



# sarasota orchid view society

## UPCOMING MEETINGS:

**August 1—**  
**Alan Koch,**  
**Gold Coast Orchids—**  
**Miniature Cattleyas**  
**for the Home Grower**  
**in a Warm Climate**

**September 5—**  
**Annual Picnic**

**October 3—**  
**Linda Wilhelm,**  
**Woodland Orchids,**  
**topic TBD**

**Meetings are on the 1st**  
**Monday of each month.**  
**Doors open at 6:15 pm.**  
**Cultural Study Group**  
**starts promptly at 6:30 pm.**  
**Regular meeting starts at**  
**7:30 pm.**

**Marie Selby Botanical**  
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**ety.org**

## Sept 5 - Annual Picnic



Labor Day Picnic Monday September 5 at 6:00 PM at the Selby Gardens Activity Center. (our usual meeting place.) We will not have a formal meeting or a speaker this evening—just a good chance to get together and get to know one another better! We do plan to have “Show & Tell”, so don’t forget to bring in your blooming orchids!

Our Society will provide the meat—Chicken & Ribs, also coffee, soda’s, iced tea, paper plates, flatware, cups, and ice.

All Society members and a guest are invited to attend.

Please email Judy Robertson [jerob1@verizon.net](mailto:jerob1@verizon.net) (926-1819 if no email) or Jo Davis [srjcd@verizon.net](mailto:srjcd@verizon.net) to sign up (228-5501)

Please bring a dish to serve approximately 12.

Members whose last name starts with:

A to H - Salad I - Q - Side dish R-Z - Desserts

## Tips on Growing Orchids in Florida<sup>1</sup>

*Robert J. Black<sup>2</sup>*

Floridians have a wide variety of flowering pot plants from which to choose, but few are as beautiful as orchids. Orchid flowers display an almost unlimited range of colors and forms, from the flamboyant *Cattleya* so popular as corsages, to the tiny *Pleurothallis* whose intricate and subtle beauty can be appreciated fully only after being viewed under magnification. Gardeners may choose many species and hybrids from the large and diverse orchid family which grow well and flower profusely with a minimum of care under Florida’s con-

See “Tips” on page 5

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**2011**  
**August**

**The Sarasota Orchid Society Inc.**

**(SOS)** meets on the first Monday of each month at Selby Botanical Gardens, 800 South Palm Ave., Sarasota, FL. The SOS Inc., an affiliate of the American Orchid Society, is a nonprofit association with the aims of promoting the development, improvement and preservation of orchids through the dissemination of information concerning the culture, hybridization or development of orchids; and generally to extend the knowledge of orchids.

Annual dues are \$20; \$25 for family. Deadline for the newsletter is the 15th of the previous month.

Contributors to this newsletter give reprint rights of their work to newsletters and other affiliates of the American Orchid Society.

[www.sarasotaorchidsociety.org](http://www.sarasotaorchidsociety.org)

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## JOIN THE AOS

If you are not a member of the American Orchid Society, let me briefly tell you about the premier organization devoted to our hobby. The AOS is the world's largest specialty horticulture group and offers information not available elsewhere. The monthly magazine, *Orchids*, is the most highly-regarded orchid periodical in the world. The photography and articles are outstanding. Membership entitles you to a 10% discount on publications and your dues support conservation and educational programs. As a new member you will receive a copy of *Your First Orchid*, a book chock full of advice and an *Almanac* listing all affiliate organizations (Florida has the most with 58), growers, special interest groups, descriptions of awards, and many more resources. Membership forms are available at the sign-in table for anyone who needs one.

The AOS also publishes the *Awards Quarterly (Now on CD AQ Plus)*, with detailed descriptions of 200-300 awarded orchids with color photographs. I eagerly await mine every three months.

Dues are U.S. single membership \$65.00; for a 2 year membership \$125.00. American Orchid Society, 16700 AOS Lane, Delray Beach, Fl. 33446 TheAOS@aos.org; 561.404.2000

Monroe



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SHELTON A. THORNE

# UPCOMING SHOWS

## October

**1-2—Florida West Coast Orchid Society Show**, Minnreg Hall, 6340 126th Ave. N. Largo, FL. Contact: Brent Finke, 2961 La Concha Dr., Clearwater, FL 33762; (727) 460-4606; [brent@irbhard-ware.com](mailto:brent@irbhard-ware.com).

**15-16—Gainesville Orchid Society Show**, Kanapaha Botanical Gardens, Gainesville, FL. Contact: Candace Hollinger; [drahcir7@bell-south.net](mailto:drahcir7@bell-south.net).

**21-23—\*Orchtoberfest, Power Plant/EFG Orchids**, 4265 Marsh Rd., Deland, FL. Contact: George Ha-suermann; (386) 738-8600; [powergrown@aol.com](mailto:powergrown@aol.com).

**28-30—Delray Beach Orchid Society Show**, Old School Square, 51 N. Swinton Ave., Delray Beach, FL. Contact: Annette Jack-son, 7283 Via Genova, Delray Beach, FL 33446; (561) 638-9014; [aojax@comcast.net](mailto:aojax@comcast.net).



*Den. Hamana Lake 'Dream'*



*C. warscewiczii 'New Horizon'*

Photos on this page provided by Bob Scully

For members who are re-ceiving the newsletter by mail, you are missing out on some wonderful color pictures taken during the year in our newsletter.

If you have computer access and are getting the newsletter by snail mail, you can switch and save the Society \$7.00 per year per person.

Please contact me and I'll be glad to add you to our e-mail list.

Carolyn Langdon  
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Newsletter advertise-ments are \$120.00 per year. Checks payable to Sarasota Orchid Soci-ety may be sent to:

Laurie Stoner  
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**LET'S TALK ABOUT SALES**  
The vendors who lec-ture at our meetings take their valuable time and effort to edu-cate us on orchid cul-ture. In turn, they ask us to buy their plants which they bring to sell at our meetings.

We know that there are lots of places to buy orchids in our area but as members of SOS, we should really make a point of patron-izing the speakers and advertisers when we buy new plants.

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HELPING HAND HOME SERVICES

"Tips" from page 1

ditions. Contrary to common belief, orchid plants may be purchased at prices comparable to other flowering pot plants; and when a few basic cultural requirements are met, any orchid will satisfy the owner for many years.

### Which Orchids to Grow

One of the more difficult decisions facing new orchid fanciers is which of the thousands of commercially available species and hybrids should they grow. To answer this question several factors must be considered, including: (1) How much time do you want to spend? (2) How much money is available? (3) Do you have a hobby greenhouse? and (4) Do you have a suitable growing area? Species and hybrids of six orchid genera are widely recommended to homeowners because of their adaptability, ease of growing, and beautiful flowers. These are: *Cattleya*, *Phalaenopsis*, *Dendrobium*, *Oncidium*, *Vanda*, and *Epidendrum*.



### Cattleya .

*Cattleya*, synonymous with "orchids" to many people is the most popular and widely grown orchid in Florida. Because of their attractive showy flowers and long life, *cattleyas* have been the subject of intense hybridiza-

tion for more than 75 years. As a result, hobbyists have an almost unlimited choice of *cattleyas* from which to choose with respect to size, growth habit and flower color. Flower colors include all of the basic colors and white (excluding only blue), either singly or in various combinations, and intensities ranging from bold to pastel shades. Certain *Cattleya* cultivars produce up to 20 three inch flowers per inflorescence, whereas others yield seven inch flowers in clusters of four or five. The number of flower clusters varies with the size, age and health of the plant. *Cattleyas* generally flower once a year, usually during the spring or fall, with flowers lasting about six weeks. *Cattleyas* are readily available from many nurseries in the state and may be purchased at modest prices.

### Phalaenopsis .

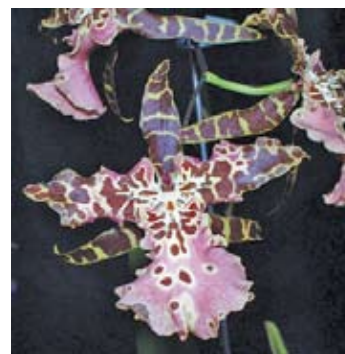
*Phalaenopsis* is an excellent orchid for Florida gardeners. These plants produce long arching sprays of white or pink flowers resembling moths in flight, which explains the common name "moth orchid." *Phalaenopsis* responds vigorously to the warm, humid summer typical of Florida by producing oval, leathery leaves. Inflorescences of 10 - 20 flowers from three to four inches in diameter are produced in winter and early spring. Individual flowers may last for more than one month and continuous flowering may be induced with good culture and judicious pruning of the old flower spikes. As a result

to hybridization, gardeners may now choose from white, pink, yellow, orange, peppermint striped and two-toned varieties.



### Dendrobium

*Dendrobium* is a large and diverse genus with many species and hybrids under cultivation in Florida. The species *Dendrobium phalaenopsis* and its hybrids are the most popular because of their ease of culture and prolific flowering habits. The white, lavender, and combination colored flowers are produced on long arching racemes originating from new and old growth. Flowers, which are borne in profusion in the fall and winter, open gradually and may remain open for three to four weeks.



### Oncidiums .

Gardeners seeking something different in orchid flowers, but still requiring an easy to grow plant, should try *Oncidiums*. These dainty

yellow and brown or white and brown "dancing lady" flowers are produced in profusion at various times of the year. 'Equitant' *oncidiums* are miniature plants which grow and flower well outdoors, in a Florida room, or on a windowsill. As a general rule, *oncidiums* are rugged orchids and will flower even under adverse growing conditions, but more flowers will be produced when they are given proper care.

### Vanda

*Vanda* and closely related *Ascocenda* are two genera which are recommended for and widely grown in Florida. Vandas produce sturdy racemes of a dozen or more flowers in the warm months. Flowers vary in size from two to four inches across and in color from white to variegated patterns of brown, green, and pink to blue and purple. Mature vandas are often too large for the hobby greenhouse. However, one need not forsake their beauty because of limited space. In *Ascocenda*, the intergeneric hybrid between *Vanda* and *Ascocentrum*, a fancier may find vanda-shaped flowers borne on plants about half the size of *Vanda* plants. Additionally, *ascocendas* are free-flowering in the warm months and possess flower colors ranging from lavender and purple to fiery yellow, orange and red.

### Epidendrum

*Epidendrum* is, without a doubt, among the easiest and most prolific orchids to grow. Reed-stem types are excellent outdoor garden plants

in south Florida and may be grown as attractive pot plants elsewhere. One inch pastel flowers are produced in profusion most of the year. Pseudobulbous *epidendrums* are also popular and hardy and have the advantage of producing larger flowers than the reed-stem types. Both types of *Epidendrum* frequently are crossed with cattleyas resulting in hybrids called "Epicats" which often display the better qualities of both parents.

The genera described above are the most common and can be grown successfully in Florida, but they represent only a minority of orchid genera available. With experience comes confidence and often the desire to branch out and try new types. Choose those orchids which tolerate Florida's long, warm seasons and follow the few basic cultural tips described below.

## Potting Media and Propagation

Florida gardeners have a number of choices when considering how their orchids should be grown. Traditionally, plants were grown in osmunda fiber in clay pots. As osmunda became scarce and somewhat expensive, other media such as chopped tree fern fiber, certain bark materials, porous stone (volcanic stone), peat, charcoal and combinations of these materials were used successfully. Plastic pots and other containers have replaced clay in some instances. Experience has shown that most species and hybrids of the seven genera described

earlier will grow well and produce flowers in any of the above media and pot types by adjusting fertilizer and watering practices. Osmunda fiber and peat have the greater water holding capacity and, therefore, plants grown in these media need to be watered less frequently than those grown in coarser media such as tree fern, stone, charcoal and bark.

Nurseries and retail outlets have a variety of containers from which to choose in addition to clay and plastic pots. Wire and redwood baskets are popular and versatile. Orchids may also be mounted on slabs of tree fern, corkbark, or cypress branches or knees. In many cases, plants may then be suspended from pipework or supports within the growing area or from tree branches outdoors. In frost-free areas, plants may be established on tree trunks.

Repotting is perhaps the least enjoyed chore in the orchid hobby. As a general rule, cattleyas, oncidiums, dendrobiums and epidendrums need to be repotted every two to three years as the medium decomposes or when new growth extends over the edge of the container. Repotting can be done by transplanting to a larger pot, or by division. When repotting or rejuvenating these orchids, count from the new growth back to four pseudobulbs, cut the rhizome, and remove the clump. This "lead division" is the most vigorously growing part of the plant and will flower within a year after repotting. Back divisions may take sev-

eral years to attain flowering size; therefore, they are often kept as seconds, traded off to fellow hobbyists, or discarded. To repot, position the plant in a new pot with the oldest pseudobulb touching the back of the pot and fill in with medium around the roots. As a final step, secure the plant with rhizome clips or tie leaves to an upright support.

*Phalaenopsis* and *Vanda* require potting less often because of their single-stem growth habit. The decision to repot is made because the plant has become "leggy" or the medium has deteriorated. Tip cuttings of vandas, including aerial roots, are made and potted in the center of a pot. Potting medium is then placed around the roots.

Raising orchids from seed is both fascinating and rewarding; however, the process requires expertise and special equipment. Orchid seed, unlike seed of other plants, contains no stored food materials; therefore, seed must be germinated on an agar nutrient medium in sterile glass containers. Many commercial orchid nurseries in Florida offer seed germination services to customers.

## Fertilization

Fertilization is a controversial issue among orchid growers. Many debate the merits of inorganic and organic fertilizers and some even question the need for fertilizer. However, most growers use fertilizer and obtain excellent results. Research and experience

have shown that if orchids are grown in tree fern, osmunda, peat, charcoal, or stone (which are slow to decompose or inert) a complete fertilizer with a 1-1-1 ratio should be used. However bark decomposes rapidly because it supports high populations of wood decaying microorganisms. These microbes do not injure plants but compete for available nitrogen; therefore, a 3-1-1 ratio fertilizer is recommended to compensate for this problem. Both 1-1-1 and 3-1-1 fertilizers are available in soluble, dry or slow release formulations. Fertilizers with the same basic ratio may be interchanged, but be sure to adjust for changes in concentration. For instance, a recommendation may be given in terms of 20-20-20, i.e. 1 or 1-1/2 tsp./gallon, but a 10-10-10 fertilizer may be all that is available. Use the 10-10-10, but keep in mind that this material is half as concentrated as 20-20-20 and compensate by using 2 to 3 tsp./gallon.

Soluble fertilizers are dissolved in water and applied in place of a normal watering. If 20-20-20 is used to fertilize orchids growing in osmunda, tree fern, charcoal, stone or peat, mix at the rate of 1 to 1-1/2 tsp./gallon of water. Plants grown in bark should be fertilized with a 30-10-10 or similar high nitrogen material at the same rate. Apply soluble fertilizers at monthly intervals.

Slow release type fertilizers, such as Osmocote, MagAmp, Pro-Gro, etc., release nutrients very slowly, the rate of release being

dependent on temperature. Although their initial cost is higher, one application every two to three months is adequate and plants will be continuously fertilized during that time. Osmocote 14-14-14 should be applied at rates of 1 tsp. per 6" pot every two to three months.

Dry materials, such as 20-20-20 garden fertilizer, can also be used for orchids at rates of 1 tsp. per 6" pot applied monthly. Again additional nitrogen is needed for plants growing in bark.

## Watering

How often should orchids be watered? This is a common question to which there is no one set answer. Watering frequency depends on such factors as pot size and type (plastic or clay), medium, location of the pot (hanging or bench), size of the plant in the pot, air circulation, shade levels, and general environment in the growing area. As a general rule, plants grown in small pots dry more rapidly than those grown in large pots, thus requiring water more frequently. Also plants grown in porous clay pots should receive water more often than those grown in plastic pots. When watering, saturate each pot so that moisture drains from the bottom of the pot and then do not water again until the surface of the medium becomes dry.

Water quality concerns many orchid growers, particularly those living in coastal areas. Salt water intrusion into freshwater wells is common along both coasts. Orchid growers

should be aware that water with salt levels in excess of 875 ppm is detrimental to the growth of orchids and should not be used. Water is of good quality when the salinity level is less than 500 ppm and no special precautions are needed. However if salt levels range between 525 and 875 ppm, be sure to water thoroughly and leach heavily at each watering to wash residual salts from the medium. Use rainwater collected by placing large containers under downspouts from roofs.

## Light

Most orchids require partial shade for optimum growth and flowering. High light intensities degrade chlorophyll causing the foliage to yellow, and frequently may burn the leaves. Recommended light levels for many varieties of *Cattleya*, *Dendrobium*, *Oncidium*, *Vanda* and *Epidendrum* range between 2000 and 3000 footcandles (21.6-32.4 K. Lux), or 70-80% shade. These shade levels may be obtained by several means including: (1) growing plants under saran cloth, (2) growing plants in the shade of trees, (3) shading the greenhouse with whitewash, and (4) growing under eaves of houses. *Phalaenopsis*, however, thrives when light levels are 1000-1800 footcandles (10.8-19.4 K. Lux), or 85-90% shade. *Phalaenopsis* leaves burn easily when subjected to high light intensities so shade should be provided at all times. Reed-stem *epidendrums* and terete leaved *vandas* grow in full sun and in south Florida are planted

in open beds outdoors.

## Temperature

Orchids need to be protected from cold temperatures. Generally 50°F (10°C) is considered the minimum temperature to which tropical orchids can be subjected without exhibiting symptoms of cold damage. *Phalaenopsis* and *Vanda* prefer night temperatures of 65-70°F. (18-21°C). *Cattleya*, *Epidendrum*, *Oncidium* and *Dendrobium* generally grow best when the night temperature is maintained between 60-65°F. (15-18°C), although these may recover when exposed to temperatures in the mid-30s (2-5°C) for short durations.

Few hobbyists are concerned with maximum temperatures. However, if orchids are grown in a greenhouse, be aware that temperatures of 110°F. (43°C) can occur under glass during the hot summer months and two hours exposure to 110°F. (43°C) and 10 minutes to 120°F. (40°C) will burn leaves and flowers.

## Insects and Diseases

Orchids, like other plants, are susceptible to a number of insect and disease problems. However, in comparison with other ornamental pot plants, orchids are surprisingly less affected by them. Should pest problems arise, contact your local county extension office for a diagnosis and control.

## Footnotes

1. This document is ENH33, one of a series of the Environmental Horticulture Depart-

ment, Florida Cooperative Extension Service, Institute of Food and Agricultural Sciences, University of Florida. Original publication date January 1998. Reviewed October 2003. Visit the EDIS Web Site at <http://edis.ifas.ufl.edu>.

2. Robert J. Black, Extension Consumer Horticulturist; Department of Environmental Horticulture, Cooperative Extension Service, Institute of Food and Agricultural Sciences, University of Florida, Gainesville, 32611. To simplify information in this publication, some trade names of products were used. No endorsement of these specific products is intended nor is criticism implied of similar products which were not mentioned.

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## Growing Miniature Cattleyas: Windowsill Culture

By James N. Nickou  
*Cattleya (Laeliocattleya) Jungle Elf (esalqueana x aclandiae)* is just one of countless miniature cattleyas suitable for windowsill culture. Several of such small-stature orchids can fit in the space occupied by one standard cattleya.

If I had three square feet of windowsill growing area for orchids, miniature cattleyas would be my first choice. Each plant takes up little space, and many flower two times per year. They are relatively easy to grow and repot. Some other windowsill candidates present more problems. For example, equitant oncidiums often lose their roots, despite careful watering and the new growths rot easily. They are slow to reestablish unless perfectly healthy. Nonetheless, it is worth growing a few because they are so appealing. Many miniature species have the same problems. They grow well for a few years and then gradually go downhill and die due to the loss of the roots. Phalaenopsis and paphiopedilums are easy to grow and bloom, but one could grow five to 10 miniature cattleyas in the space needed by just one of these plants. There are serious drawbacks to growing in windows, but with a few

modifications most problems can be partially overcome. The main problems are lack of control of light, temperature and humidity. Additionally, there is often room for only a few plants. However, if there is no cellar for artificial light culture, a windowsill may be the only option.

Proper exposure is vital, with southeast being the best and east or south second best. North or near-north exposures are unacceptable. A western exposure may get enough light, but the room will be too hot on summer days. Southern exposures may have enough light in winter, but not enough in summer if there is an overhang above the window. In this case, the plants may have to be moved to an east window.

A corner room with a second window is ideal. This allows the use of a window fan to bring in cool night air in summer. An air conditioner may even be needed if temperatures go above 85°F. Alternatively, depending on local climate, the plants may be grown outdoors under shade cloth or lath in summer. Considering the country-wide heat waves occurring during recent summers, this option is not viable in many states.

In most cases, some form of shade cloth or screen will be needed in the window. If the room becomes too hot, the screen should be put on the outside. Fiberglass screen is available in most hardware stores and can be tacked or stapled onto the window frame. One or two



*Cattleya (Laeliocattleya) Jungle Elf*

layers are used, depending on the exposure. Old ideas need repeating occasionally, because there are so many new growers needing advice. One is the use of supplemental fluorescent lighting, which I believe should be used in all windowsill applications. The lights should be on a timer set for daytime hours. A single 4' fixture hung from the ceiling can convert a barely adequate window into a successful growing area.

Blooming miniature cattleyas in a bay window is simple, especially with supplemental fluorescent light. Alternatively, several 2' fixtures could be used on two levels. It may be necessary to build a wooden structure to hold the fixtures and shelves for the plants. Three-foot fixtures are available and could be ideal for many windows. They have to be special-ordered from electrical supply houses. The Duro-Test Company makes 3' Vita-lite tubes, the type I prefer. All fixtures should be the 2-tube type and have reflectors which can be lined



*Cattleya (Laeliocattleya) Jungle Elf*

with aluminum foil. I have used them without reflectors, but with foil behind the tubes and bent to reflect light downward. Where one fixture above the window is used, it can be installed with a valance built around it for better appearance. Another option that can vastly increase the available light and growing area is a window greenhouse. These are prefabricated and attach to a window directly. The largest model possible should be used. A more costly alternative, which I chose, is to have a large bay window built to replace a normal-sized one. Select a room with a second window, because extra ventilation will be needed to compensate for solar heat buildup. As for windowsills, I recommend

supplemental fluorescent lighting. For maintaining humidity at proper levels, an ultrasonic humidifier with a humidistat may be needed. Inexpensive tabletop models are available. In addition, a precision hygrometer is vital for monitoring humidity levels. Excess humidity can cause walls and ceilings to mold. Structural damage can result from moisture accumulation in wells of houses without a vapor barrier. This may be a problem in older houses built before 1950. The ideal level is 50-65%. Despite conventional wisdom that 40-60% relative humidity is adequate; a level of 40% is too dry for almost all orchids under any conditions. Frequent misting and wet gravel in trays is usually inadequate, but can be attempted before buying a humidifier. It is only during the heating season that low humidity is a serious problem. In mild climates, humidifiers may be unnecessary. Ideal temperatures are 75-80°F daytime and 60-65°F at night. The best way to ensure even temperatures and gentle air movement is with a small fan placed on a table on the opposite side of the room and aimed at the plants. Only a very gentle breeze is needed. Without this fan, the plants will overheat whenever the sun shines on them. A maximum- minimum thermometer is vital because the grower must be aware of any temperature extremes and take corrective action. For watering, a hose can be attached to a faucet with an adapter, or the plants can be kept in screen trays that can be taken to the kitchen

and watered with the sink sprayer. Salt buildup in the media is more likely with plants grown indoors. The pots should be soaked in water for 15 minutes several times a year and then watered well in the sink to leach the media. Fertilizer should be applied very sparingly to reduce this problem. People with cellars should also consider growing orchids under lights. I did it for many years with excellent results. In some parts of the country, it is just too hot to grow them in a window. With only four 4' or 8' fluorescent tubes and a custom-built growth chamber, several hundred miniatures can be grown.

## Water-spider orchid Native to Florida

The water-spider orchid is an emersed plant. It is a true native orchid. Water-spider orchid occurs on marshy shores and sometimes in floating mats of vegetation. There are five species of *Habenaria* in Florida (Wunderlin, 2003). Water-spider orchid exists in southeast U.S. and PR (Kartesz, 1999).

The water-spider orchid spreads by runners as well as seeds. It is erect, growing to one or two feet tall. Its leaves are thick and succulent, two to nine inches long and up to one inch wide. The leaves are narrowly lance-shaped, tapering to a narrow point. The most conspicuous part is its stalk

of flowers that occurs at the top of the plant. This species bears diminutive, spidery flowers about 1/2 to 3/4 inch (1.25 to 2 cm) across. The petals are narrow, making the flowers resemble small green spiders. Upon first glance, the floral structure of the flowers can be confusing—there appear to be eight floral parts, which would not follow the usual orchid plan of three sepals and three petals. Closer examination solves the puzzle: the petals are, rather unusual among orchids, deeply bilobed, with the upper lobe hugging the margin of the dorsal sepal and the lower lobe curving out and upward. The lip is deeply trilobed, with two narrow side lobes and one thicker central lobe. A spur extends down from the rear of the lip, forming a narrow nectary filled with nectar for only the last few millimeters. This forces its pollinator (a night-flying moth with a long proboscis) to push its head into the column where pollinia are deposited or removed, as the case may be. Reproducing both sexually and vegetatively via stolons, this orchid will often form dense colonies. During the evening and nighttime hours, these orchids' flowers emit a very powerful fragrance, apparently to attract night-flying moths.

Flowering primarily summer-fall, sporadically (Apr-Dec). Marshes, wet meadows, bogs, margins of streams, ditches, and ponds; commonly an emergent aquatic in shallow water and in floating mats alone or with other vegetation; 0--100



m; Ala., Ark., Fla., Ga., La., Miss., N.C., Okla., S.C., Tex.; Mexico; West Indies; Central America; South America.

*Habenaria repens* is remarkable in sometimes being truly aquatic. Often forming floating mats, the plants then are commonly decumbent, at least basally, and new shoots and slender roots arise abundantly from much of the length of the stem. A few spheroid tuberosids are sometimes produced from roots arising at wide intervals. Other roots bear new shoots some decimeters from the parent stem; the distal portion of the root then commonly enlarges into a slenderly lance-fusiform tuberosid.

# Terrestrial Orchids For South Florida

By John McLaughlin\* and Joe Garofalo\*

Orchids can be broadly categorized into three basic types depending on their growth characteristics: (1) epiphytic orchids survive attached to trees (or rocks - lithophytes) producing a sequence of shoots from a basal rootstock. (2) Climbing orchids also attach to trees, but form much longer stems and are therefore not as compact. (3) Less well known in cultivation are orchids that grow with their roots in the ground (terrestrial orchids), which do not produce aerial roots or long climbing stems. Many of this latter group such as the hyacinth orchid, *Bletilla striata*, and the slipper orchids, *Cypripedium spp.*, are found in warm- to cooltemperate climates, and do not perform well as perennials in South Florida. *Bletilla* is well adapted to shady locations in North Florida, but *Cypripedium* is best much farther north.

Another group of terrestrial orchids, the jewel orchids, are grown mainly for their attractively patterned foliage. There are several genera which occur naturally in the deep shade of tropical forests, growing in the leaf litter, which are very difficult for us to grow. One, *Ludisia* (syn. *Haemaria*),

is much easier to grow and is therefore seen more often in cultivation. There is only one species, *L. discolor*, with several putative cvs. These are usually used as house plants or terrarium subjects for their striking foliage, which is velvety-bronze to black, with coppery-red reticulate venation. Outdoors it requires shade and humidity, and will decline if temperatures fall below 50EF. *Ludisia* is easy to propagate, but slow to put out new foliage.

There are, however, tropical to sub-tropical terrestrial orchids that will succeed well in South Florida, and one of these, the nun's orchid (*Phaius tankervilleae*, syn *P. grandifolius*) has been available for many years. More recently, other species of terrestrial orchids have become available that are well adapted as landscape plants in South Florida. Most notable are the Bamboo Orchid (*Arundina bambusaefolia*, syn *A. graminifolia*) and various *Spathoglottis spp.*



## Species Adapted To South Florida Nun's orchid

One of 30 members of the genus *Phaius*. They produce large, thin pleated leaves, usually few in number, which grow to about 3' in height. The inflorescence

arises from a pseudobulb (a short, fleshy shoot found in most orchids) or rhizome, and consists of an erect four foot raceme of showy, fragrant flowers. Individual flowers of the nun's orchid are large, up to 5" across, rusty brown with a purplish lip. Flowers are believed to be initiated in response to short daylength, mainly late Winter and Spring. Each inflorescence opens over a period of up to six weeks. Nun's orchid will withstand temperatures to 35EF, but are severely damaged below 32EF.

To grow this orchid in the landscape, choose a location that does not routinely flood, with light shade during the hottest part of the day. Allow room for development of a vigorous root system. Organic matter (peat, well rotted compost and partially decomposed pine bark) should be worked into the soil to about 60-70%. Add perlite and sand to improve drainage. Alternatively you can use a commercial potting mix. Soil pH should be in the range of 5.5 - 6.3. Maintain soil moisture at an even level, allowing the top 1-2" to dry out when new foliage matures. Apply an organic or slow release fertilizer every 3 months and a fish emulsion or compost tea every 2 weeks while the plants are in active growth.

To propagate, clumps of pseudobulbs from established plants can be split, and the expended inflorescence can be rooted. After flowering is complete, remove the spent inflorescence and lay it in a flat filled with

damp sand. Maintain a moist environment with reduced light for 2-3 months. New shoots will grow from the nodes of the inflorescence. Alternatively, the spent inflorescence can be cut into sections. Make cuts above internodes, apply a rooting hormone to the lower cut ends, and place the sections in damp sand or sphagnum moss.



## Bamboo orchid.

All of the bamboo orchids (*Arundina spp*) have tall, erect stems, up to 8', with slender grass-like foliage, growing from numerous closely spaced pseudobulbs. They flower intermittently for most of the year, but more during Spring and Fall. The inflorescence is terminal and branched, with flowers opening one at a time. Each flower is mauve to white with a distinct yellow and purple lip, resembling a *Cattleya* bloom. They are fragrant, last 3-4 days, and make excellent cut flowers.

In the landscape choose a site free of wind, but not crowded with other plants. If flooding is likely, grow in a raised bed. The bamboo orchid grows best in full sun, with at most some light midday shade. Use a rich, free draining, organic soil as described above for Nun's Orchid. Provide support by

loosely tying several stems together with a metal stake. Maintain a 3" covering of mulch at all times, and do not allow the soil to dry out. (Keep the area immediately next to the stem clear of mulch.) In the absence of rainfall, water should be provided every 3 days. Use a slow release or organic fertilizer every 6-8 weeks.

Bamboo orchid can be propagated by division of established beds, cutting the stems back by half before replanting. Alternatively, the side shoots that develop at the base of the inflorescence can be used. These side shoots should be removed when the base forms a firm swelling, then rooted in damp sand.



**Spathoglottis spp.**

A genus of at least 40 species of slow - moderate growing terrestrial orchids with pleated, palm-like foliage which arises from one of many large pseudobulbs. Slender stems, up to 20" tall, are produced from basal leaf axils. Each bears a raceme of small, non-fragrant flowers that can be white through various shades of yellow, pink and purple. Each inflorescence lasts 2-3 months, with individual flowers opening from the top down. New racemes are produced year round in a

warm climate like ours.

When night temperatures fall below 60EF expect a reduction in growth and flowering. Below 40EF plants may lose foliage and go dormant if exposed for more than a day. *Spathoglottis* will withstand a few hours at 30EF with loss of foliage, but more prolonged exposure or lower temperatures can cause severe damage.

In the landscape, *Spathoglottis* needs a site that is not prone to flood, receives full sun and possesses excellent drainage. As with Nun's Orchid, allow space for a deep and extensive root development. Enrich the site to a depth of 10-12" and use a soil rich in organic matter. A slow release fertilizer can also be incorporated into the soil at a rate of 1/2 lb per cu ft. It is important to install each plant at or slightly above the soil line since *Spathoglottis* is prone to rot if planted too deep. Place mulch and a light application of a slow release or organic fertilizer on the surface.

It is critical not to over water, and the top 1" of soil should be allowed to dry out between waterings. Once a month apply liquid compost, and every 2-3 months a slow release or organic fertilizer.

There are a number of *Spathoglottis* species/cultivars available, but the nomenclature can be confusing. A few of the more common are mentioned below. These may be available as container grown plants, or as individual pseudobulbs ready for potting.

*S. plicata* is the most widely available species. It

produces attractive pleated (plicate) foliage and a raceme of purple flowers on an 18" stem. In areas where these plants have naturalized (e.g., in Hawaii) they often revert to a wild form, becoming self-pollinating with the flowers cleistogamous (never opening), and therefore of less landscape value.

The cv 'Grapeaid' is a compact plant with striking magenta flowers. Hybridization of *S. plicata* and *S. aurea* (a yellow-flowered species) has produced the 'Primrose' hybrids with mauve to pink flowers. More common is the pink/mauve Philippine variety 'S. Parsonsii' and the yellow to orange 'S. Peach'. Another Philippine species, *S. vanoverberghei*, has impressive golden yellow blooms from Winter through Spring. Two species from Thailand produce yellow flowers: *S. affinis* (yellow/golden), and *S. eburnae* (creamy yellow), and go dormant, losing their foliage, after flowering.

**Soil, Disease, And Insect Problems.**

With nun orchids growing on calcareous soils a magnesium deficiency can develop, and on sandy soils nematodes can be a prob-

lem. With all the terrestrial orchids, thrips, aphids, scales, and spider mites, including broad mites, can be occasional problems, but are rarely serious. Disease is of more potential concern, particularly fungal and/or bacterial crown and root rots. Other disease problems include stem rots, rust, and petal blight. Anthracnose, and to a lesser extent, other leaf spotting diseases also may develop, particularly on *Phaius* and *Spathoglottis*. To reduce disease incidence water at times when moisture can dry quickly from foliage and blooms, be careful not to over water, and provide adequate exposure to sun and good air circulation. If pesticide use seems necessary, contact the Extension office for current recommendations.

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*\* John McLaughlin is Program Assistant in Urban Horticulture. Joe Garofalo is Extension Agent / Commercial Ornamentals. Both are with Miami-Dade CES in Homestead.*

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