

BULLETIN
THE CALIFORNIA HORTICULTURAL SOCIETY
California Academy of Sciences
Golden Gate Park
San Francisco, California 94118



OCTOBER 2001

4:00 PM Botanical gardens walk with speaker at Strybing Arboretum. Parking is available behind the San Francisco Co. Fair Building and on 9th Ave.

5:30 PM NO HOST Dinner will be at Avenue 9 Bistro, 1243 Ninth Ave., San Francisco \$15

7:30 PM Meeting will be held at the California Academy of Sciences, Morrison Auditorium Golden Gate Park.

*****Guest fee \$5.**

Monday, October 15, 2001

Co-sponsored with Strybing Arboretum Society

“The Natural History of Soqotra”

Presented by **Dylan Hannon**, Plant Propagator at Rancho Santa Ana Botanical Garden. In the Arabian Sea, off the Horn of Africa (Somalia), lies the island of Soqotra, one of the most intriguing and beautiful destinations in the world. This talk will feature many of Soqotra's famous plants and animals, set amidst towering granite spires and limestone plateaus. See *Adenium obesum* ssp. *socotranum* (bottle tree), *Dendrosicyos socotrana* (cucumber tree), *Dracena cinnabari* (Dragon's blood tree), *Exacum affine* (Persian violet) and *Punica protopunica* (Soqotran pomegranate) in their native habitats on this rarely visited island.

The **Plant Drawing** each month provides an important source of funds for the Grants and Scholarship Program. The drawing in October will include donations from the **Marin-Bolinas Botanical Garden**, courtesy of **Dr. Herman Schwartz** and from **Strybing Arboretum and Botanical Gardens**, courtesy of **Dr. Don Mahoney**. Our appreciation to *Rosendale Nursery, Watsonville*, courtesy of Jeff & Lisa Rosendale; and to *Strybing Arboretum & Botanical Gardens* (Dr. Don Mahoney) who graciously donated the beautiful specimens for the September meeting.

Coming Meetings

Co-Sponsored with Strybing Arboretum Society

Monday, November 19, 2001

“Confessions of A Plant Addict”

Presented by **Kelly Dodson** noted horticulturist and avid plant collector, of Reflective Gardens Nursery near Poulsbo, Washington. His focus is mainly on uncommon plants and species. From seed collected on his expedition to Yunnan, China he has grown the beautiful pink *Allium mairei*. One of his new introductions is *Ficus ti-kona*, a ground cover which he believes holds great promise for the Bay area. You will not want to miss this fascinating slide illustrated program.

DECEMBER 2001

There is no monthly meeting.

Monday, January 21, 2002

“New Plants for Horticulture from Brazil”

Presented by **Dr. Frank Almeda**, noted botanist and explorer, of California Academy of Sciences. For several years the speaker has studied the flora of Campo Rupestre, a high plateau in central Brazil located at an elevation of 4000' - 5000'. In this prairie-grassland plant community, Dr. Almeda has discovered many new members of the MELASTOMACEAE, some of which, like *Tibouchina cardinalis* are now being successfully propagated at Strybing Arboretum.



President's Letter

by Dr. Don Mahoney

Thanks to David Feix for his informative presentation on the use of subtropicals in the garden, although the talk was much more than that. I, too, have seen bromeliads, cacti, ferns, and succulents all growing together naturally in Mexico so seeing them combined so nicely in David's gardens was a treat. In Mexico I was always amazed to see ferns (drought tolerant *Cheilanthes* primarily) invariably growing beside every big cactus we came across in a natural setting. They were always growing at the base on the north side, thriving in the shade of the big cacti. There are always "unnatural" combinations in nature. If only we could garden as good as mother nature.

I am thankful at this time of unease to have a garden to busy myself in. The Japanese maples are showing off their colors and the Concord grapes I managed to get before the raccoons were very tasty. Much of the exuberant growth of the summer is melting away and the bones of the garden are beginning to show through. But it is almost time for the first rains and before you know it the meadow foam and miner's lettuce will blanket the vegetable garden as mother nature changes her summer clothes for winter ones. The whole cycle will start again and if I'm very lucky I'll get some food for the body and I always seem to get some food for thought and for the soul. ✿

Botanical Tours

October 12-28

Botanical & Cultural Treasures of China's Yunnan Province with Dr. Sun Weibang, Director Kunming Botanical Gardens & Strybing member Wes Conner, a noted horticulturist. Sponsored by Strybing Arboretum Society & San Luis Obispo Botanical Garden. Info: (800) 624-6633.

August 20 - 30

Montane Pteridophytes and Angiosperms of Ecuador Alan Smith (University Herbarium, UC Berkeley) and Grady Webster (Herbarium, UC Davis), Sponsored by: The Friends of the Jepson Herbarium and Betchart Expeditions. Please contact Staci Markos at the Jepson Herbarium for more details. (510) 643-7008.
<http://ucjeps.herb.berkeley.edu/active.html>

April 24 - May 8, 2002

A Springtime Medley of Gardens: Floraide & Keukenhof in Holland-Bruges; Belgium-Paris at cherry Blossom-time
Sponsored by Strybing Arboretum Society. Info: (800) 624-6633.

May 6 - 24, 2002

Sichuan, China - A Botanical Paradise Sponsored by Quarryhill Botanical Garden and Strybing Arboretum Society with Bill Mc Namara.

Notable Nurseries

Every month, various nurseries donate well-grown and wonderful plants for our Plant Raffle at the meetings. The raffle being a raffle and all, you don't always get that mega-cool plant you've been dying for, even if you put all of your tickets in one cup!

To make it easier on you plantaholics, here is the contact information so you can find, visit and patronize these great nurseries. Be sure to let them know you found them through Cal Hort!

Marin-Bolinas Botanical Garden

250 Mesa Road, Bolinas
Saturdays and Sundays
(415) 388-5017 until 3PM

Dr. Herman Schwartz, a retired physician, has created an extraordinary succulent sanctuary on over 14 acres in Bolinas filled with over 2000 species collected on his 22 trips around the world. The gardens also contain 6 greenhouses custom built to grow many of the freshly collected plants before testing them out in our Bay Area climate, including ones just for aloes and euphorbias. The popular children's garden alone has 280 different kinds of succulents.

A new 6.5 acre section is being transformed into a native Marin flower garden to showcase what can be done with local natives.

Great books are available, including Euphorbia journals, caudiciform books, Succulents of Madagascar etc. As an added bonus, Dr. Schwartz is known to be very generous in handing out easy-to-root rootable cuttings! Definitely worth a visit.

Strybing Arboretum and Botanical Gardens

(415) 661-1316
Ninth Ave at Lincoln Way in Golden Gate Park, SF
www.strybing.org

Strybing's nursery propagates many truly rare and unusual plants from its gardens. They focus on material that will do well in the Bay Area but there's always a few things worth pushing the climate envelope for. Although not open daily to the public, there are monthly plant sales offering a bounty of treasures. The next sales are October 13, with trees, ferns and Rhododendrons featured, and November 10, the End-of-the-Season Sale. ✿



August Plant Forum by Fred Coe

"A picture is a worth a thousand words." Fully believing the old adage, color photos of the following plants are available on our website at www.calhortsociety.org in the 'Plant Forum' section.

Kristin Yanker-Hansen of Danville brought in single flowers of over a half dozen genera in the Mallow family. These varied in size from the 10-inch flowers of *Hibiscus muscheotus* 'Fantasia' to the half-inch flowers of *Lavatera assurgentiflora* hybrid.

1. *Hibiscus rosa-sinensis* x '5th Dimension'

MALVACEAE

This is one of the newer hybrids with an 8-inch flower and colors hard to describe. It must be remembered that *H. rosa-sinensis* is a catch-all name for hybrids that may have several species in their background. All of the hybrids under this species name are tropical in background and don't appreciate low temperatures.

2. *Alcea rosea* x-hollyhocks

MALVACEAE

I know, Kristen brought this as *Althaea* and it is also a hollyhock, but the ones most of us are familiar with are the " 'olly'ocks ten feet 'igh" with the round basal leaves and numerous flowers on a tall raceme. The flowers shown were 2 to 3-inch rose-colored single blossoms, but there are white, yellow, rose, pink and dark red single and double forms. These are biennials or "weak" perennials as they put so much into flowering and setting seed. Unknown origin - probably Turkey. The name is Greek and refers to a kind of mallow. *Althaea* is also Greek in origin, but means "a cure" and the plants were used in herbal medicines. *Althaea officinalis* is a marsh mallow or white mallow and forms a grey-leafed, 6 foot hairy bush with 1.5- inch flowers. Native to Europe and naturalized in the eastern U.S. Linnaeus named both genera so this is a case of two very similar sounding names getting merged unintentionally.

3. *Abutilon* hybrids - Flowering Maple

MALVACEAE

No, they aren't maples, but the leaves look a lot like a sugar maple. The ones usually grown are called *Abutilon x hybridum* and are also called Chinese Lantern as the flowers usually face downward. The flowers may be white, yellow, red or orange with often contrasting calyces. Often the flowers will have contrasting veins in the petals. The genus is widespread in Africa, Asia, Australia and both Americas. This time the name is Arabic for mallow.

4. *Hibiscus muscheotus* 'Fantasie'

MALVACEAE

This is the common rose mallow or swamp rose mallow of the eastern U.S. It is a robust, woody-based perennial herb reaching nearly 8 feet in height with one or many stems. There are numerous selections ranging in color from white, through pink to deep red. The flowers are large — 8-10 inches across. The top growth dies back to the woody base in winter. Fantasie, is a new hybrid selection developed by the Fleming Brothers of Nebraska

5. *Hibiscus syriacus* 'BlueBird' (Rose of Sharon)

MALVACEAE

The flower shown is one of the best selections of this species with 4-inch sky-blue flowers and a small red eye. Named by Linnaeus, it is an Old World plant which is cold hardy to zero or below and forms a shrub or small tree to 10 feet. Over 30 cultivars are available and it is an easily grown plant. Both single and double forms in white, through pink or rose to purple are available.

6. *Malva* hybrids — 'Cheeses; Cheese Weeds', Tall Mallow

MALVACEAE

Native to Europe and N. Africa, *M. sylvestris* has a number of named cultivars in white to blue or pale purple. Seeds will produce a mixed batch. They tend to be biennials or, again, "weak" perennials. It grows to 3 plus feet, but there are low growing forms only 8 inches high. The flowers are about 1.75 inches across.

7. *Anisodonteia x hypomandarum* (?)

MALVACEAE

This is the most usual form cultivated and the parentage is unknown. It is a shrub which can reach 10 feet in height with slender hairy branches bearing 1.5 inch 3-lobed leaves. The flowers are a little over an inch across and are white or flushed pink. There are deep purple veins at the base. All species come from South Africa so this is almost certainly a hybrid. Many of the 19 species have magenta flowers.

8. *Pavonia missionum*

MALVACEAE

This is a tropical or sub-tropical genus mostly confined to South America, but also in the Caribbean islands and South Africa. Some species are naturalized in the southeastern U.S. This species has a rather wide distribution in Brazil and Paraguay and seems able to deal with sub-freezing temperatures. The flowers are bright red with an orange center.

9. *Lavatera assurgentiflora* x *Lavatera Venosa*

MALVACEAE

Native to the Channel Islands off the California coast, but naturalized along the California coast. *Lavatera venosa* is found on islands off of Baja California. Ed Mercurio of Salinas California has hybridized the two plants. The plant blooms year round for Kristin although the flowers become larger and more color intense in the winter.

Continued ➡

THE PLANT FORUM is a traditional feature of our monthly meetings. Members are strongly encouraged to bring new plants or old favorites from their gardens to tell about and share. What's old hat to you might be a brand new wonder to another member. What is putting on a display in **your** garden this fall? Bring it in and share it with us!

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10. *Amaryllis belladonna*

AMARYLLIDACEAE

Wayne Roderick, Orinda

Up until this year I've always said there was a single species. In the fall of 1997 a colony was found in the Richtersveld of South Africa. It was in full bloom and is now *Amaryllis paradisicola*. Wayne brought in his cultivars of the usual "naked ladies" in solid pink, white, and pink with a white tube.

11. *Tillandsia usneoides* - Spanish Moss

BROMELIACEAE

Wayne Roderick, Orinda

It isn't Spanish and it isn't a moss, but rather a member of the pineapple family growing over a wide range from the southeastern U.S. to northern South America. Wayne keeps his in his green house; mine is on supports on the north side of the house. It forms single flowers well hidden in the foliage. Wayne's were 0.25-inches across and straw-colored; mine are no larger, but pea green. A form from Venezuela is more robust but doesn't grow well — probably too cool nights.

12. *Encyclia cochleata* v. *gigantea* 'Cockleshell Orchid'

ORCHIDACEAE

Tonie Jones, Sonoma

This is an interesting plant with a wide distribution from Venezuela and Colombia through Southern Mexico, Cuba, Brazil and Florida. The genus *Encyclia* was considered part of *Epidendrum* until 1961, so you may find this plant under that genus. Tonie's plant was bred in New Zealand by someone who must have a collection of forms. The plant is a cross of 'Pigail' x 'Huge' and the flowers were nearly white. The usual form has lemon-green petals with a purple lip. Tonie has grown it for some time but this is her first flower. It blooms all year around, so she may have more flowers in the months ahead.

13. *Philesia magellanica*

LILIACEAE

Chip Lima, San Francisco

This is a fairly common plant in cold, wet, swampy rain forests of southern Chile. The plant is a shrubby evergreen with a box-like habit of growth with subterranean stolons and it can grow up to 4 feet in height. The leaves are small, leathery and glossy green. The flowers are very similar to *Lapageria*, but smaller. Each is the only member of its genus, but they can be hybridized. It is slow-growing and cold hardy in our region. ✨

Plants use botanical language for defense

By Virginia Gewin, Newhouse News Service.

Many plants can call in predators to attack pests that are lurching on their leaves or snacking on their stems. Some can even tell other plants when and how they've been hurt.

Instead of an alphabet, plants employ molecules to communicate. Using these chemical signals, they deploy a variety of defense tactics. Because a plant can neither run nor hide, the ability to call on a foe of its enemy is one particularly advantageous strategy. The plant and the predator, win. The pest loses.

In essence, plants make alliances and they form networks. Two examples:

- Corn infested with caterpillars can signal a predatory wasp that kills the caterpillars. The wasp benefits because the eggs it lays with its stinger hatch into baby parasites that emerge to feed on the caterpillar.
- Wild tobacco translates airborne chemical signals from nearby damaged sagebrush to mean that it should defend itself. The sagebrush gains nothing from letting the surrounding plants know that it's hurt, but "it's in the tobacco's best interest to eavesdrop," said Nora Underwood, a plant researcher at the University of California at Davis.

Volatile signals

Scientists are learning to interpret this silent cacophony of chemical chatter. If researchers can translate the often airborne, or volatile, signals, they may be able to enhance a plant's ability to protect itself and develop ways to reduce the use of pesticides. "The story with these volatiles is that there are many very complicated conversations going on in nature all the time," said Jack Schultz, a Pennsylvania State University entomologist. "Unfortunately for us, you have to have a machine to hear them."

The clues to a plant language were found in a number of unrelated research projects. One involved the need for

entomologists to understand how parasitic insects found their hosts in the field. U.S. Department of Agriculture researchers knew that plants wounded by a pest, such as a caterpillar, received much more attention from parasitic wasps.

Field and wind-tunnel experiments demonstrated that it was the plant, not the caterpillars, that attracted the wasps. A substance in caterpillars' saliva biochemically triggered the plant to emit chemical signals that provide precise cues to nearby predators.

Wasps weren't fooled

Consuelo DeMoraes, an assistant professor of entomology at Penn State, took the next step to see whether wasps needed the presence of the caterpillars to differentiate between plants attacked by host and nonhost insects. "I removed the caterpillars, and they still would come to the right plant," DeMoraes said.

The volatile chemicals emitted from an insect-wounded plant were a direct signal, specific to the species that was attacking.

It turns out that calling specific predators through airborne chemicals is only one layer of the elaborate armor of plants' defense responses. Plant wounds trigger the formation of hormonelike compounds. Wounds from either physical damage or insect attack cause most plant species to make the chemical compound jasmonate. Attacks by microbial pathogens can cause plants to make a different chemical compound, salicylate.

Warnings issued

Jasmonate and salicylate act like hormones. They turn on a number of plant defense responses, including a variety of chemical attempts to halt the attackers. These "hormones" easily become airborne and travel. Because the hormones themselves trigger defense responses, they potentially can induce nearby unwounded plants to prepare for an attack.

For many researchers, the notion that a field of plants sends

Continued on back page

Horticultural Calendar

UC Davis Arboretum
(530) 752-4880

October 13–November 17

Creeks, Wetlands & Watersheds—Aquatic Outreach Institute's series of 11 separate Saturday institutes including natives, frogs, canoeing. Call for individual details and info, (510) 231-5778.

October 14

Friends of the Urban Forest Tour—McLaren Park, 2 - 4 PM, with David Graves. Meet at the corner of Bacon & Oxford Streets, near the Yosemite Marsh. RSVP with Chris at 561-6890 x 108. www.fuf.net/calendar.htm.

October 18

2001 Laws & Regulations Update—SF Professional Gardener's Association. CCSF, 7PM. (415) 558-8036.

October 21 & 21

Annie's Annuals Open House—get first crack at getting all the cool new stuff! 10AM–4PM, 2717 Goodrick, Richmond, (510) 215-1326 or www.anniesannuals.com for directions.

October 23

Open House at the home of members Dick Hansen & Kristin Yanker-Hansen. Many plants will be showing their fall bloom. Address: 569 Contada Circle, Danville, 94526.

November 24–December 1

The Magic of Paris—Holiday traditions at Filoli. Party, luncheons, Evenings, Musicians, Choral Groups etc. After Oct. 15 call for reservations to (650) 364-8300 x 508.

February 22-23, 2002

8th Xeriscape Conference—by The Xeriscape Council of NM at the Albuquerque Convention Center. Conference details and registration info: <http://www.xeriscapenm.com>.

Strybing Arboretum Society
(415) 661-1316 • www.strybing.org

October 13

Plant Sale—trees, ferns and Rhododendrons featured from 10 AM–1 PM.

October 17 & 20

Advancing Alternatives: Creative Solutions for Bay Area Pest Problems—2 session workshop. \$35 SAS members, \$40 non-members.

October 18 & 25

Autumn Birding—2 classes & 2 field trips. \$85 SAS members, \$95 non-members.

October 20

Collaborations in the East Bay—workshop & garden tour explores 3 newly completed residences. \$65 SAS members, \$75 non-members. 10AM–4PM.

October 27

Celebrate Halloween and Day of the Dead—Make a mask, decorate a gourd, play plant drums. 11AM–3PM. Free.

November 3

Plant Clinic—bring questions for the Plant Doctor. NOON–3PM at the Main Gate.

October 9 & 27

Drop-in Garden Advice from Arboretum experts—Bring samples of your problem plants, your landscape plan, or your questions. At the new Arboretum Terrace home demonstration garden

October 10

Lunchtime stroll in the gardens with Superintendent Warren Roberts. Noon at Arboretum Headquarters.

Oct. 10-24

Arboretum Volunteer Training—Introductory volunteer training course. This course will be followed by specialized training for docents, gardeners, and nursery volunteers. 9:00 AM–NOON. \$40, or \$10 for members of the Friends of the Davis Arboretum. Fee for non-members includes annual membership.

NOTES: **NEW BOOK!** *The Potted Garden*, new plants and new approaches for container gardens. Brooklyn Botanic Garden. \$9.95, (718) 623-7286 or www.bbg.org/gardenemporium. ❖

Seed Exchange Time

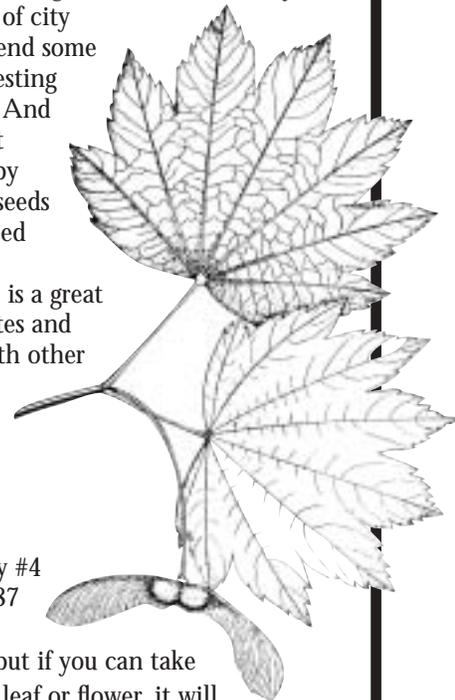
Harvest time has come again! What better way to relieve the daily stresses of city and work life than to spend some time in the garden harvesting this year's crop of seeds? And what better way to boost your karma rating than by donating some of those seeds to the Cal Hort 2000 Seed Exchange?

The Seed Exchange is a great way to share your favorites and even not-so-favorites with other members.

Any time before Thanksgiving, please send the seeds to:

Dave Tivol
130 Locksunart Way #4
Sunnyvale CA 94087

It's not mandatory, but if you can take a picture of the plant in leaf or flower, it will be posted on our web site, where it will help illustrate the beauty (or other pertinent feature) of the plant. To see how this will work, log on to our website at www.calhortsociety.org and go to last year's Exchange. If you have any questions, either ask Dave at the meeting or call or email Bruce Peters at (415) 824-1833, bruce@calhortsociety.org. ❖



Continued from Page 4

warnings of imminent danger to other plants is hard to accept. It's also hard to prove, because the chemicals are in such low concentrations in open air.

Years ago, Washington State University biochemist Bud Ryan demonstrated that plants have at least the capacity to communicate with one another. The airborne jasmonate released from a sage plant in a container turned on the defensive genes of a tomato plant sitting next to it.

Jennifer Thaler, a University of Toronto research botanist, demonstrated in a field experiment that simply spraying jasmonate on, unwounded plants turned on their defense mechanisms. She found twice as many parasitized caterpillars on field tomatoes sprayed with jasmonate as on those not sprayed.

If jasmonate becomes airborne, as it often does, it could induce nearby plants to attract predators.

"The missing link is showing that the plant emitted the volatiles we know it can when attacked naturally outdoors in the field," said Schultz, of Penn State. "You have a smoking gun, but you didn't see the bullet go from the gun into the victim."

Studies at the University of California at Davis provided field evidence that plants communicate among themselves. When wild tobacco was grown next to damaged sagebrush, the tobacco turned on its defense mechanism. The study demonstrated the benefit in the field of being near a damaged plant. ✨

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Deadline for publication is the third Monday of each month for the following month's *Bulletin*. Events during the first ten days of the month should be remitted *two* months ahead. Please give any information to Elsie at the meeting or, preferably, email to Bruce at the above address. Faxes and postal submissions also accepted.

Membership year begins January 1. Dues are \$40 individual, \$50 joint household, \$25 Student (w/ proof of enrollment). To join, or for full range of membership levels, please visit our website at www.calhortsociety.org or call the Office secretary at the number above.

ADVERTISING: Rates: \$60 for a business card size (3 3/4" w x 2" h), \$75 for 1/8 page (3 3/4" w x 2 1/2" h), \$150 for 1/4 page (3 3/4" w x 5" h). Submit ads or questions to *Bulletin* Editor at above postal or email address.

California Horticultural Society

California Academy of Sciences

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