American Orchid Society
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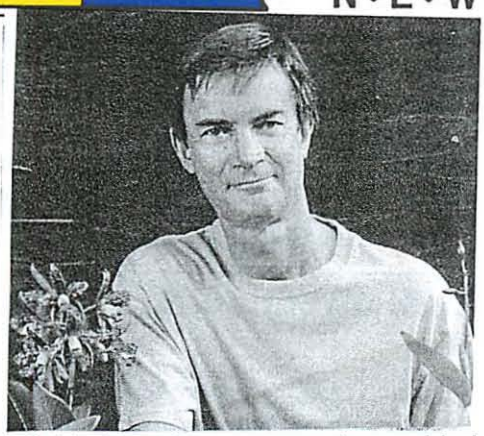
FORT LAUDERDALE ORCHID SOCIETY

N·E·W·S·L·E·T·T·E·R May, 2011

Hear Greg Allikas Speak On May 9th



Since much of this issue is a memory issue, this is the picture I used from **Orchid's Magazine** in a 2003 newsletter issue. Greg hasn't aged much, probably boosted by all the awards he had won and richly deserved over time. I hope you own the books he and Dr. Tom Sheehan and he and Ned Nash made so interesting and informative. Of course Greg's photography alone is outstanding and reason enough to own the books. Greg has been both a photographer and an orchid grower for more than 35 years so we will be learning from an expert. Greg has been the photographer for the awarded plants at our show for decades, and it will be good catch a few minutes to ask questions and chat with him and with Kathy.

Now about the May 9th program. Greg's workshop will be about photography and the main program will be about *Pedilonum Dendrobiums.* There are about 80 species of *Pedilonums* in this huge genus. Most come from the region from India to Samoa, and we can grow some wonderful ones here. Greg will show us some of these and help us grow them better. If you don't already own: *bractiosum, capituliforum (aka smillieae), goldschmidtianum, secundum, or smillieae (aka ophioglossum)* you may want to look for them and other warmer growing *Pedilonums* at the Redland's Festival especially after you hear Greg.

The plant raffle table was donated by Carmela Orchids and is comprised of a good variety of blooming sized catts. Besides being an anchor vendor at our show, and having great plants, the Takasaki's are generous people. Please thank them for this contribution to our society when you see them. It's going to be a wonderful evening, for many reasons, don't miss it.

Orchid Species Increased Due To Bee Pollinators and Fungi

Professor Tim Barraclough from London's Imperial College co-led an international team to investigate reasons for so much diversity in the 22,000 known species of orchids. They studied 52 species of South African orchids which secrete oil to entice female bees which feed the oil to their larvae. Of course the bees transfer pollinia and the DNA from the pollinia was studied.

The team found that orchids that are moved to new geographic region adapt to new pollinators. (*When a species is isolated mutations often create a new species since there is a smaller breeding gene pool.)* Fungi also play a part in diversity. Fungal DNA was also studied and when two orchid species share the same bee pollinator they have different fungal partners.

Luana Tringali referred me to this March 27, 2011 research found on **science daily.com** (Thank you, this is a great site.)

You WILL stop worrying that you have stepped off the 'orchid deep end' when you read this!

3,000 Man Hours Spent on Search for Underground Orchids

A 1980- 1984 survey was conducted in areas where *Rhizanthella gardneri,* an underground saprophytic orchid, had been found because the bloom peaked above the leaf litter in Melaleuca areas in Western Australia. The areas investigated were thought to be likely habitats of this unusual orchid, as shown by LANDSTAT satellite images. (*Ahh, those new fangled tracking devices and those eager workers, pulling through leaf litter with truffle rakes. Don't worry about your orchid obsession!)*

Ardetti, J. (editor) 1990. **Orchid Biology Reviews and Perspectives, V.** Timber Press, Portland Oregon. pp. 44-47

Review of Jeff's April Program

Jeff Adkins is one of my favorite FLOS members, and he is an informative and entertaining speaker. That said, I'm going to abbreviate his message since I have so much to touch on in this issue. Jeff's main points included:

Orchids need light to bloom. Except for phals which have dark green leaves almost any other orchid that we grow should have light green leaves. They can take full sun until mid-day and about 50% light after that. If your plant is not blooming, move it to more light If you mount an orchid on a tree, don't put it on the north side since winter light will not be enough unless the north side is getting some reflected light from a white/light colored house.

Orchids need gently moving air. Growing areas with slatted roofs work well because hot air escapes easier than from a screened enclosure. Roots also need air, if you are not going to repot often use an inorganic mix, not an organic one that will turn to mush. Air movement from a gentle fan will cut down on disease and insect infestations.

Orchids need water. Right now our humidity is low, and we are getting no afternoon, rainy season, cloud cover. We should be watering almost every day. Jeff has always used tap water. He cautioned against using well water east of Andrews because of salt water intrusion into wells east of Andrews.

Jeff gave us some interesting tips on constructing an area for containing an orchid collection. You'll be glad to have an automatic watering system. An overhead system with misting not fogging heads works well. Heads are found in a specialty plumbing store.

Pressure treated wood now has no arsenic and today's mega store lumber may have a very thin coating of protective copper and azole fungicide. Buy your pressure treated lumber from a 'real' lumber store. It will last longer if you stain it, and leaves and dirt should be removed from the base of fences or posts to prolong the life of the wood.

Jeff cautioned us to keep our orchid collection in a locked space to discourage theft. It takes little time to snag an unprotected collection and take it south to sell. Our south Florida 100 miles of the end of I-95 is said to be the most dangerous in the nation. *For those of you who rolled your eyes when I have emoted about how horrible I-95 is, feel guilty! D.H.*

April Ribbon Judging Awards

Rick Bellas /blue/ *Phal. mannii*
Chris Crepage / blue/ *Max. tenuifolia*
Joan Connors /blue/ *Bulb falcata* 'Tower Grove' AM/AOS
Sue Dohn /culture/ *Gram. scriptum
Paul Gartner /red/ Ascda. Maungthong Navrothong white
Vicki Hallock /red/ *Enc. profusa, & Broughtonia sanguinea*
*** Bob Isaacs /culture/ *Onc. spachelatum* 'Danang Lady'.** /blue./ Den. Nestor 'Nagata'
Chip Jones /blue/ C. Green Emerald 'Orchid Queen'
Tony Millet /blue/ *C. undine*
*** Collins-Peplin /culture/ *Max. tenuifolia***
Helen Rivenbark /blue/ *Soreophyton pachy phallus* , Paph. Bel Royal, /red/ *Den. purpurem*
Mac Rivenbark /blue/ *Gram stapelliflorum*

** A special congratulations to those who won cultural awards, and thanks to all who lugged in beautiful and often heavy plants for us to see.*

April Meeting Refreshment Thanks

Nora Dyke, Maeva Malloy, Barbara Gaterman, Vicki Trank, Betty Runde, Lisa Davis, Zoe Bejar Laurie Klink, Gigi Granger, and Norma Jean Flack

Thanks are also due to those who prepare the refreshment tables and those who help set up or take down the meeting room.

This and That

* Before you boil potatoes, encircle the skin in the middle of the potato with a sharp knife. After the potato is cooked plunge it in ice water, grab the ends of the potato and squeeze, the skin will slip right off.

* Do you have black stuff in your shower door tract? Pour peroxide on the black stuff and it will go away. Peroxide breaks into harmless oxygen and water.

Quicker Blooms With Night Light

Want to hurry buds along for a special event? Leave the plant under lights all night and flowers will open sooner, Young orchids in community pots also grow faster if kept under constant light. Mature plants will not flower properly, if at all, if kept in constant light.

Remembering
FLOS Life Member

Polly Fletcher

Watch DNA analysis change this!

On Classification

Even the back row learned the basics of classification with: Kathy poured/dumped coffee on father's gray suit. Kathy = **Kingdom** (Once there were two, plant and animal and now there are 5-7 .) Poured = **phylum** for animals, and lately **division** for plants, coffee = **class,** on = **order,** father's = **family,** gray = **genus,** and suit = **species.** In case you need a biology refresher for man, we are in the **animal** kingdom, **chordate** phylum (gill slits and dorsal notochord as an embryo), **mammal** class (hair and milk drinking), order **primate** (finger nails), **family** hominidae (separating us from apes), and our genus and species are ***Homo sapiens*** which is our scientific name, just as *Brassavola nodosa* is the scientific name of a familiar orchid.

Now the biology lesson is over, and orchid folks concentrate on classifying below the family name which is **Orchidacea.** They further break the plants down into subfamily,(ending in -oideae) tribe (ending in -eae) , subtribe (ending in -inea), and finally genus and species .

At the moment there are 5 subfamilies:

1. Apostasioideae have 2-3 anthers and are seldom seen in cultivation.
2. Cypripediodae are slipper orchids with 2 anthers.
3. Vanilloideae have one anther as do the other subfamilies in this list and vanilla orchids belong here.
4. and 5. Orchidoideae and Epidendroideae are the subfamilies to which most of our cultivated orchids belong. Some separate vandas out and put them into Vandoideae.

One thing is for sure, there will be changes in the current classification system. Probably the only thing to remember is how well a particular orchid grows here!

Cribbs, Phillip. The Classification and Naming of Orchids from Fitch, C.M (editor) **The Best Orchids for Indoors.** 2004. Brooklyn Botanic Garden, NY. Pages 21-25

Favorite Safety Tips

Jane DePadro gave me the **'seek a triangle of life'** copy in 2004. If you think you are in a building that might collapse don't 'duck and cover' but lie down in a fetal position beside a bulky object such as a chair or sofa. If you get in a car it can be crushed into a 3 foot high lump, but if you are lying beside the 3' lump, it will save you.

Avoid handling sphagnum moss with bare hands. It may contain a hard to cure nail fungus. Some think you should also wear a mask since it has been the cause of a fungal lung infection.

More About Ants

"All the ants on the planet, taken together, have a biomass greater than that of humans. Ants have been incredibly industrious for millions of years. Yet their productiveness nourishes plants, animals, and soil. Human industry has been in full swing for a little over a century, yet it has brought about a decline in almost every ecosystem on the planet. Nature doesn't have a design problem. People do." William McDonough

Sierra Magazine, July/August 2005. Page 76

Conversing With Orchids

" It's not enough to talk to plants, you also have to listen." David Bergman

Leaves have black tips = "Give me calcium."
Horizontal folds in leaves = "I lacked enough water."
Light green leaves = "Put me in bright light."
Deep green leaves = " Put me in low light."
Shriveled pseudobulbs = "I lack water, maybe my roots are rotten and I can't take up water?"
Large black circles on leaves that do not grow = 'You are sun burning me."
White fuzz or small brown ovals on leaves = 'Yikes, I've got bugs!"
Other spots on leaves = 'Get out your copy of *Orchid Pests and Diseases* and see which microbe I have."
Mature plant that is not blooming = 'Move me to more (usually more) light."

Extreme Orchids

Vanilla vines can reach 100 feet in length and *Sobralia altissimo,* from Peru can be 44 feet tall. The record is held by *Grammatophyllum speciosum* from Southeast Asia which produces growths up to 20 feet long and the whole plant can weigh over 4,000 pounds. The smallest orchid is probably *Platystele jungermanniodes* which is less than a quarter of an inch tall.

Fitch, C.M. (editor) 2004. **The Best Orchids for Indoors.** Science Press. Brooklyn, NY page 6

A touch of history:

The orchid (lan in Chinese) is the 'King of fragrant plants.' *(The Chinese were the first to cultivate and describe orchids.)*

Confucius (551-479 BC)

Why Orchids Are So Successful

Orchidaceae is the largest and most widely spread plant family. These are some of the factors that may have contributed to the success:

Seeds

There are enormous numbers of light weight seeds in the pods of most orchid species. The production of this huge number uses no more resources from the mother-plant, than does the production of a few, heavy , food laden seeds in other kinds of mother-plants. These light weight seeds may blow in the wind for many miles. They have blown more than 800 miles from Australia to New Zealand for example.

Habitats and Niches

As you know, orchids can live as epiphytes on other plants, can thrive on rock, and some live in soil. Besides that they may live underground, or in semi-aquatic, or aquatic habitats. Some can tolerate salt spray, limited oxygen (swamp life), shortage of nutrients, and most of all *drought.*

Adaptations that help orchids survive xeric (drought) conditions are an ability to hold water, sunken and protected stomata that reduce water lose through transpiration, and the presence of the spongy velamen layer that covers roots and protects them from water loss as well as having the ability to store water. Reduced leaf size is also a factor in water conservation, and some orchids have no leaves. Many orchids have leaves with a very thick cuticle which further reduces dehydration. Orchids go through periods of reduced growth to survive dry seasons.

Photosynthetic Pathways

Sugars and other substances are made from atmospheric carbon dioxide. Orchids with thick leaves and succulent roots use the CAM pathway and thin-leaved orchids are C3 pathway plants. Both these processes occur at night, and use less water than the C4 method used by many other plants and is a daytime, more hydrated way to metabolize carbon compounds. Since the tree that an orchid may be living on, is using the carbon dioxide in the day, the orchid does not have to compete with it at night. Most other plants only use leaves for photosynthesis, but green orchid stems, flowers, and even some roots help with the process.

Geotropism

While many orchids have the normal geotropism with roots growing down and stem growing up, some orchids have roots that grow up to catch water and even to hold water (*Grammatophyllum* for example). When ants live in root-balls that grow up they bring in nutrients. Down growing leaves are found in some species that cling to the sides of trees. For example in species *Phalaenopsis* this is often the case and it is a survival mechanism.

Defense

Hollow stems as well as root balls attract ants which can furnish nutrients and some ants will defend their home plant against other insect invaders. For instance *Skomburgkia* have hollow stems (pseudobulbs) and even produce nectar to attract ants.

Vanilla and *Cypripediums* produce toxins and allergic compounds to repel grazing Arthropods.

Food Storage and Control of Flowering

Orchids are like many other plants in that they store food in roots, leaves, and stems (rhizoid and pseudobulbs). They are also like other plants in that most bloom at a particular and favorable season and are either long day or short day plants. A few orchids are also like some other plants and are day neutral (blooming is not controlled by increased or decreased daylight). Day neutral plants may be triggered into bloom by rain.

Resupination and Flower Longevity

The fact that many orchids have buds which resupinate or turn 180 degrees to place the labellum down works better for pollination. The flowers also last a long time for the most part which gives more time for a pollinator to locate them.

Ardetti, J, Ardetti M, Ernst R, and Mak Chin . . ' Some Structural and Physiological Features Which Facilitate the Survival of Orchids' from **Proceedings of the Eleventh World Orchid Conference,** pp 102-104. This book is in our library and loaded with good information!

On Orchids That Imitate Fungi

There are several species of both temperate and tropical orchids that live on the forest floor and have evolved flowers to resemble the fruiting body of a fungus as well as a fungus-like odor. Fungus gnats are attracted to these flowers, go into them to lay their eggs and pollinate the flowers in the process. When the larvae hatch they starve, because the flowers or seed pods lack the nutrition needed !

Orchids, Life Long Plants

Most orchids will live longer than any person provided they are not killed accidentally or weakened by mismanagement. Even at death's door, many will bloom in a last attempt to produce seeds and keep the species going. "I've got to bloom, I'm going to die."

"You get what you pay for...."

Bargain Orchids? Beware!

You can buy an orchid at most any grocery or --- Depot store, but before you buy check on these 10 points:

1. Check to see that the plant is firm in the pot. If it is shaky, it had rotten roots or has just been repotted when in bloom, which is not a longer-life procedure. Look at the medium carefully, if it is Sphagnum moss or a chunk of a real coconut, you may need to repot asap.

2. The pseudobulbs should be plump, avoid shriveled pseudobulbs.

3. Avoid plants with limp leaves (lack of water damage, cold damage, or **lost roots.**) Little brown spots, big black leaf spots are also to be avoided. Why buy a sun, or fungi/bacterial problem?

4. If your bargain plant has a paper wrapper, make sure the leaves have not been damaged.

5. If you fall in love and buy a plant in a paper wrapper , make sure to drain any puddle of water rapidly and discard the paper wrapper.

6. Check your leaves for 'bugs'. Look for cotton like masses, (mealy bugs or scale eggs). Avoid bug infested plants.

7. Don't trust a plant with yellowing buds and weak floral stems. These thing could be from being shipped in a dark box, or NOT.

8. Do not buy a plant without a name. Fall blooming Dendrobium is not a name!

Apron and Bread Knife Help

Find an apron with big pockets and wear it while you repot. It will hold your plant tags, your tag writing pencil, pot clips, and extra gloves. It's amazing how much time some of us waste groping for these small items on our potting benches.

If you have a huge plant with a massive root system you can spend great time dividing it with clippers, or you can cut right though the roots and old medium with a sterile bread knife from your kitchen. The serrated knife will make the ends of the roots you want to save ragged, so clip of the ragged ends with clippers after you clean the plant.

Bud Blast- Oh NO!

This is a quick summary from 2003. **The causes:**

* **Bad water** in that it sat in the bud sheath and rotted the bud. Or too much water drowned and killed the roots and not enough water got to the buds from them to develop. Cold water can also shock a plant into dropping buds.
* **Sudden temperature changes**
* **Bad fumes** from atmospheric pollutants such as auto exhaust, smoke, etc. or ethylene from ripe fruit may cause bud drop.
***Wrong light** buds won't open if the light is too low and my dehydrate if the light is too high.
***Chemical damage** from pesticides, insecticides, or strong fertilizer. Don't exceed the directions for use on the chemicals you put on your plants.
***Humidity** buds may blast without high humidity.
***Insects on the buds** will suck out the juices and cause them to blast. Thrips are the worst offenders here, but others cause harm as well.
***Genetics** may cause some mutant orchids to blast their buds year after year. Discard these plants.

Three Favorite Orchid Myths

If you are bitten by a rattlesnake, catch it and make it bite itself. Let it go and follow it, it will find a Rattlesnake Plantain Orchid to eat the leaves to heal itself. You too can eat the leaves and be saved. *(FYI, rattlesnake bites are almost never fatal.)*

Old Tutonic lore has it that Xanat, the daughter of the Mexican fertility goddess loved a mortal man. She could not marry a mortal so she changed herself into a vanilla plant which would provide pleasure and happiness. Some still believe that vanilla is an aphrodisiac.

Satyrium orchid flowers have a 'goaty' odor to attract their pollinator. Some thought they sprang from the earth where goats had made kids.

Jewel Orchids Cooked in Malaysia

Most of us own *Ludisia discolor,* the jewel orchid. It has been gathered and cooked as a pot vegetable so much in Malaysia that it is now hard to find growing in the wild. (Koopowitz, H. 2001. *Orchids and their Conservation.* Portland Oregon. Timber Press. p.69

The Rambler

He: "*I'm not going to buy a thing.*" (Stop one OFE's supply and 4-5 orchid grower's festival.) She: *"liar, liar, pants on fire."* He: "*I bought it for a friend*". The good day and the banter between friends went on and on. Happy other stops included Motes Orchids, Pine Ridge Orchids, R.F. Orchids, and the festival at St. Germain Orchids where 6 other orchid vendors had tents of tempting orchids for us to buy.

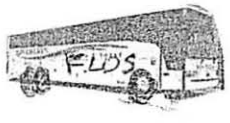
Thanks are due OFE and Carib Plants for bus raffle supplies or plants, to RF for special lunch additions and to those who donated trip-home-wine: Bonnie Bonneau, Naomi Hew, Gigi Granger, John Wrench, and Michael Schaberl. I brought along a couple of bottles of mystery wine and nobody ,wisely, believed I paid $100 a bottle for each. Carrie Ackerman made great cookies and someone passed chocolates, thanks.

About 20 years ago, Bob as program chair got the long-time job of directing our rambles. I have written this column since then. Since we will be turning these jobs over to others after the June overnight, this is my chance to remember some special rambles.

* There was the time we all bought watermelons and the melons rolled up and down the bus isle not unlike green pool balls that bounced each other all over.
* There was the time the driver made a u-turn on the street in front of Bush Gardens and we expected to be hit by 50 cars.
* There was the ramble when the bus broke down on a tall hill up state. A new bus and driver from Dade, who was a victim of motion sickness, came to get us after we almost broke bones getting down the goat hill to a McDonalds where we waited for the new bus.
* Once Jane DePadro brought in about a dozen trip-home bottles of wine, from a bad mix of 'wines around the world', and when I added them to the others we had for the two day trip I exclaimed: "That makes 19 bottles!" The driver who didn't know us, almost quit, thinking he had people on board with problems. We didn't consume but about a third of it, and raffled the left-overs.

We always had a wonderful time, bought beautiful orchids, lied about what we spent or would spend, and we got to know wonderful people better.

I will close by showing you a picture of Ralph, our beloved bus driver for many trips. D.H.



Overnight Ramble Request

It looks as though we have enough ramblers to pay for the bus so plans for the overnight ramble on June 4-5 are looking good. You do need to mail in your $75 bus fee before the May meeting or pay the fee at the May 9th meeting.

There is still room on the bus for a few others, so join us for the best event of the FLOS year. Questions? 954-772-4836

Last Editor's Note

This issue is mostly articles clipped from newsletters between 2002-2004. They are slanted toward orchid biology, which is no surprise, and I slipped in extra copy to use a few more articles. Before I go, I want to repeat some points. Brian Boyle is not getting to proof this one, so he can't stop me from writing these too often:

1. Either Neem or light summer oil will offer good pest control. Pests reproduce fast in warm weather so repeat your sprayings every 5-6 days for 2-3 times.
2. The screwdriver is a great potting tool, it will make pot clip removal easy and will lever your plant out of the pot.
3. Lack of calcium will cause Catt leaf tips to turn black, prevent this by putting the coarsely crushed shell from half an egg on top of the medium for each plant.
4. Orchid roots are like your hair, they usually re- grow.
5. Plants are just 'slow green animals'. Some generate heat when they need to find a pollinator, some can let fellow species know that pests are coming, many protect their space with inhibitory chemicals, and the list could go on for pages!

FLOS is the best orchid society anywhere. Please do your part in keeping it strong. With it you can learn, grow orchids better, and get to know some wonderful people. Don't forget to learn more from our website. D.H.

Oh, No! Remove Leaves, Not Me!

Yes, YOU, you can do it! If you have gotten a desiccated plant, probably a bare root from a far away place, remove some of the leaves. Of course you would keep most of the leaves for photosynthesis, but plants lose water through leaf transpiration. Removal of a few leaves may stop further dehydration.

Natural Genus	light	neg.	rest	good	basket	Water
man-made Genus (*)		temp		species	or pot	
Ascodentrum	high	50	short	*miniatum*	basket	often
Ascocenda *	high	50		many	basket	often
Aerides	high	40		many	basket	often
Angraecum	med.high	40		many	either	like Catts
[illegible]sellia	high	40		*africanus*	basket	often
Brassavola	high	35		nodosa	basket	like Catts
Broughtonia	med. high	35		sanguina	pot	like Catts
Brassia	med. high	35		all	basket	like Catts
Bulbophyllum	various	35-50	na	many	either	varied
Calanthe	medium	35	yes	*rosa*	pot	Catt like
Catasetum	medium	40-50	yes		basket	Catt like
Cattleya	medium	35		many	pot	2x week
Colmanara *	med. high	35			basket	like Catts
Cymbidium (avoid!	high	35			soil	like Catts
Dendrobium (Phal type)	AVOID					
Dendrobium	med. high	55*	some	many	either	like Catts
Doritis	low	55			pot	keep moist
Encyclia	med. high	35		*tampense*	pot	like Catts
Epidendrum (think cane	med. high	35			pot	like Catts
Grammatophyllum	high	35		*scriptum*	basket	like Catts
Laelia	medium	35		*anceps,*	pot	like Catts
Ludisia	low	35		*discolor*	pot	grow moist
Miltonia	bright	35			either	like Catts
Miltonopsis AVOID						
Neofinetia	bright	40		*falcata*	basket	like Vanda
Odontoglossum	AVOID					
Oncidium	bright	40		many	basket	like Vanda
Phaphieopedlum	low	35		many	pot	keep moist
Phragmipedium	med. low	35		many	pot	keep wet
Phalaenopsis	med. low	50		many	pot	keep moist
[illegible]ius	bright	40			pot	like Catt
[illegible]nchostylis	high	55-60		gigant. /coele	basket	like Vanda
Rhyncholaelia	bright	40		*digbyana*	pot	like Catt
Schomburkia	bright	40		several	either	like Catt
Sophronitis	AVOID					
Spathoglottis	bright	40		grow in pots ,	soil	
Tolumnia (equitant onc.)	bright	40		many	either	grow DRY
Vanda Strap Leaf	bright	55		FUNGUS	PRONE	1 x day
Vanda pencil leaf	bright	55		fungus free	basket	1 x day
Vanilla	bright	40	semi	planiflora	totum	2 x week
Zygapetalum	AVOID					

Orchids are Orchids Because...

1. The flowers are zygamorphic. They can be cut in only 2 equal +/- parts. Other flowers have radial symmetry and can be divided in any direction.
2. The male and female parts of the flower are in one organ, the column, not in a female pistol and several male stamen.
3. The pollen is not lose but in pods or pollinia.
4. Orchids have a rostrum or a little beak which leaves a sticky glue on a pollinator's back to secure pollinia to be moved to the next flower. It's second function is to separate male and female parts within a single flower.
5. Orchids have a labellum or lip which is a modified petal and a landing platform for a pollinator or to serve as a pouch in a slipper orchid.

A note on the chart on the left

I can't swear by the information in the chart. I made it up from what I've learned by growing or killing orchids.

Be a Smart Orchid Shopper

I print something like this every year before the Redlands Festival. This festival offers a great opportunity to shop for the plants you haven't found locally but beware:

1. The South American growers bring in bare roots that are cold or intermediate growers. That's ok, people come to this festival who live where those are the plants they need to buy. Ask about heat tolerance before you buy.
2. Look for bare rooted plants that have at least one green new root tip showing if possible. That plant is more likely to survive.
3. When you get home soak your bare rooted plants in a solution of 1 teaspoon of Superthrive, and I tablespoon of sugar in a gallon of water. Soak them for about an hour and then rinse off the leaves and pray for roots and life.

Protecting Orchid Leaves From Summer Heat

Touch a Cattleya leaf at mid-day in the summer and you may think you could fry an egg on it! All this heat is not 'comfortable' for the plant and you can help with fans, or if you have an overhead sprinkler system, turn that on for about a minute is beneficial not only for the immediate coolness of the water but from the evaporative effects from the leaf.

Terete Leaves Tid-bit

Some orchids evolved these thin rounded, pencil – like leaves to conserve moisture. These babies can usually tolerate more dry times and more light too.

Velamen, a Good Thing for Epiphytic Orchids

Epiphytes live in one of the most stressful habitats used by the plant kingdom. Even when there is plenty of rain or cloud mist, it runs off rapidly and the plant must store and conserve water. Epiphytes must also survive during long periods of drought, so water conservation is a matter of survival. Think velamen, but before you do, think about terrestrials.

Terrestrials can regain moisture from soil and if they live in a habitat with a dry season, they drop their leaves, usually, and they conserve water because they do not lose water through transpiration, or 'leaf sweating'. They can 'rest' and recover when the rainy season begins again. Terrestrial plants absorb water with root hairs which are ever growing on root tips. (*Once upon a time I learned that the root hairs on a single vegetable plant, if laid end to end, would circle the globe about 4 times.)*

Epiphytes have aerial roots with velamen. Live young velamen will have water absorbing root hairs on the side of the root touching a substrate (tree bark, clay pot) but there are no root hairs on the rest of the root. There is velamen all over the root. Mature velamen is comprised of dead, air-holding cells. Sinclair reported that Pridgeon (1987) found that the velamen on most orchids was from 2-5 cells thick, but could range from 1-25 cells thick. There are passages in the velamen that allow water and air to pass to the root and toward the base of these passages are **trilosomes.** In 1914 these fibrous cells were believed to condense water vapor from the air. Later workers believed they increased the diffusion pathway and prevented water loss. Pridgeon (1987) hypothesized that the trilosomes might serve as plugs to prevent the entry of bacteria and fungi into the root. It is not unusual for Cyanobacteria (blue-green algae), green algae, and fungi to live in the velamen. (*Later researchers may decide that these cells are symbiotic and serve to furnish nutrients to the orchid or the fungi may serve the role it serves in lichens which is to conserve water. Enough Biology 101, but the next time you water a Vanda and watch the velamen turn from white to green, appreciate this 'magic' layer.)*

When you watch the quick color change also note that the most nutrient laden rain water falls first, and by absorbing this nutrient loaded water rapidly, the spongy velamen traps the nutrients.

Sinclair, R. 'Water Relations in Orchids' from Ardetti, J. (editor) 1990 **Orchid Biology Reviews and Perspectives, V.** Timber Press. Portland, Oregon. pp. 65-68
Alec Pridgeon's study is found in Volume IV of this series of books edited by Joseph Ardetti.

Co-evolution of Flowers and Pollinators

Insect eyes respond to 'flicker' more than 'image' thus *Oncidium and Odontoglossum* produce an eye catching 'flicker' with their often irregular spotting. The insect eye does not pick up smooth, round, circular flower parts as well as wavy, twisted, uneven, and non-overlapping parts. Three-dimensional flowers are easier for the insect eye to spot that flatted flowers. Thus insects would reject many of the flowers that are pleasing to AOS judges!

Insect eyes can not see red, but see the shorter end of the spectrum from orange-yellow through ultraviolet. Various insect groups do have different color perceptions within this range.

Butterflies and birds pollinate red flowers, which usually have no odor. (Butterflies are an exception to the insect, blind to red, rule.)

White, cream, and pale pink flowers often have a strong fragrance to further guide the nocturnal moths to their pollinia. The light colors of course show up more at night than red or purple.

Brown and reddish purple flowers often produce a fetid smell to attract their fly pollinators.

Ophreys, a genus of European ground orchid, produces the pheromone of female wasps, thus attracting male wasps that seek the flower as a mate and inadvertently transfer pollinia in the process.

Some orchid flowers offer no reward to pollinators. For instance our commonly grown, *Epidendrum radicans,* grows along road sides in Central America along with non-orchids, *Lantana* and *Asclepias.* All three species have yellow and red flowers and the butterflies confuse the epidendrums with the other plants when searching for nectar and pollinate the orchids.

Koopowitz, H. 2001. **Orchids and their Conservation.** Timber Press. Portland, Oregon. pp 14-16

Weird and Wonderful *Catasetums*

Light Can Change the Sex of the Flowers!

There are 70 species of *Cataasetums* which are native to the West Indies, Mexico, and Central America. The flowers come from the base of the pseudobulbs, Flowers will be either colorful males, which do not look like males of other *Catasetum* species. Female flowers from species to species are yellowish green and fairly uniform from species to species. **Plants produce female flowers in high light and male flowers in more shaded conditions.**

Over watering new shoots causes them to rot, but mature shoots and leaves need a good deal of water. Once the leaves drop off for a rest period, the pseudobulbs need very little water. *Catasetums* are usually grown in baskets so the basal flowers can hang down.

Again, The Orchid Doctor

* **Added light** for indoor orchids can be a good idea. It's a waste of money to add lights in the early morning when the plant's metabolism is low. Add the lights at three in the afternoon when the daylight is decreasing and the plant is still active. (P. 51) *(One of my former students who now attends FLOS meetings did a science project testing metabolic rates on non-orchid seedlings and found that the metabolic rate was highest at 11:00 AM (sun time). The plants took in more fertilities or died quicker from weed-killer application at that time.)*

* Magnesium Sulfate, **Epsom salts,** does for plant systems what iron does for animal blood. (P. 54) *(Chlorophyll and hemoglobin molecules are the same except one has magnesium and one has iron. Certainly a teaspoon of Epsom salts in a gallon of water is a good thing several times a year.)*

* **Orchid Growers' Ten Commandments:** 1. Learn basic culture. 2. Provide proper facilities. 3. Watch for creeping obsolescence. 4. Learn about diseases and pests. 5. Buy good stock. 6. Lean the names and watch the labels. 7. Beware gift plants. 8.Specialize. 9. Build a good library. 10. Join and orchid society. (P. 62)

* **Outdoor tree orchids** should be attached to the east side of the tree. (P.63)

* **Respiratory rate** of plant tissues is related to temperature. At 60dF the rate is 28%, at 70dF it is 40%, at 80dF it is 50%, at 90dF is 65%, at 100dF it is 75% and at 118dF it is 100% and after that the plant begins to exhaust itself. (P. 86)

* **Talking to plants** has been shown to be a slight benefit to their well being. It is probably the added carbon dioxide from your breath. (P. 93)

* Brown **sheaths** still produce flowers in *C. skinneri* and some others, but usually when a sheath turns brown there will be no bloom. Causes of brown sheaths are poor light or ventilation, too much or too little water, or the plant is just too weak to flower. (P.95)

* A **Shell No-Pest strip** can be enclosed in a container with an orchid having scale and other insect pests or spider-mites and the pests will die. Depending on the size of the container used, remove the plant within 2-8 hours and put the No-Pest strip back in its container for use again in a week. (P. 95)

Orchid Doctor continued:

* **Staghorn ferns** that share a tree with orchids promote the growth and well being of the orchids. (P102)

* **One birth control** pill in a quart of water and used on seedlings weekly produced better growth. (P.103)

* **Sunburn treatment** for a badly burned plant is to cover it in a saturated sugar and water solution which will seal the tissue form microbes and stop dehydration. (P. 103)

* When you **repot a terrestrial orchid** keep about 1/3 of the old medium so the orchid will still have some of its mycorrhiza. Mychrrhiza are symbiotic fungi that orchids require. (P. 104)

* Good **Host trees for orchids** in Florida include native oak, mahogany, tabebuia and bottlebrush. Due to dense foliage these trees are not good: avacado, mango, and citrus. (P. 107)

Hamilton, Robert M. (Compiler and Publisher, Canada.) 1988.
The New Orchid Doctor.
Editor's note: There are two of Hamilton Orchid Doctor books in our library. In the 6 ½ years since I've been looking for newsletter information, I have used them repeatedly. Both are full of information. Do check one out and read about what interests you.

Orchid biology 3-4 decades ago:

Bananas and B Vitamins

South Beach for orchid babies?

Withner (pp 130-33) in **The Orchids Scientific Studies** reported on the research of Ardetti and others who found that bananas increased differentiation and root growth in Catts and Phals. Bananas contain several plant hormones including cytokinins, auxins, gibnerellins, biotin and other vitamins, as well as mineral nutrients, and amino acids. Ardetti and others found that 5% pineapple juice added to the 15% banana worked even better.

Just for the fun of it, you might dose a puny orchid with a banana –pineapple smoothie. I would rinse the plant off in a day or so to control bacteria and fruit flies, but maybe the hormone shot would help?

The sixties and seventies were also decade to study the effects of B vitamins. B1 (thiamin), B6 (pyridoxin), B2 (riboflavin) and biotin were all found to have a positive effect on Catts..

The reference above is in our library, it was published by John Wiley and Sons, New York. Our copy is signed by Carl Withner the editor and writer of the chaper described above.

FORT LAUDERDALE ORCHID SOCIETY

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Regular meetings: Second Monday of each month
Time: 7:30 P.M. Workshop, 8:20 P.M. Program
Place: Christ Lutheran Church Social Hall
1955 East Oakland Park Blvd.

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