

# GROWING PAINS



## Newsletter for the MiraCosta Horticulture Club of Oceanside

October 2018

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### Announcements

Club meeting on Saturday, October 6<sup>th</sup> at 12:30 p.m., MiraCosta College, 1 Barnard Dr., Oceanside, CA 92056

**Workshop:** Eileen Ford will give a hands-on workshop decorating pumpkins for the holidays. Other supplies will be provided by the club.

**Program:** "Preserving Rose Genetics" John Bagnasco is president of The California Rose Society and Garden Life Radio Show. John has over 1,000 rare roses on his half-acre Fallbrook garden.

**Food drive** – A list of requested foods has been sent out via e-mail. Let's make this food drive a good one.

**November meeting** – This meeting will be held at El Corazon. There will be a short meeting, then a tour of the facility. Additional details will be provided. Only paid members may sign up.

**December meeting** – The holiday pot luck will start at 12:00. As we get closer, we will be asking for RSVPs in order to confirm attendance.

**Plant sale dates** – The annual plant sale will be held on May 4 – 5. There will be need for volunteers during the weeks prior as well as after for cleanup.

### President's Message

By Tandy Pfost

I decided that it might be a good time to compile a reading list. Jeff Moore will be our speaker this season, and he brings his books. If you have any of them, bring them to be signed. I think he is scheduled for next spring. Over the years, I have discovered books here and there from attending speaker events, browsing the good selection at the SD Botanic Garden gift shop, etc. From my collection, I compiled a long list that will be continued in subsequent newsletters. These books have been enjoyable to me just for reading.

I know Nan Sterman personally, have seen her speak, been to her house and been on one of her tours. Her latest book Hot Color Dry Garden is exceptional. This book has a plant directory, but more than that, she provides tours of selected gardens from the perspective of design and of choosing plants. She includes her garden.

#### **Nan Sterman**

1. California Gardener's Guide 2007
2. Water-Wise Plants for the Southwest 2010
3. Hot Color Dry Garden 2018

I have met Greg and Lucy several times and attended their speaker events. Earlier this year they were invited by the Native Plant Society to speak to their group at the SD Botanic Garden. Customers visit us at the nursery where I work who have had their gardens designed by him. There is one across the street as well. Over the past seven years I have

Happy Halloween



worked there, I admire how this garden has sustained its beauty. My favorite book is *The Drought-Defying California Garden*. This is also a tour of selected gardens giving a design perspective as well as ideas of companion plants.

#### **Greg Rubin and Lucy Warren**

1. *The California Native Landscape: The Homeowner's Design to Restoring its Beauty and Balance* 2013
2. *The Drought-Defying California Garden: 230 Native Plants for a Lush, Low-Water Landscape* 2016

Jeff has spoken at one of our meetings before and knows succulents inside and out. He owns Solana Succulent Nursery. These are all gorgeous books, but they are not just encyclopedias. We can get plant info on Google. One can see his 30 years of experience both in the writing and in his photos, all taken by him. He talks about how to use these plants in the landscape, how they grow and which ones do well together from a design and practicality perspective. The first book is a sampling of many groups of succulents. The subsequent ones are an expansion of sections from the first book.

#### **Jeff Moore**

1. *Under the Spell of Succulents: A Samples of the Diversity of Succulents in Cultivation* 2014
2. *Aloes and Agaves in Cultivation* 2016
3. *Soft Succulents: Aeoniums, Echeverias, Crassulas, Sedums, Kalanchoes and Related Plants* 2017

#### **TO BE CONTINUED**

### **Beauty from Ashes: California Wildfires**

by Kelli Kallenborn

You see the pictures on television every autumn - clouds of smoke dwarfing water-dropping helicopters, firefighters silhouetted by walls of flame, and harried evacuees loading up their cars. It's wildfire season in California. Although everything possible should be done to minimize human loss, injury, and death, fire is actually necessary for the long-term health of many southern California plant communities.

Modern fires are most often started by humans, either accidentally or on purpose, but fires have been occurring periodically since the end of the last Ice Age. For example, it is estimated that the Santa Monica Mountains (Malibu area) have burned 500 times in the past 11,500 years. That is one fire every 20 to 25 years. Natural fires would have been

started by lightning in the high mountains, been pushed west by strong, dry Santa Ana winds, and progressed unobstructed to the Pacific Ocean. Also, there is evidence suggesting that some Native Americans may have started fires to promote the growth of certain food plants and in all likelihood, they would have accidentally started fires also.

The climate and some features of the plants themselves make conditions right for fire virtually every year. Winter and spring rains averaging from 15 to 25 inches produce abundant growth. By May or June, the rainy season is over. Summer brings days of relentless sunshine and temperatures in the 90s and higher. Annuals dry up and perennials go dormant. Flammable oils on the foliage of some shrubs keeps them functioning, but under enough drought stress, they will shed some leaves. Then Santa Ana winds start in the fall. This is a weather system that lasts for a few days at a time and where dry air from the desert blows to the west. Wind gusts can reach hurricane force, the humidity drops to single digits, and the temperature is usually hot. The weather along with all of the dead plant matter make a fire nearly inevitable.

We usually see fire as a destructive force, but it can be a life-giving force. It serves an important purpose. Mature plant communities are full of dead leaves and branches that are tying up nutrients. In many climates, nutrients and minerals are recycled through decay. However, decay progresses very slowly in the dry California climate. Fire quickly returns essential nutrients to the soil. Fire also cleans out diseased and insect-infested plant matter.

The mature chaparral community is dominated by a relatively small number of species. Fire opens up the canopy and allows the sunlight to reach the soil. Competition for water is greatly reduced. Plants that had not been seen in years or decades suddenly appear. The number of species explodes. Plants with telltale names like fire hearts (*Dicentra ochroleuca*) and fire poppy (*Papaver californicum*) are only seen within a few years of a fire. Those in the know seek out burned areas to view infrequent species like these.

Fire is a very severe force. How can anything survive it? In fire-prone ecosystems, species have several strategies for survival.

Root-crown sprouting: Some species will re-sprout from the base after a fire. This is usually the first kind of recovery seen.

Surviving as seed: Some plants will be completely killed in a fire but the species comes back due to seeds in the ground. Most annuals have already finished their life cycle by the time fire season starts, but their seeds survive the fire. Some species will only sprout after a fire or they germinate more efficiently after a fire. The fire weakens the seed coat so that water can penetrate and the seed can germinate. These kinds of plants are sometimes called fire-followers.

Going underground: The geophytes are dormant during fire season. The soil above protects the bulb or tuber from excess heat.

Succulence: The high moisture content in some plants protects them. Though not a true succulent, the coast live oak (*Quercus agrifolia*) can be protected by the moisture in its bark.

Avoidance: If you can't take the heat, stay out of the chaparral. Chaparral and forest fires can be very hot. Grass fires are less hot. Plants with less fire resistance are relegated to grasslands and other areas where fires are less hot.

The next time you see a wildfire on television, you may be concerned for the firefighters and residents, but you don't need to worry about the plants. They'll survive and thrive. They've been doing it for thousands of years. Beauty will rise out of the ashes.

## **Fantastic Beneficial Fungi**

by Sally G. Miller

Fungus and mildew: those words cause most gardeners to cringe. But good guys far outnumber bad guys in the soil fungus world. Autumn is the time of the big fall chores, mulching and fall leaf composting, and a good time to talk about beneficial soil fungus.

Healthy soil is much more than a collection of mineral particles of the right size and shape. And soil fertility is much more than proper pH or balance of NPK. There's a world of biology going on in fertile soil. Some of that biology is fungus. And a lot of that fungus is helpful, even essential, to plants. Fungus creates structure in soil, moves nutrients around, and works with other good soil critters and

against some bad ones. That's impressive for something you've never noticed.

Mushrooms are a minor part of the fungus that inhabits your soil. Fungus was present before the mushroom formed, and was still there when the mushroom shriveled up. The real "body" of many soil fungi is made up of hair-like strands you've probably never noticed. The microscopic rootlike portion of many fungi are called hyphae. Hyphae grow like incredibly thin roots, searching out organic matter to eat. You may have seen fungal hyphae, when they multiply so thickly that they form a furry white mass on wood mulch or wads of brown leaves. Some fungi eat dead leaves and wood, others eat live things like nematodes (another unseen but often problematic soil life form.) There are fungi that live intimately with roots of green plants, helping both partners to thrive.

Soil fungi have multiple important roles in your garden. Those that break down organic matter are the "heavy lifters" in the compost pile and soil. Fungi do the hard work of chewing up tough wood fibers and cracking open protein-based insect shells. When a fungus grows, its hyphae reach out and capture nutrients from organic matter. The nutrients are moved around in the soil as they are conveyed throughout the fungal mass. The digestive action of fungus creates sticky substances that make soil hold together in "crumbs" instead of pasty mud. Some fungi grow intimately with plant roots. These mycorrhizal fungi are critical to helping many plants absorb nutrients. And as individual soil fungi die, others are growing. Death of a portion of soil fungus means the release of nutrients in its cells within the root zone of plants. Dead fungal hyphae leave tiny channels in soil that form tiny cavities to shelter bacteria, or let air and water flow in the soil.

Fungus is living in your garden soil already. Healthy perennials, trees and shrubs, and crumbly, rich, woody smelling soil will all testify to the presence of good soil fungi.

Fungus eats tough organic matter. Use organic mulches in the garden. Anything that comes from a tree is ideal for fostering fungi. Top your soil with pine straw, hardwood or bark mulches, fall leaves from deciduous trees, or compost made with plenty of these items.

Power tilling puts soil and fungus into a 'food processor' and creates a mushy puree of pulverized fungi and soil particles. Use hand tools

to turn soil and mix fungal food sources into it so that compost and mulch on the surface is available to fungi below. Fungi will grow up into the surface, digest that organic material, and bring those nutrients down into the root zone. After all, nobody tills the forest, and its fungus rich layer of leaf litter supports massive trees and a huge variety of understory shrubs and plants.

## Did You Know? Fun Facts in the Garden

by Toni Leland

Fall is here and quickly on its way out in many parts of the country. Gardens are slipping gently into winter slumber. What's a gardening nut to do? Enjoy the brief respite with some fun facts.

Dragonflies can fly up to 20 miles per hour! They also hover and fly backwards. These insect-devouring hunters should be a welcome sight in any garden, consuming gnats, midges, beetles, moths, and mosquitoes. More than 400 dragonfly and damselfly species inhabit North America.

The average caterpillar has 4,000 muscles, and 248 in its head. Caterpillars are the larval stage of moths and butterflies in the order *Lepidoptera*. Over 180,000 species fall into this classification.

Planting just 3 shade trees around your home can save between \$100 and \$250 per year in energy costs! Best choices for aiding inside temperature are deciduous trees, which shade the house from the sun in summer, but allow the sun to penetrate during winter. Evergreens are a good choice for blocking cold northern winds.

Ancient Egyptian laborers ate onions to give them strength while building the pyramids! The *Allium* genus is one of the largest plant genera in the world, with over 1,250 species. Onions are also one of the oldest vegetables used as a food source. Historical citations list onions as a leading ingredient for infertility, impotence, headache, hair loss, and in muscle liniments.

You can tell the temperature outside by listening to a cricket! Count the number of chirps in 15 seconds, then add 37. The sum will be the approximation of temperature in degrees Fahrenheit. The male cricket does most of the singing by rubbing his wings together, usually to attract a female, but often to sound an alert when danger is near.

Figs were the first domesticated crop in the Near East about 11,400 years ago! Archaeologists found carbonized figs in a village north of ancient Jericho, and compared the fruits to modern

specimens. Through this comparison, they determined that the fruits had been intentionally propagated.

The world's largest flower measures up to 3 feet across and weighs close to 15 pounds! *Rafflesia arnoldii* grows in the rainforests of Indonesia. It is a parasitic plant which uses a host plant to gather water and nutrients. Though beautiful to behold, the bloom has an odor similar to that of rotting meat.

The annoying Asian Lady Beetle is a beneficial insect! Though not welcome inside the house, these predators consume large quantities of aphids and scale insects, and are responsible for benefiting the pecan industry by controlling the pecan aphid.

A pair of doves can produce up to 5 or 6 broods a year! Generally, the female lays a clutch of 2 eggs. The nest is never left unattended; the male sits on the nest from mid-morning until late afternoon, then the female takes over for the night.

Most variegated plants are actually mutations! Chlorophyll is the green pigment needed for photosynthesis. In variegated leaves, the cells that are genetically unable to produce this pigment appear white; some pigments in the mutated cells can produce pink or yellow. These interesting and attractive plants are prized by most gardeners, and highly cultivated by nurseries. A variegated plant will grow more slowly because of its reduced ability to produce food energy.

Some plants bloom at night to attract night-flying pollinators! Ever sit out at dusk and suddenly notice a heavenly scent on the air? Chances are, you or your neighbors have one or more of the common night-blooming species such as Flowering Tobacco, Moonflower, or Angel's Trumpet. Petunias bloom during the day, but release their scent at night. August Hosta fills the evening air with heavy perfume, and the Lemon lily and Citron Lily release a crisp, refreshing scent. Shrubs that are known for night scent are the Ear-leaved Umbrella Tree and Sweet Bay Magnolia.



**PENNIES for PINES**

Donate your spare change **\$\$\$**