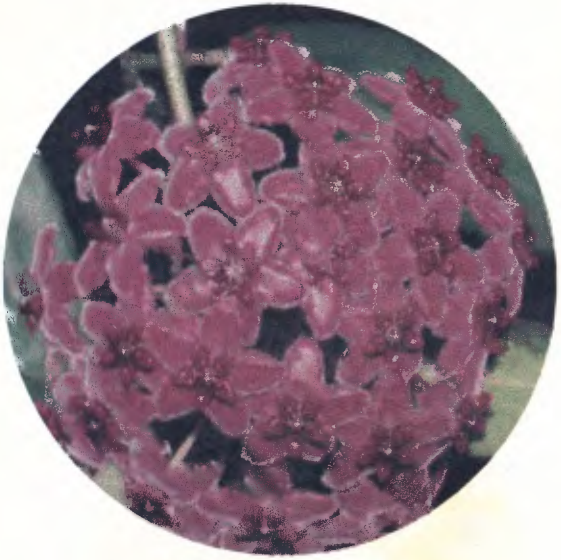
ESPINAS Y FLORES



Program

Aloe and Agave expert Brian Kemble will present a program about a trip he made this past spring to mainland Mexico. Brian always takes great pride in his photography and his programs are always entertaining and enlightening. Brian oversees the care of the fine collection at Ruth Bancroft Botanical Garden in the Bay area.

Succulent of the Month

Jeanette Dutton will unravel the mysteries in the Genus Hoya

The Newsletter of the San Diego Cactus & Succulent Society Inc.
Affiliated with the Cactus & Succulent Society of America

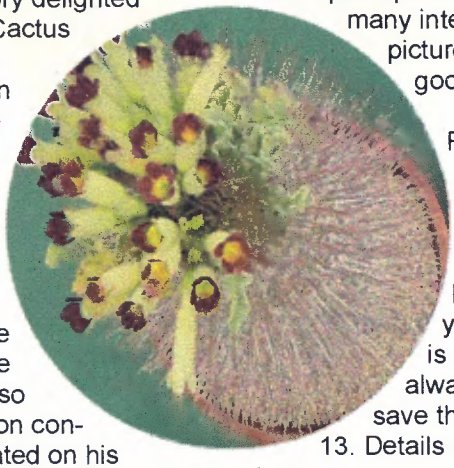
Volume 38 Number 8
Saturday August 9th 2003 1:00 PM
Room 101 Casa Del Prado, Balboa Park

Presidents Message

July 21, 2003

Aloha! I just arrived back from a week in Hawaii. I spent the week snorkeling, eating fish, and relaxing with my mom and sister. I was again totally amazed by the underwater world - especially how much the coral resembles succulent plants! Thanks Mom!

Our July meeting turned out very well - over 60 members and 10 guests signed in and were treated to two excellent presentations. Jon Rebman, Curator of Botany at the Museum of Natural History delighted us with a combined 'Cactus and Succulent" of the month presentation on the plants of Baja. He has done so much research, and presented so many wonderful slides, I am sure we all learned more about this botanically unique place in the world. We are truly lucky to live so close - and to have Jon continue to keep us updated on his latest discoveries.



The main program featured Petra Crist with a show of her trip to Namibia and the Richtersveld last year. Petra certainly knows her plants and where to find the best ones. Her program was very beautiful as well as informative. Many thanks to Petra and Jon for sharing their knowledge and love of plants.

One of the guests who attended our meeting was Graham Mackintosh, author and adventurer. Graham wrote a book about a 3000 mile walk he took around the perimeter Baja titled - INTO A DESERT PLACE. If you haven't read it, it is a great book for anyone who is interested in Baja. He tells me he has a couple of other books on Baja adventures - including one to be published soon - so keep your eye out for those also. He also offered to come and do a program for us at some time. He is not a "plant person" per say, but has many interesting stories and pictures of Baja. Sound good to you?

Remember.... we are planning to have a PICNIC this year in September in place of a meeting. It has been a couple of years so we figure it is about time. This is always lots of fun so save the date - September 13. Details in the next Newsletter.

Meanwhile, see you on August 9th!

Pam Badger
pambadge@earthlink.net

Cover photo: unidentified *Hoya sp.* from New Guinea (photo by Ann Wayman)

Program

Aloe and Agave expert Brian Kemble will present a program about a trip he made this past spring to mainland Mexico. Brian always takes great pride in his photography and his programs are always entertaining and enlightening. Brian oversees the care of the fine collection at Ruth Bancroft Botanical Garden in the Bay area.

Succulent of the Month

Jeanette Dutton will unravel the mysteries in the Genus Hoya

Tom DeMerritt and Tom Birt ready for action at our June Show & Sale
Photo: Sandy Frost

Bastard Quiver Tree (*Aloe pillansii*) is a Critically Endangered tree aloe occurring primarily in the mountainous Richtersveld area of the Northern Cape, South Africa and southern Namibia. A decline in the population has reduced the numbers to less than **200** mature individuals. No recruitment has been recorded at any of the main sub-populations probably due to the impacts of grazing by goats and donkeys and the older plants are dying. The species is sought after by collectors and owing to past depredations was listed on CITES Appendix I. The species is the focus of a major new survey and possible reintroduction programme by members of the IUCN/SSC Southern African Plant

The Origin of Desert Varnish

Desert varnish, a smooth black coating that accumulates slowly on rock formations ranging from small boulders to cliffs hundreds of feet high, has puzzled naturalists for many years. On the underside, where it is not exposed to the air, a varnished rock often acquires a glossy red-orange finish through interaction with water and minerals in soil. Because of its striking appearance and widespread occurrence, the varnish frequently attracts attention, especially in national parks such as Grand Canyon and Zion where visitors query rangers about its cause.

For years scientists have assumed that desert varnish was composed primarily of manganese and iron oxides, precipitated out of the rock through weathering processes. However, the varnish structure eluded precise analysis because it is composed of particles too fine to be characterized by x-rays, the main diagnostic tool of mineralogical investigation.

Infrared spectroscopy, a technique which illuminates mineral samples with infrared light and records the pattern of absorbed wavelengths, was recently applied to the study of desert varnish by two Caltech scientists. George R. Rossman, associate professor of mineralogy, and Russel M. Potter, Caltech graduate student, used rock samples from 20 locations in California, New Mexico, and Arizona in the analysis of desert varnish. The samples included quartz, granite, basalt, rhyolite, quartzite, feldspar, and sandstone.

The results of the analysis revealed that the main constituent in desert varnish, totaling about 70%, is clay, not manganese and iron oxides. The oxides form the remaining 30%. The red coating on the underside of the var-

nished rocks, previously believed to be iron oxide, turned out to be 90% clay incorporating an iron oxide stain, similar to the iron in the black finish on the rocks' exposed portions. In addition it was found that all desert varnish, whether it formed on the side of a cliff or on a 10-inch boulder, shares a similar composition.

It was concluded that most of the coat-ing collects from sources outside the rock rather than from material leached out of it, as many geologists had believed. One reason for this conclusion is that varnish is found covering non-manganese or iron bearing quartz crystals. Although some rocks may contribute oxides through weathering, the primary source seems to be wind deposited particles.

Fine, windblown clay particles are a critical ingredient in forming the varnish, which first forms on rough, porous surfaces. These surfaces allow dew and other moisture to collect, depositing a thin film of clay when the water evaporates. This film of sediment on the rock's surface encourages water to migrate through tiny pores inside the film, depositing traces of manganese and iron as the water evaporates.

The formation of desert varnish is interdependent upon the clay and oxides. The dry, fluffy clay particles depend on the oxides to form a resistant cementing agent. The oxides, in turn, require clay particles for transportation and deposition. This is the underlying reason why all desert varnish that was examined contained both clay and manganese and iron oxides, never one without the other.

July Brag Plant Winners

Cactus

1st - Navajoa maia
Juergen Menzel

2nd - Mammillaria blossfeldiana
Phyllis Flechsig

2nd - Gymnocalycium pflantzii v. tominensis
Don Patterson

3rd - Gymnocatus beguinii v. hintoniorum
Juergen Menzel

3rd - Epithelantha dickensonii
Juergen Menzel

Succulents

1st - Monadenium reflexum
Don Patterson

2nd - Pachypodium namaquanum
Mark Fryer

2nd - Pyrenacantha malvifolia
Don Patterson

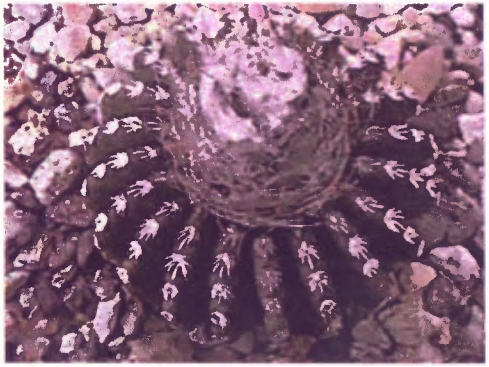
3rd - Aeonium tortuosum
Nibby Klinefelter

3rd - Undetermined
(Beautiful But Unknown Sp.)
Rudy Lime

Discocactus

by Phyllis Flechsig

The first use of the name *Discocactus* was by Pfeiffer back in 1837; up till then, Discocacti and what are now known as Melocacti had been lumped together under the name Cactus. Both groups are distinguished from all other cacti in having a cephalium on the top of the mature plant, from which arise all flowers and fruits. It is easy to tell the two genera apart: Melocacti all have small, pinkish, day-blooming flowers that barely emerge from the cephalium, and the plants may get quite large with tall cephaliums. Discocacti, on the other hand, all have night-blooming funnel-shaped flowers with a distinct tube, and neither the whole plant nor the cephalium ever grows very large.



Discocactus horstii

Discocacti are flattened globes in shape; only a few species ever cluster, so most are solitary. The spines are often strong and appressed, spider-like, toward the plant. The cephalium--a white, wooly "hat"--may have some bristles poking out of the wool. The flower buds first appear out of the wool in the morning of the day they will bloom, grow very quickly up to their opening time in early evening, then fade away before morning. Some of the flowers are pleasantly scented. Fruits are generally club-shaped, naked, and white, pink, or red.

The late A.F.H. Buining traveled extensively in Brazil in the sixties and seventies, collecting and naming many species of *Discocactus*--before he died, he had named or recognized 34 species. Yet only a few of these are really distinctive, and that arch-lumper, N.P. Taylor, has reduced that number to five and has been rather sniffy about other new species still being named by Buining's associates.

One species that Buining discovered and named turned out to be one of the most--perhaps the most--distinctive and beautiful of all cacti--*Discocactus horstii*. Always a very small plant, its short little spines look like the claws of a sea creature, and the flower is as large across as the plant. An interesting feature of this plant is the spongy texture of the spines, as seen under a very high-powered microscope; these spines are able to absorb water into the plant, an ability not known (or at least not proved) for any other species of cactus except some kinds of *Turbinicarpus*.

More typical Discocacti are those of the *D. heptacanthus* complex--these have their ribs broken into distinct rounded tubercles, and their spines are thick and more or less appressed to the plant.

D. placentiformis (Taylor includes *D. alteolens* and *D. tricornis* with it) has relatively acute ribs, not very tuberculate. Another handsome species is *D. araneispinus* (lumped by Taylor, along with *D. boomianus*, into *D. zehntneri*); it has many thin, spidery, gold spines.

All *Discocactus* flowers are much alike: funnelform, night-flowering, and white. The native habitat of Discocacti is the tropical, arid parts of central Brazil, with one species occurring just over the border in Bolivia and one in Paraguay. This area is frost-free, semi-arid, and hot. Winters are dry for six months at a time. Discocacti occur at rather low altitudes, from-about 200 to 1150 meters (650 to 3660 feet, more or less). Vegetation is relatively sparse--grasses, cacti, small trees, and shrubs. Some Discocacti grow down in grasses or under shrubs, while others grow in the open, on or be-tween rocks. Root systems tend to be shallow and very wide-spreading.

Some people who have never grown a cactus imagine that they all grow in the desert in pure sand, and need water only when it rains in El Paso or Antofagasta. Well, here for once are a few species, including *D. horstii*, that actually do grow in pure white quartzite sand in the wild. Descriptions of native habitats of these plants are full of phrases like "growing on steep slopes between rocks," or "growing on bare, hilly, rocky places or in rock fissures." These habitats should give us a clue to growing these plants, which have a reputation for being difficult: a low pro-portion of organic matter in the soil mix, and practically instant drainage--in short, use what growers refer to as "dirty pumice."

Discocactus buenekeri

Once you have arranged for perfect drainage, water well in the warm months but leave the roots dry in winter; keep the plants warm in a greenhouse all year. Many growers simply graft their plants to avoid some of the root-rot problems; *D. horstii* is generally grafted, and will grow much faster than if left on its own roots. Discocacti are generally propagated from seed.

LITERATURE CONSULTED

Braun, P. "A review of the genus Discocactus Pfeiffer. Pts. I-VII." Cactus and Succulent Journal (U.S.) 50: 115-117, 190-, 192, 239-241, 271-273 (1978); and 51: 16-17, 64-65, 138-139 (1979).

Buining, A.F.H. The genus Discocactus Pfeiffer. Buining-fonds, Netherlands,-T380.

Schill, R., W. Barthlott, and N. Ehler. "Cactus spines under the electron scanning microscope." Cactus and Succulent Journal (U.S.) 45:175-185 (1973).

Taylor, N.P. "Reconsolidation of Discocactus Pfeiff." Cactus and Succulent Journal of Great Britain 43: 37-40 (1981).

Cactus Poaching, Legal Harvesting a growing threat to Chihuahuan Desert Cacti *(Press Release - Gland, Switzerland)*

Demand for wild cactus and rare plants by landscapers and plant collectors may soon surpass supply in the Chihuahuan Desert of Mexico and the United States, according to a new study from TRAFFIC, the wildlife trade monitoring network and joint programme of WWF and IUCN*.

The study, the largest-ever analysis of trade in Chihuahuan Desert cactus, found that unsustainable trade could endanger certain populations of cacti if measures are not taken to regulate their harvesting. The Chihuahuan Desert is home to almost a quarter of the 1,500 cactus species known to science, and a booming desert landscaping trend, combined with poor regulation of legal plant harvesting, is putting pressure on many species. Use of cactus for low-water landscaping and demand for rare and newly discovered specimens by "cactophiles" is resulting in the heavy and illegal harvest of desirable species, which is likely a multimillion-dollar-a-year industry.

"If we don't reduce the demand for wild plants, especially cacti, from the Chihuahuan Desert, we run the risk of destabilizing populations and losing species," said Christopher Robbins, a botanist with TRAFFIC and author of the report Prickly Trade: Trade and Conservation of Chihuahuan Desert Cacti. "A whole range of desert dwellers - from hummingbirds to mountain lions - rely on desert plants for food or shelter. So in some situations, removing the cactus can be as disruptive to the ecosystem as clear-cutting a forest."

In recent years, Europe and Japan have been popular destinations for smuggled plants, seeds and fruits of rare and valuable cacti originating from the US and Mexico. The UK is the second largest market after the US for Chihuahuan Desert Species, followed by Germany, Sweden and Spain, Mexico, Italy, and Canada. Nearly 200 species of Chihuahuan Desert cactus were identified on the UK market alone. Many consumers and tourists are unaware they may be breaking the law when they collect, purchase or export cactus from countries that restrict these activities. According to the report, Mexican authorities seized nearly 800 cactus specimens from travelers entering or passing through the US from Mexico in 1998.

The report recommends better monitoring of the cactus trade, strengthening protection for the species that are under the most pressure from exploitation and developing community-based programs to harvest common species and commercially cultivate slow-growing species. The report has led WWF to begin work on a program to establish a community-based nursery industry to grow native desert plants with seeds harvested from the wild. The program would also promote nature-based tourism in west Texas, a biologically rich region with high unemployment.

"The good news from our research is that these desert plants have economic value. Landowners who might see cactus as pests ought to consider managing them as a crop, rather than view them as a pest to eradicate," Christopher Robbins added.

For further information:
Kyla Evans
WWF International
Tel: +41 22 364 9550
E-mail: kevans@wwifnt.org
Jan Vertefeuille
WWF-US
Tel: +1 202 861 8362
E-mail: janv@wwfus.org
Majia Sirola
TRAFFIC International
Tel: +44 1223 277 427
E-mail: majia.sirola@trafficint.org
IUCN - The World Conservation Union

Hoyas

by Jeanette Dutton

Hoyas are happy almost anywhere---from their native lands in Asia to our backyards, greenhouses, and indoor windowsills. Hoyas are relatively easy to grow---most of our grandmothers grew them in hanging baskets along with their epis, fuchsias and geraniums. Mine are growing on shelves and in hanging pots in my backyard, near a loquat tree and shaded by a pepper tree and *Eugenias*. They are mostly vine-types and are growing over to the loquat and up to the *Eugenias* by entwining them-selves around each other like jungle lianas. The stems are so tightly plaited together that they cannot be uncoiled without breaking the stems. Of course, now I want to hang them up in the pepper tree with my epis so it is going to be a monumental task.

Hoyas are named after Thomas Hoy, a gardener to the Duke of Northumberland (no dates available). "*Hoya*" was not derived from the Spanish word for "jewel." Although, it would have been appropriate because the bloom clusters, commonly called "wax flowers," look like little jewels to me.

There are over 100 species of *Hoya* found from Sri Lanka to India to the Himalayas to south-east Asia. Then up to Oki-nawa and back down to the Philippines, Indonesia, Australia and eastward to the Solomons, Fiji, etc..

Hoyas are members of the milkweed family, Asclepiadaceae, and are mostly vines growing up trees and hanging down as epi-phytes. They grow from sea level to the high altitudes of mountain rain forests. There are also bushy *Hoyas* that spread over the ground, other plants, or can even grow on limestone outcroppings. *Hoyas* prefer the shaded and protected areas of rainforests without intense sunlight but some species have adapted to more arid areas with wet and dry weather cycles. Then there are the *Hoyas* that live in high-altitude cloud. mist regions with constant moisture and humidity---they usually need the protection of a greenhouse.

Hoya neo ebudica (by Ann Wayman)

Spring and summer are the main growing seasons for *Hoyas*. Mature (3 to 4 years old) plants will flower in the late spring and summer. After blooming, only pollinated flowers will remain on the stems and will quickly form seed pods that soon burst open, releasing typical milkweed seeds. Never remove flowers from stems, new buds will grow from the same

spurs the following year.

Hoyas can be propagated from seeds or cuttings. Seeds only remain fertile for a short time so must be planted quickly. I have never had seed pods on my *Hoyas*, so have relied on cuttings. Use short cuttings, about 6" long, making sure that a node will be buried. Plastic pots are best for cuttings and should be kept on the small side of 24 to 4". This will hold true for plants as they mature---keep their roots crowded in 4itto 6" pots and they will spend more energy producing leaves and blossoms.

Use standard potting soil that is very fast draining. *Hoyas* have succulent leaves so can endure dry spells---it is best to let the top 2" of soil feel dry to the touch before watering. They cannot stand constantly wet soil or potting soil that retains moisture. After the blooming season, *Hoyas* are semidormant and need less water. Fertilize frequently in the spring to promote flower formation. "Bright indirect light" is ideal for good growth and bloom but each species needs to be watched to see if they prefer more sun or more shade. Although *Hoya* roots like to dry out, the leaves are not used to dry air. They need high humidity while the roots are drying out. Misting, keeping plants close together and water trays nearby are good ideas, especially during Santa Anas, and in areas away from the fog belt and June gloom.

Hoya camphorifolia (by Ann Wayman)

Aphids are the only pests I have seen on my plants. They appear on new growth in the spring and I spray Safer Insecticidal Soap on them. Mealybugs and scale are also supposed to be problems.

REMEMBER, FOR HAPPY HOYAS:
1. Never prune flowering wood
2. Keep plants potbound and well-drained
3. Keep the air humid

Hoya caudata v. crassifolia (by Ann Wayman)

REFERENCES:

Kloppenburg, Dale. HOYA BASICS, A BEGINNER'S GUIDE TO GROWING AND CARING FOR HOYAS. 1999
Kloppenburg, Dale. THE WORLD OF HOYAS, A PICTORIAL GUIDE, 1999.

Both of these books are available at Rainbow Gardens, as is information about the International Hoya Association.

Upcoming Events

2003

July 5-6 CSSA Show & Sale, Huntington Botanical Gardens, 1151 Oxford Rd, San Marino CA.

July 5 CSSA Annual Meeting 5pm Huntington Botanical Gardens, adjacent to CSSA Annual Show.

***July 19* through July 27 Henry Shaw Cactus Society Annual Show and Sale.** Missouri Botanical Garden in the Orthwein Floral Display Hall. Open on July 19 from noon to 5pm. July 20–27 open from 9am to 5pm. More info from Bob Harris e-mail: bobharris@accessus.net or Mike and Vickie Hellman e-mail: cactus1803@yahoo.com

July 26–27 NORCAL 10th Anniversary Show and Sale. The Show in the Auditorium of the Hall of Flowers, and the Sale in the Gallery. Open to the public from 9am to 5pm both Saturday and Sunday. Hourly raffle. Potting/culture demonstrations each day. Banquet program to be provided by Out of Africa, with Rare Plant Auction. At the Saturday evening Banquet, their own in-house Chef will satisfy anyone hungry after the all-day plant gazing/grazing. More details from Paul Long at cactusflat@juno.com

August 16–18 17th Annual Intercity Cactus and Succulent Show and Sale Los Angeles County Arboretum, 301 N. Baldwin Ave. Arcadia CA 9am to 5pm Information from Tom Glavich 626-798-2430 tglavich@aol.com, Gene Oster at 818-998-9306 or Harry Fletcher 310-538-4078. This annual show is believed to be the largest and finest cactus and succulent show in the world.

August 30 Twentieth Succulent Plants Symposium, Huntington Botanical Gardens, 1151 Oxford Rd, San Marino CA. Info: 626-405-2160 or 2277

August 31 CSSA Board Meeting, Huntington Botanical Gardens, 1151 Oxford Rd., San Marino CA.

September 12–14 Kansas City C&SS Show and Sale Jacob L. Loose Park Garden Center at 52nd and Warnall, Kansas City MO. More details from Judy Pigue 816-353-8203 or e-mail her at jjcactus2142@msn.com

September 13–14 Houston C&SS Show and Sale Houston Arboretum and Nature Center, 4501 Woodway, Houston TX. Contact Hank Andresen 713-436-1734 or e-mail him at hand1609@hotmail.com

September 20-21 The Cactus & Succulent Society of the Monterey Bay Area will hold their semi-annual show & sale in the courtyard of Jardines Restaurant, 115 Third St., San Juan Bautista. For more information call Ruth Pantry at (831) 758-6645 or e-mail pantry@montereybay.com

September 28 Long Beach C&SS Annual Auction at Dominguez Adobe, 18127 S. Alameda St., Compton (Domingeuz Hills) CA

September 29–30 4th Arizona Highlands Garden Conference, Payson, Arizona. Organized by the local Master Gardeners, this conference is especially for those who grow their plants at the higher altitudes of northern Arizona from 3500 foot upwards including areas which receive snow every winter. **Mary Irish** is the keynote speaker on **Hardy Agaves**. Details from Christopher Jones 928-425-7179 or e-mail him at ckjones@ag.arizona.edu

October 11–12 Orange County C&SS Show and Sale, Fullerton Arboretum

San Diego Cactus & Succulent Society Inc.
P.O. Box 33181
San Diego CA 92163-3181

Espinas Y Flores

Editor: Paul Steward
(858) 486-0535
manuscripts and mail to:
12620 Tustin Street
Poway CA 92064-6037
psteward@pacbell.net
eyf2000@aol.com

San Diego Cactus & Succulent Society Executive Board Members

President: Pam Badger	(619) 589-1223
Vice President: Jeff Harris	(619) 294-5708
Secretary: Christine Tratnyek	(619) 461-0737
Treasurer: George Plaisted	(619) 583-9551
Ex Officio: Tom DeMerritt	(858) 270-5544

Directors

Lee Badger	(619) 589-1223
Phil Favell	(760) 471-8944
Mark Fryer	(619) 795-1020
Joe Kraatz	(760) 758-7042
Spencer Maze	(858) 454-1870
Terry Parr	(619) 460-9111
Herb Stern	(619) 223-9134

Standing Committees & Sub Committees

Conservation: Joey Betzler & Kelly Griffin
Education & Exhibits
Brag Table: Shirley Berry & Kay Quijada
Plants of the Month:
Lee Badger & Jeff Harris
Summer Show: Tom Knapik, Jeff Harris & Susan Hopkins
Winter Show: Ed DeLollis
History: Terry Parr
Liaison
Balboa Park Desert Garden: Susan Hopkins
CSSA Affiliate Rep: Kelly Griffin
Quail Botanical Gardens: Phyllis Flechsig
San Diego Botanical Garden Foundation:
George Plaisted
San Diego Floral Association:
Elizabeth Glover
San Diego Wild Animal Park Baja California Garden & Succulent Collections:
Chris Miller
Library: Tom Birt & Phil Bunch

Membership: Collette Parr
Mailing: Pam Badger & Jeff Harris
Plant & Seed Exchange
Plants: Michelle Heckathorn & Sara Schell
Seeds: Kelly Griffin
Plant Sales & Supplies
Annual Sales: Tom Birt
Auction & Holiday Plants:
Lee Badger & Tom DeMerritt
Benefit Table: Lee Badger
Monthly Plant Sales:
Jeff Harris & Joe Kraatz
Monthly Supply Sales:
George & Jerry Plaisted
Publicity: Tom DeMerritt & Stan Yalof
Programs: Kelly Griffin
Reception: Ethyl Standish
Regalement
Monthly: Lee Badger, Rudy Lime & Stefy Mangold
Picnic: Laura & Tom DeMerritt