant on campus, including where it came from, where it is planted, how large it was when planted, and a host of other information. The current data base exceeds 2000 specimens with an estimated 6000 more to be added to the list that are planted, but have not been recorded yet. This project needs many man hours to complete. If you are interested with this or any other project please visit our website.

Bibliography:

IUCN Red List Of Threatened Species:
http://www.iucnredlist.org/
http://intranet.iucn.org/webfiles/doc/SSC/RedList/redlistcatsenglish.pdf
Botanical Gardens Conservation International:
http://www.bgci.org/

Name Changes In Wildflowers at Palomar College

by W.P. Armstrong

The snapdragon family (Scrophulariaceae) now includes (A) our native California bee plant (*Scrophularia californica*) and the cultivated shrubs (B) Butterfly bush (*Buddleja davidii*) and (C) prostrate myoporum (*Myoporum parvifolium*).

The native vegetation bordering the Palomar College Campus and Arboretum is called coastal sage scrub, a low scrubland plant community along the California coastal mountains extending south into northern Baja California. In addition to the native shrubs, there are several hundred species of annual and perennial wildflowers. The wildflowers bloom in profusion following the clearing of brush and wild fires, when full sunlight and favorable soil conditions are available for the germinated seeds.

With the release of the revised *Jepson Manual of California Plants* in early 2012, wildflower enthusiasts will be surprised (astonished) with all the new name changes. This includes major changes in genera, species and plant families. For example, our common red bush monkeyflower (*Mimulus puniceus*) of the snapdragon family (Scrophulariaceae) will now become *Mimulus aurantiacus* var. *puniceus* in the family Phrymaceae. Our local wildflower owl's clover (*Orthocarpus*) of the snapdragon family (Scrophulariaceae) is now placed in the Indian paintbrush genus *Castilleja* within the parasitic family Orobanchaceae along with the broomrapes (*Orobanche*). The true snapdragon (*Antirrhinum*) has been moved to the plantain family (Plantaginaceae) along with *Plantago* and *Penstemon*. The mucilaginous husks from psyllium seeds (*Plantago ovata*) are used in laxatives and soluble fiber supplements such as Metamucil. The familiar deerweed (*Lotus scoparius*), a name used for many decades, will become *Acmispon glaber* var. *glaber*. Yerba santa (Eriodictyon crassifolium) of the phacelia family (Hydrophyllaceae) will now be placed in the borage family (Boraginaceae) along with popcorn flowers (*Plagiobothrys*) and white forget-me-nots (*Cryptantha*). Members of my beloved duckweed family (Lemnaceae) have now been placed in the arum family (Araceae) along with *Philodendron, Caladium* and *Dieffenbachia*.

The reason for all these mind boggling changes is a consistent phylogenetic system based on chloroplast DNA. For decades, chloroplast DNA for all these species has been analyzed by computers throughout the world. The results of these studies have been published in *Plant Systematics: A Phylogentic Approach* by W.S. Judd, et al (2008), a book that has been followed extensively in the new Jepson Manual.

Our coastal sage scrub locoweed was formerly known as *Astragalus leucopsis*, but is now named *Astragalus trichopodus* var.*lonchus*. This is the largest genus of flowering plants with 2,481 species, 380 in North America and 97 in California. Having memorized thousands of plant names during my career, I find it especially difficult to relearn them under different names, even though the modern molecular system of classification is probably a lot more accurate.

It has been estimated that a botanist can recall from memory approximately 5,000 scientific names from the 250,000 species of flowering plants on earth. Approximately one-fourth of these belong to three families: The legumes (Fabaceae), orchids (Orchidaceae) and sunflowers (Asteraceae). In other words, if all these species of flowering plants were lined up at random, every 4th species would be a sunflower, a legume, or an orchid. If you happened to pick a legume, the odds that it will be a locoweed (*Astragalus*) is about one out of nine.

Indian paintbrush (*Castilleja affinis* ssp. *affinis*) and Indian warrior (*Pedicularis densiflora*) are now placed in the parasitic broomrape family (Orobanchaceae) along with chaparral broomrape (*Orobanche bulbosa*).

A. Showy penstemon (*Penstemon spectabilis* var. *spectabilis*), B. Chinese houses (*Collinsia heterophylla*), and C. foxglove (*Digitalis purpurea*) have been moved from the snapdragon family to the plantain family (Plantaginaceae).

Red bush monkeyflower (*Mimulus puniceus)* of the snapdragon family, a common hummingbird shrub in the local hills, will now become *Mimulus aurantiacus* var. *puniceus* in the lopseed family Phrymaceae.

Our common Arboretum wildflower called deerweed (*Lotus scoparius*) has been changed to *Acmispon glaber* var. *glaber.*

Would you like to be an Arboretum Volunteer?

Maintaining the Palomar College Arboretum is an enormous task and takes countless hours to keep all the gardens growing. We are often asked: What does an Arboretum volunteer do? How many hours would a volunteer be expected to work? Can anyone volunteer?

Tasks assigned to volunteers are based on an individual's knowledge, experience and physical limitations. Some horticultural experience is a plus; however it is not necessary. Basic tasks include raking leaves, sweeping, weeding and watering. Other complex tasks like trimming and planting may be asked of volunteers if they have been trained properly by the Grounds Services staff. In an effort to keep track of the large and diverse plant collection a data base of all the plants on campus is maintained. Help with this computerized data base project is always needed.

In addition to maintaining the District's plant collection we operate our own nursery and propagation area. We also maintain a seed bank for several of the more rare and unique plants. Plant propagation work is vital to the grounds department. Seeds and cuttings of our specimens are collected from various places and propagated here in our nursery. With the diversity of plants on campus, volunteers have an opportunity to work with cactus, succulents, trees and shrubs from around the world.

Complete information and a volunteer registration packet is available from the Human Resources Office at: ***http://www.palomar.edu/hr/Personnel/volunteers.htm***. We request that volunteers commit to at least 4 hours per week and submit to the grounds supervisor a record of hours worked on a monthly basis. In addition, members of the Friends of the Arboretum are eligible for an annual parking pass at ***http://www.palomar.edu/arboretum/ParkingPermitApplication.pdf***.

Friends of the Palomar College ARBORETUM

Membership Application Form

☐Join, ☐Renew or ☐Gift Membership

Date: _____

Mr. and Mrs. / Ms. / Miss / Mr. / Mrs.

Name: _____

	Student & Senior 60+	$10
	Individual	$20
	Family	$40
	Founding	$120
	Lifetime Membership	$500
	Corporate Museum Associates	$1,000
	Donations	

$ _____ I have enclosed a donation to benefit the Arboretum

$ _____ Membership

$ _____ Total Payment Enclosed

Credit Card: VISA MasterCard American Express Discover (Please Circle One.)

Account number: _____ Expiration Date: _____

Signature: _____

Address: _____

City, State & Zip: _____

Telephone: _____

Email: _____

If a family membership, please give names of others in your family to be covered by this membership:

Mail this form and check to: Palomar College Foundation Office
1140 West Mission Road
San Marcos, CA 92069-1487
Please make check payable to: Palomar College Foundation
Write "Arboretum" in the memo line.