Compendium

There are estimated to be somewhere between 25,000 to 35,000 orchid [1] species in the world, of which over 10,000 are tropical. And this does not take into account all the hybrids that have been generated over the years [2]. Orchids are primarily found in tropical areas in all continents except Antarctica. They are most abundant in places like Southeast Asia, South America, and other places with warm climates, such as rain forest-type places. They may be found in the wild on all kinds of media such as trees, rocks, and even the ground.

There is a dizzying array of facts and information about orchid growing, culture, division, pests, diseases, feeding and so on. All this can quickly become very confusing, especially for hobby novices.

We at the Tropical Orchid Society (TOS [3]) are certainly no exception. While we are fortunate to count many experienced orchid growers among our numbers, many of us are more likely either relatively inexperienced or rank novices. Because we welcome more and more new members each month, the need for comprehensive information continues to grow.

As a result, we try to collect as much relevant information as possible and offer it up to our members. Our highly successful monthly presentations [4] by "old pros" has given us myriad useful hints, tips and techniques. Q&A also allows members to get answers to questions personally meaningful to each of us.

Local commercial growers and suppliers also provide good input. We find that these folks are always willing to help in any way they can. Next time you visit one, don't shy from asking them about whatever you may have on your mind.

Many orchid shows in the south Florida area are totally awesome. Not only will you be blown away by the vast number of beautiful and unusual orchids you will find there, show exhibitors and sales booths are also eager to answer your questions - especially about the particular plants they have for sale. Hint: whenever you purchase a new plant, don't hesitate to question the seller about the plant's care and feeding. In particular, ask about light, water, fertilizers, temperature, diseases and other issues you need to know about to help your new plant thrive. Each orchid species and hybrid is different, so don't assume anything. Remember, these are the experts on making that particular plant survive.

You will also find a wealth of info on the web. Google practically any question you have and you are likely to find more answers than you can handle. For example, Google "orchid, vanda, water" and you will get approximately 439,000 hits!

And don't forget that there are lots of good books. Some can be rather expensive; others not so much. Some are tailored especially toward growing orchids in Florida or the subtropics. A few have even been written by people who have given presentations to our members. Sometimes we have books for sale right at the meeting.

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[1] Orchids are members of the class Liliopsida, which includes lilies, irises, grasses, palms, and bananas.

[2] *Orchid hybrids are indicated by a 'x' mark, such as '* Aerides *x* Vanda *x* Luisia'. The 'x' is often referred to as "times", "by" or "cross".

[3] Tropical Orchid Society, Royal Palm Beach, FL 33421-1551

[4] Notes on some of the presentations can be found on this website.

Magazines can also be helpful too. For example, joining the American Orchid Society (AOS) allows you to receive a copy of their Orchids magazine, either in digital form or hard copy. Visit the AOS website for details.

So, anyway, enjoy the information given here. We hope it helps. Much contained within is there specifically because novice growers have found the info quite helpful and/or even necessary.

Should you have other helpful info that you would like to share, then send us a note to xxxxxxx. Text, Word documents or PDF attachments are preferred. And don't forget to provide your contact info.

Finally, note that some info is repeated in more than one section to avoid a lot of unnecessary page turning.

Wherever possible, attributions within this document are presented in square brackets. See the References section for sources.

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Disclaimer: *As mentioned, much of the material contained herein is based on notes taken by members during meeting presentations by invited guests. This information should in no way be taken as official. Errors in taking notes, audio problems, misunderstandings and other mistakes can easily find their way into informal notes. That said, should you find any inaccuracies, or care to make your own suggestions. please feel free to contact us at xxxxxxxx and we will be happy to update the documents.*

Basic Orchid Care

Most orchid care parameters fall under what presenter Bill Thoms [13] refers to by the acronym 'WAFLHSE' (pronounced "Waffle House"). This stands for water, air, food, light, housing, sickness and Epsom Salts. Of these, for most orchids water and light are probably the two most important. As time goes on and conditions change, things such as food and sickness rise in importance. But that said, good husbandry in terms of light and water go a long way to making your orchids thrive.

The following sections go into these items in more detail. Each chapter is presented as a list of considerations and reminders. No particular order is intended. Rather, various meeting presentations are split into the chapters where they are the most meaningful.

-- flush plants monthly [7].

-- Vandas need frequent watering [7].

-- Light and water requirements are 99% of growing orchids [6].

-- Move to higher light only in early spring [7].

-- Do not water in high sunlight [7].

If your orchid grows to the point where the roots are wrapping around the pot, don't pull it out to repot. Simply place into a larger pot.

Notes

"Mother Nature" orchids -- no water, fertilizer or spray [6].

Bleach 10% ?? [7].

Plants can infect each other by close proximity or touching, one below another, trimming [7].

Propane torch is good for cleaning scissors [7].

Dollar store [6]:

Baby liquid vitamins

Green tree wire

Rubbing alcohol

Cinnemon - 3:1 water, put in sprayer, stronger for scale

Growers

Quest Orchids in Miami - Cattleyas [2].

Magazines

"Orchid Digest"

"Orchids" -- AOS

Hints and Tips

Water

Daybreak is the best time to water and fertilize [4].

Do not water in high sunlight.

Flush plants monthly [7].

Do not mist outdoor plants [7].

Vandas need frequent watering [7]. At least 2 times a week [6].

Water Vandas, wait 10 minutes, then water again.

Water Phals once a week, Obsidians every 10-12 days [6].

Check water quality and pH [1].

ph 6-7

Conductivity (dissolved salts) < 500 ppm

ph 5-8 if conductivity > 100 ppm

No softened water that adds sodium.

Reverse osmosis (RO) ideal.

On shorter days, consider substituting liquid fertilizer. Be sure to water early in the day. Withhold fertilizer from Himalayan Dendrobiums, Catasetums, Calanthes and other genera which are preparing to go dormant [8].

Wet weather [8]:

Puts disease pressure on plants. Bacterial and fungal diseases.

Respond immediately to any leaf spotting or discoloration of foliage. Immediately move plant undercover if possible.

Wet weather permits snails to make a fresh assault. Look for small, half-grown specimens no bigger than your fingernail. They soon grow fat on soft new growths of orchids. They are hatched from eggs of large snails killed earlier. Eradicating them before they can produce eggs give a leg up on snail control for the next year. Apply snail bait lightly (one pellet per square yard) frequently (every two weeks).

Following taken from "Tropical Orchidist " Issue 7, "The How and Why of Water"

More orchids are killed by incorrect watering than by any other reason. There are two separate components
to proper watering; when and how. The vast majority of orchids grown by hobby growers are epiphytes,
growing on trees above the ground where the light is more plentiful. These plants are adapted to having their
roots exposed to light and air so in addition to water, orchid roots need air. The central core of an epiphytic
orchid root is covered with a spongy material called velamen designed to store water. When this spongy

material remains wet too long, the central core suffocates and begins to rot. Once the roots begin to rot, the plant can no longer take up water properly and a whole host of problems begin. At worst, root rot will spread upward into the rhizome and cause the death of the plant. In other cases, the loss of roots prevents the plant from absorbing sufficient water to maintain the plant in good condition and the leaves will take on a wrinkled appearance. Unfortunately, the symptoms of over-watering and under-watering are superficially similar and the tendency is to increase watering rather than inspect the roots. Over-watered roots will be brown and mushy while those on under-watered plants will be white or gray and obviously dry. Let's look first at when to water.

When do I water?

Orchids should be watered just as they dry out. This rule applies to all orchids with slight variations depending on whether your plant has pseudobulbs (thickened stems that are designed to store water) or not.

Orchids such as cattleyas and oncidiums should be allowed to just dry completely between waterings while orchids such as phalaenopsis and vandas that have no water storage organs should be watered just before dryness occurs. For vandas, this may mean daily watering during the warm summer months. Vandas and ascocendas that are properly watered will have actively growing root tips at all times. If the root tips on your plants dry up and seal over, you are not watering often enough.

There's unfortunately no magic formula; i.e., water a plant in a 6” pot every 7 days and you'll be trouble free. This is because your growing area is different from anyone else's. Humidity, air movement, potting medium (type and age) and light levels all play a role. There are several ways to determine when a potted orchid is almost dry: 1) the surface of the potting mix will appear dry; 2) dry pots will feel lighter when lifted; 3) clay pots feel dry; 4) a wooden stake or skewer inserted into the potting mix will come out almost dry. If in doubt, a finger inserted into the potting mix is perhaps the best tool to determine the moisture content of the potting mix. It will cause no harm to the plant. And remember, fresh potting mix will always dry out faster than the old medium.

How do I water?

How to water is just as important to proper culture as when to water. When orchids are watered, they should be watered copiously. Water should be provided until it runs freely from the drainage holes. This serves several functions. First, thorough, copious watering is necessary to soak the potting medium. In addition,

thorough watering helps to flush away the salts that naturally accumulate in the potting medium from the
dissolved salts in our water supplies and the fertilizers applied for good growth. Also, this is your opportunity
to examine how the potting mix behaves. If you cannot pour water rapidly through the pot, the potting mix is
too dense and you run the risk of starving the roots for air. If you see finely divided material that looks like
coffee grounds in the water coming from the drainage holes, your potting mix is breaking down and it's time
to repot into fresh medium. At a minimum, try to thoroughly water your plants at least once a month.
Finally a couple of notes about mounted plants and those like vandas that are grown in baskets without
additional potting medium. First, avoid dunking these plants in buckets of water. This practice very easily
spreads diseases. If one plant has a disease, all those dunked in the same bucket of water will have been
exposed as well. Also, two short waterings a few minutes apart are much more effective than one long
watering. Once water runs off the plant, the roots will have absorbed essentially all they can at that time and
excess water simply runs off to the ground. The proper technique is to water your plants and then a few
minutes later water them again, always beginning with the first plant you watered. This allows time for the
roots of the last plant watered to finish absorbing water before you wet them again. Roots that are completely

saturated will be a solid color while those that are not will appear mottled.

Light

Light & water requirements are 99% of growing orchids [6].

As a general rule, orchids like about 60% shade. This can be achieved using sun cloth overhead [7].

Move to higher light only in early spring [7].

Do not water in high sunlight [7].

-- air circulation

-- depends on season?

-- depends on climate?

Following from: http://www.greenhousemegastore.com/product/70-percent-aluminet-shade-curtain/shade-cloth_1

Density	Plants
30%	Asters, Chrysanthemums, Geraniums, and Snapdragons
40%	Bedding Plants*, Gloxinias, Herbs*, Iris, Lilies, Vegetables*
50%	Bromeliads, Ficus, Orchids (Dendrobiums, Epidendrums, Vandas)
60%	Orchids (Oncidiums, Phalaenopsis)
70%	Ferns, Orchids (Cypripediums), Philodendron
80%	Ginseng
90%	Aglaonema

* *Various*

Temperature

Following taken from "Tropical Orchidist ", Issue 6, "Help! My Orchid was Damaged by the Heat"

Your orchids need a lot of attention during the summer months, especially on hot days. With higher
temperatures, orchids require more frequent watering to prevent dehydration. High temperatures quickly
dry out mounted orchids, those in baskets and even potted plants.
Maintaining the balance between keeping orchids sufficiently hydrated and over-watering can be a
challenge. A simple rule of thumb is that an orchid's need for water increases and decreases with the ambient
temperature, so water thoroughly and more frequently during higher temperatures. Most mounted plants
and those in baskets, especially vandaceous orchids and other genera grown with little or no media, will
benefit from daily watering in warmer weather.
In addition, keep humidity high and air movement continuous, as both of these factors help plants
keep their cool on hot days. Adding a fan to the growing area, or locating your orchids where they receive the
caress of summer's breezes, as well as spacing your plants to allow for sufficient air circulation between orchids,
can make a big difference in their environment and overall health. This will also help to keep rots from
fungi and bacteria at bay.
The benefits from misting orchids during hot weather do not have much sustained effect, so unless one
has a misting system in place to maintain that added humidity throughout the day, it is probably not useful to
your plants. When watering or misting, always be certain that plants have ample time to dry before night
falls, so as to discourage bacterial and fungal growth.
When moving orchids outside for the season, start them out in a shaded spot and gradually increase
their exposure to sunlight to acclimate them to the higher outdoor light levels. Make sure to protect them from
the strongest sunlight as midday summer sun has more intense UV rays that can burn tender plants. Check
the amount of exposure your plants receive at different times during the day as the sun moves, and
throughout the year as the earth's orbit around the sun makes its gradual seasonal changes, which in turn
changes the angle of the exposure your plants receive.
For greenhouse growers, consider using shade cloth for added protection during the summer months.

Windowsill growers may want to add a sheer curtain during the summertime to keep sunlight reflected by
the window glass from causing sunburn.
Finally, always have someone care for your orchids while you are away on summer vacation.
Signs of Heat Stress
These symptoms may appear singly, even in otherwise fairly healthy orchids. When they appear in
combination, however, it is usually an indication of heat stress or an underlying problem (such as root loss)
that has lead to heat stress.
Yellowing of Plants and Leaves Too much light causes a plant's chlorophyll to deteriorate, which
can turn your orchid an anemic yellow-green, and eventually cause premature loss of leaves. Most healthy
orchids receiving appropriate light levels will be a robust light green.
Withered Leaves The culprit, especially in summer weather, can be overheating. If your plant's
leaves feel warm to the touch, they could be getting too much light, and need increased air circulation and
shading, or a move to a more protected area.
Sunburn Initial signs of sunburn, as in humans, appear as a reddish-purple tint or freckles on leaves
and pseudobulbs. In advanced stages, leaf tips and roots may brown, flowers drop, buds blast or flower spikes
fail altogether.
Shriveled Pseudobulbs Your orchid's pseudobulbs serve as its water-storage organs, so shriveled
pseudobulbs indicate a dehydrated orchid – it is in a stressed state, having used up its moisture reserves.
Leathery Leaves This goes beyond mere wilting, and occurs in the advanced stages of heat stress,
indicating severe desiccation and possible damage on the cellular level. Depending on how long the condition
has persisted, the type of orchid and its overall health aside from the leaf damage, it may or may not recover

once its leaves are parched.

Food

The little sachet-like bags filled with time-release fertilizer are good for maintenance-free feeding. However, if you have lots and lots of plants then it might be a bit of a hassle. In such cases, hand feeding might be more convenient [5].

Do not use urea-based fertilizer [7].

Use Bloom Booster for Vandas.

Fertilizer blend percentages: N - P - K. Nitrogen, Potassium, ?? [7].

A balanced fertilizer has the same numbers, such as 10-10-10 [7].

Never fertilize dry plants. Water first, then wait about 10 minutes [7]

Use 10-10-10 during active growing season [7].

Use 10-30-10 four times a year [7].

Don't fertilize in winter, or when temp > 85 degrees [7].

Change fertilizer bags every 9 months.

Recommendations from Robert Miller [5]:

CalMag - Winfield Solutions 790 NW 10th Ave, Homestead 33030 305.247.1521

Atlantic FEC Fertilizer Co, 18375 SW 260th St, Homestead 33031

Univ. Elt. Pompano ?

Miracle Gro - damages orchids, burns roots [6].

No micronutrients [1].

Don't use cow manure [2].

Fertilizer drops pH [1].

Nutircote tablets good for small collections.

Fertilize every time you water: vandas 2 x wk, Phals 1 x wk, Obsidians every 10-12 days [6].

Pelleted plant food - Osmocote, Dynamite [6]:

Shot glass of water per 1 tsp pellets.

See how long it takes for pellets to burst.
Apply to about a dime-sized area.

Charcoal gets rid of ammonia buildup from fertilizers [2].

MSU orchid fertilizer [4].

Daybreak is best time to water and fertilize [4].

Florikam Nutricote (Total - minous?) [4].

Iron, zinc, copper, etc [4].

[5] Member Marie Trenor recommends Peters 20-20-20 and/or Bloom Booster.

Pests, Diseases and Treatments

Ants

Fire ant killer - no water. Apply 2-3 days before and after [7].

Aphids

These are sucking insects that attack buds, flowers, new growth. They transmit disease from plant to plant. Buds and flowers may fail to open. Leaves may have sticky deposit.

Wash aphids away with water jet. Spray using same instructions as scale.

"Honeydew", excreted by aphids, etc is attractive to ants, and is ideal medium for sooty mole. Also inspect for mealybugs, scale and mites.

Bacterial brown spot

Acidovorax, aka Pseudomonas.

Bacterial and fungal rots

Bacterial soft or brown rot

Also called Erwina. Small water-soaked spots appear on leaves, often surrounded by yellow halos. Will rapidly rot leaves and roots and spread slowly into rhizomes or pseudobulbs. May have a foul odor.

In Phal, spreads so rapidly that plants may be totally rotted in 2-3 days. Can enter through plant wounds.

Dend. leaves appear yellow and water-soaked, and become black and sunken.

Vand. leaves develop translucent patches which become black and sunken.

Phaliopedilum leaves develop small, round spots that are initially yellow and water-soaked eventually becoming reddish brown and sunken. Spot enlarges in all directions, and may reach growing crown before leaf tip is affected. If untreated, disease quickly spreads throughout plant, leaving it a dark, shriveled mass.

Gramm. leaves have water-soaked, browning spots which become black and sunken.

Black rot

Also called Pythium [7] or Phytophthora. Can quickly destroy an entire plant if left unchecked. Caused by one or both of the fungi Pythium Ultimum and Phytophthora Cactorum. Affects a wide variety of orchids. Cattleyas seem to be particularly susceptible.

If severe, treat like Erwina [7].

Botrytis

Spray for Botrytis using fungicides recommended for Florida, or bicarbonate of soda [16].

1 tsp RD-20 per 3 gal water [7].

Caterpillars

Immature stage of moths and butterflies. Voracious feeders that can do a lot of damage to flowers and leaves in a short period of time.

Physically pick off plant and destroy. Check underside of leaves. Spray BT (bacillus thuringiensis) on growing area.

Keep area clean of leaves and debris where pests and eggs can hide. Keep landscape free of caterpillars.

Cold

Crown rot

Mostly on Phal. Use Physon 20 or RD-20. Re-pot [7].

Edema

Fertilizer Burn

Flower spots and blights

Fusarium Wilt

Leaf spots and foliar blights

Mold

Ex: gray mole, sooty mold.

Petal blight

Roaches and grasshoppers

Cause damage by eating flowers, roots and new growths.

Cockroach baits can be spread in growing area, or a paste of boric acid, sugar and flour mixed with water can be sprayed in nooks and crevices of the environment, but do not get on the plants themselves. Or, water than then flush with a mix of liquid Sevin (1 tsp / gal) through pot.

Crush grasshoppers with a brick, shoe, etc. Partially bury jars filled with molasses and water; remove drowned grasshoppers next day.

Fire ant killer (see below) [7].

Root rot

Also called Rhizoctonia.

Salt Toxicity

Scale and mealy bugs

Sucking insects. They feed on the underside of leaves, pseudobulbs, rhizomes. They often hide under old leaves and sheaths. Can cause leaves to yellow and/or drop.

Use Q-tip dipped in isopropyl alcohol, or toothpaste dipped in pesticide like Malathion, Orthene or Safer Soap to remove scale. For more severe cases, apply pesticide at crawler stage and repeat 2 weeks later. Be sure to spray all surfaces.

Remove old leaf and sheaths to eliminate hiding places. Verify before introducing to growing area.

Snails and slugs

Nocturnal mullosks, which leave holes and notches in the leaves, flowers and roots. May chew off the growing tips. Chewed areas may also appear on buds. They travel on a telltale trail of slime.

Chemical baits may be placed in the growing area. Ash and diatomaceous earth can be spread on horizontal surfaces to create a barrier, though water will deactivate it. Beer in shallow tins can be spread in the growing area; remove drowned pests the next day. Regular applications will have to be used since watering will disperse the control substances.

Spider mites

Members of the arachnid (spider) family; not insects. Red or brown pests, they feed on the underside of leaves. May need magnifying glass to see. Leaves could contain webbing or brown spots on undersides. Upper side may have silvery sheen, which becomes sunken and turns brown. Leaves may be streaked, stippled or spotted due to lack of chlorophyll.

Spray with miticide like Kelthand, on all undersides of leaves. In warm weather, new generations mature every 6 days, so repeat at 3 or 4 day intervals.

Othhene. **Do not** use Malathion [7].

Increasing humidity and/or decreasing temperature may help.

Sunburn

Thrips

These are very tiny, hard to see insects [7].

Can transmit disease from plant to plant. Buds may not open and may be deformed, exhibiting water soaked spots. Leaves may appear pitted, stippled, silvery or bleached.

Taken from "Tropical Orchidist", Issue 8, "Got Bugs? How to Identify"

When you first notice pests on your orchids, you need to promptly and properly identify them so you can be sure to apply the most effective control. In many cases, especially if there are many pests present, you'll have to apply control measures every seven to ten days, at least three times because eggs are resistant to the control and hatch later.

-- get images from newsletter..

Aphids: These come in all colors — including green, red, pink, black, and yellow — and they're usually found on the new, succulent growth including the flower buds.

Mealybugs: The name of this creature pretty much describes what this insect looks like — mealy or cottony masses. It's found in similar areas as aphids — the growing tips, buds, and flower stems. One type is also found on the roots. Getting rid of this pest usually requires multiple insecticide treatments.

Thrips: Are miniscule buggers that look something like long gnats and are very difficult to see with the naked eye. Their damage is easier to detect — it shows up as light streaks on the flowers or stippling on the leaves. The flower buds are also usually deformed.

Scale: This is another creature that comes in various forms, but most have a shell that serves as a type of armor for the soft insect body that is protected by it. This shell must be penetrated by a chemical or by rubbing it off before you can kill the insect. They're frequently found on the undersides of the leaves near the middle vein of the leaf or on the edges of the leaf. They also commonly hang out on the flower stems.

Spider mites: These tiny, fast-moving specks of red "dots" are often found when growing conditions are hot and dry. In extreme infestations, you'll see fine webbing on the leaves. Before the infestation gets this bad, the foliage will take on a stippling effect, which is a result of their feeding.

Slugs and snails: Snails and slugs usually come out at night, so look on the bottom of the flower pots. They love cool, damp spots.

Roaches: Another very unpopular beast, cockroaches also feed at night and enjoy munching on flowers and flower buds.

Mice: Mice nibble at flower buds.

Bees and other pollinating insects: These don't cause any physical damage to orchids, but if they land on the flowers and pollinate them, the flowers will very soon collapse.

Treat as with scale. Repeat applications will be required because thrips remain hidden or can be reintroduced from other flowers.

Keep hosts such as flowers, citrus, gardenias, eucalyptus, etc away from orchids.

Use sticky blue note cards to attract [7].

Viruses

Whitefiies

Small, moth-like insects that attack buds, flowers, new growth. Tellltale sign is cloud of tiny white insects when plant moved or disturbed.

Treat as with scale. Repeat at 4-day intervals until whiteflies no longer present.

Elimination of weeds will help prevent infestation, as will separation of hosts as described for thrips.

Treatments

Pesticides

Orthene [7].

Don't use Imidacloprid. Use Bayer instead [but **not** Bayer All Purpose] [7].

Some simple, safe pesticides [7]:

- 70% isopropyl alcohol.
- 1/4 cup isoporpyl alcohol, 3 T Formula 409 or Simple Green, 4 cups water. Spray, then brush away with a toothbrush.
- For Mouse Milk, in a 1 gal jug, 1 pint isopropyl alcohol, 2 T antibacterial soap, 2 T light vegetable oil, fill with water.
- Roach/ant bait. Melt 1 lb wax, and 12 oz boric acid, 1 cup sugar. Let it harden and cut into small squares.

Remember, adult insects lay eggs that hatch in 7 to 10 days. Apply pesticide and brush, 3 times, at 7 day intervals [7].

Fungicides

Cinnamon as a fungicide [7]. [18]

- Dust it on an open plant wound; i.e., a broken leaf or stem, or area where you made a cut on the plant.
- Mix it with cooking oil to form a paste. Pat it on the open plant wound.
- Mix 2 T cinnamon with 1 pint isopropyl alcohol. Shake well, cover, let stand overnight. Filter it through a coffee filter. Use as an all-purpose fungicide spray.
- Combine 1 cup cinnsmon/alcohol mix with 1 cup water. Add 2 T of dishwasher detergent. Use as a combination fungicide/insecticide spray.

Insecticides

Chewing tobacco (not flavored) + alcohol + water (let sit for 2 days) + liquid dish soap. Apply later in the day [6].

Orthane - does not kill flowers [6].

Post-infection. Use systemic fungicide, such as Clerie or RD-20.

Symptoms

Red leaves => cold [6].

Burn => test in brightest part of day for 10 minutes; if warm, too much sun [6].

Virus [1]:

Virus test strips.

Tri-sodium phosphate (TSP) kills virus.

Vista for scale: $250 per oz.

Cat - fungus on outside top -- use cinnemon

Cinnemon is a natural fungicide, bacteriacide, viriscide [6].

Roots

[11]

Epiphytes are plants that grow on something (stones, trees, etc.) showing that potting is not a necessity in the wild. People choose to pot epiphytes.

Roots gather water and nutrition on a substrate

How often do you repot? Depends on the medium in which your orchids are growing

Phalaenopsis come to us grown in sphagnum – re-pot them quickly – holds too much moisture

Factors affecting watering:

- species
- potting medium
- temperature
- humidity
- air flow – more airflow dries plants more quickly

Cattleyas prefer to be bone dry before watering

Mistakes:

- insufficient watering
- watering too often
- watering at night
- ignoring plant queues
- using softened water

Dendrobiums like to be in tight quarters

Cattleyas and Phalaenopsis like more room

Water plants right before applying fertilizer

More advantageous to use lower concentration of fertilizer - "weakly – weekly"

Re-pot plants when roots go crazy and are scattered

Take out all medium then soak roots so they are more pliable

Grow orchids in clear pots to see what's going on with roots

downside – algae tends to grow in these pots because of the light

Potting

Perlite (sponge rock) - small sizes turn to dust; adds air to mix [2].

Spanish moss -- only for decoration [6].

Coconut husk - "miracle medicine" of 21st century. Hydrate 2 days; fertilizer & fungacide [6].

Type 140 (days), 360 (days) [4].

Calcium, magnesium, S? - macro nutrients [4].

Epson Salts [4].

Peters Excel fertilizer - 1 tsp per gallon, monthly [4].

===MOVE===

Keiki paste [6]:

Growth hormone, expensive

Rather, use birth control samples, 1 pill to 4" stream of pure lanolin (pharmacy?)

10 drops per gallon.

Growing from Seedlings

[9]:

Oncydium - coal

Stamen -> pollen -> seed

Clean environment, clear box, clean w/ full strength Clorox.

Sphagnum and ice tea

Moss is "canary", can show when something's wrong. may need to adjust pH.

Excessive fertilizer affects pH.

Spray only, don't mist.

Don't fertilize seedlings until 6 months.

Polyglass (?) cover.

pH 6 - 6.5

Marteaella apple juice bottle.

UV light w/ flasking ?

Species-specific Care

Much of the information contained here is already mentioned elsewhere in the document. By grouping by species, it makes it easier to find things you need to know about a particular species.

Ascocenda [Ascda,]

Better than Vandas in Fla; don't need much water; 1/2 day sun; full enclosure [2].

Catasetum [Ctsm.]

Will fill pot with roots; leave space; no peanuts.

Fast growing.

Use time release fertilizer.

Cattleya [C.]

Only bloom in one direction [6].

When dividing, cut through rhizome, seal with paste, mark cut with toothpicks [6].

Short cuts thru rhizomes; should get blooms on either side [6].

Fungus on outside top -- use cinnemon [6].

Healthy when grows in multi-dimensions (starfish pattern) [2].

Prefer to be bone dry before watering [11].

Like more room than Dend [11].

Celsius (sp?)

Water a lot when new roots; need bright; don't mount or put on a tree [2].

Bright winter light; cold in winter.

Cymbidium [Cym.]

love to be repotted every 3 months.

Dendrobiams [Den.]

Cooler temps [6].

Bloom 3-4 times a year; if not, probably needs more light [6].

Like to be in tight quarters [11].

New growth canes get bigger [6].

Grow on base of Royal Palms [6].

Reduce to manageable size [6].

Cut off current cane 1" from bottom; hide for 6 months; next growth on main plant 50% smaller [6].

Don't cut canes off; will flower again [2].

"Dendrobian Orchids Online" - John ? (Sept. society speaker) [2].

Use grey pea rock.

Epidendrum (sp?)

Epiphytes (tree orchids)

Epiphytes are plants that grow in trees.

Grammatophyllum (Gram.)

Lithophytes (rock orchids)

Orchids may be found growing on rocks, posts, etc where pockets of organic matter have settled, providing a home for the flowering plant.

Nostrum (sp?)

Epson Salts once a month.

Obsidians (sp?)

Water every 10-12 days [6].

Fertilize every time you water; twice a week.

Phalaenopsis [Phal.]

Water once a week [6].

Like more room than Dend [11].

Fertilize every time you water; twice a week.

Phal media - Phal mix - hydrate [6].

Spaghnum moss is costly [6].

Moss breaks down [6]:

Fla moss in 3-4 months.

Wisconsin moss in 6-7 months.

Chili moss in 1-1/2 year.

New Zealand moss in 2 to 2-1/2 years.

Can repot while in bloom without shock [6].

Flower spike [6]:

Cut between top 2 growth nodes.

Phal "White Swan" - use wire to curve like a swan.

95% chance of a new spike in same season.

Water spots, fungus - wet spot - shake on cinnemon [6].

When stops blooming, remove from sphagnum moss.

Simvidium (sp?)

Love to be repotted every 3 months [6].

Terrestrial orchids (ground orchids)

Examples include Paphiopedilums and some Cymbidiums.

Put into cypress mulch. They like full sun, from the east.

Vanda [V.]

Require most light [6].

Vandas need frequent watering [7]. At least 2 times a week [6].

Water, wait 10 minutes, then water again.

Almost impossible to over-water Vandas during the hot months.

Hang upside down for 1 month. Orchid goes into shock. 2-3 months later, flower spikes [6].

Fertilize every time you water; twice a week.

Cinnemon & fungacide [6].

Don't let roots touch ground [pests] [6].

Twist Vanda; will keiki [6].

Keiki at crack [6].

Separate keiki from Vanda where there is at least 3 roots; 3-5 inches [6].

Make cut; seal cut on both sides. Put top in new pot; will get keiki at cut [6].

Color on root tips can suggest flower color [2].

Bloom Booster fertilizer.

Following from Tony Romani [10]:

Vandas don't like nitrogen.

Miracle Gro hose-end feeder; Ortho dial-top jars.

All liquid plant food is buffered.

Dry soluble plant food - low dose.

Free hydroxyl radicals:

Ozone in water; attacks bacteria; breaks down into oxygen.

SaniDate - peroxide, ivnegar

3% peroxide (1 tsp) in water.

Reverse osmosis (R-O) plus peroxide, fertilizer.

Podtec (sp ?) - like Dithane.

Dyna-Gro "Grow" - cadillac of fertilizers; good for small growers. Costly.

Lucerium (sp ?) wilt - purple band at bottom of dried stalk.

Equinoxes are signals to vanda hybrids to bloom; cool snaps also; daily temp swings.

Peroxide deters bugs; daily basis.

No oils! -- smothers plants.

Dithane & Protech (sp?) - 1/2 tsp [+ 1/2 tsp orthane?]. Every six weeks.

DWS Distributers (sp?) - local.

Using same chemicals for long time can cause pathogen resistance; switch every 2-3 months.

Heritage Syngenta - curative; mid-summer.

Vanrot (sp?) - 1/2 tsp.

Dyna Gro Pro-tek or Ditech - fungacide;

Growing outside makes vandas more cold tolerant than when in shelter.

When cold, use Epsom salts or magnesium.

Water vandas every day, unless rainy.

Just because roots look dry or brown, it doesn't mean they are dead.

Allied Technology (sp ?) preferred over R-O.

Pond or lake water can present pathogens; et, microbes, bacteria, algae spores, fertilizer residue, fecal matter.

"Big Bubba" filter - removes most algae; around $400.

Bio film grows inside pipes; ozone destroys.

Dyna Gro - once per week for vandas.

Salts are bad for vandas.

Bacteria excretes nutrients that plants need.

Vandas like even numbers X-X-X; balanced diet.

Home Depot vandas have long travel time - bad environment. Phals probably ok.

Lucerium wilt - purple rot spores; use vanrot (sp?).

Dyna Gro "Bloom Booster".

Dates and Schedules

Much of the information shown in this section was extraced from "Florida Orchid Growing Month by Month" by Martin Motes [12], and repeated in the TOS monthly flyers.

General

Use 10-10-10 during active growing season [7].

Use 10-30-10 four times a year [7].

Don't fertilize in winter or when temp > 85 [7].

January

[12]

Water judiciously, but early in the day.

Run plants on the dry side to preserve the possibility of using water for cold protection.

Check irrigation system in anticipation of cold.

Flush excess fertilizer salts from Cattleyas and other Simpodials.

Spray for mites, then spray again in 7-10 days.

[15]

In south Florida, Vandas thrive if days are stimulated to both root and bloom by the swing of day to night temperatures. A warm, and somewhat wetter than average season, may break some but not all sympodials into growth. These can be fed and watered, adding an extra bulb to their mass. Most of these will be reluctant to bloom, but may bloom all the more profusely next year. Those that have not commenced growth should be encouraged to remain dormant by withholding all food and water and given as bright of light as possible, short of burning them.

February [16]

Spread snail bait lightly. Spread again lightly in two weeks.

Spray for Botrytis using fungicides recommended for Florida, or bicarbonate of soda.

Begin spring potting.

Watch for mites.

Thrips start looming in the high 80's. Three or four warm days without rain will usually set them in motion. See "Florida Orchid Growing" for recommended control methods.

An application of vegetable or fish oil, 3 T per gallon, will suppress mites and also staunch scale crawlers. The oil will also eliminate thrips. Follow spraying in 7 to 10 days by regular liquid dishwashing soap at 4 T per gallon to finish off any mites or thrips.

Plants deficient in magnesium (Mg) should be sprayed with one T of Epsom Salts (MgS) per gallon of water on any plants whose foilage shows telltale reddening. Best applied in conjunction with 1 T potassium nitrate (difficult to find now, but Broward Orchid Supply and OFE both carry it).

Vandas can been stimulated to both root and bloom due to the swing of day to night temperatures. They will need a little more food and water to get an early start on the growing season. Many other orchids normally dormant in February may break into growth early, so they too will need food and water.

Like Vandas, sympodials will be spurred into growth by a warm and somewhat wetter season. Feeding and watering should add an extra bulb to their mass. Most will be reluctant to bloom, but may bloom more profusely next year. Those that have not commenced growth should be encouraged to remain dormant by withholding all food and water, and given as bright a light as possible - short of burning them!

May

[18]

- Space plants properly for good air circulation
- Trim excessive foliage on trees and shrubs
- Repot Phalaenopsis out of sphagnum
- Finish repotting of various genera
- Reset vandaceous plants, remove keikies
- Water heavily early in month, more guardedly later
- Initiate preventive spray maintenance program

June

[12] [18]

- Careful watering this month often means no watering at all.
- Space plants amply. Good air circulation is essential across
- the coming months.
- Re-pot Phals and re-set Vandas. Make sure that plants are
- firmly set in their new abodes.
- Begin or continue a disease prevention program.
- Clean up growing area and plants. Remove dead leaves
- from plants and the ground. Pull weeds.
- Prune trees and shrubs to increase light and air circulation.
- Apply snail bait lightly early in the month and again lightly mid-month.

- Water only when truly necessary
- Give plants plenty of space to allow good air circulation
- Repot Phals and reset Vandas
- Begin or continue a disease prevention program
- Clean up growing area and pull weeds
- Apply snail bait lightly twice a month
- Enjoy living in the tropics!

[12]

April can provide an abundance of rain and cold fronts, just in time to greet the emerging growths of our orchids which were just breaking their dormancy. Fortunately the timing allows time for drying between the rains. Maintaining this pattern with heavy watering, alternating with hard drying, should be our goal for most of our sympodial orchids at this time. Make sure enough air is moving around the bases of the plants to allow the new growths to dry rapidly. A nascent rainy season can recur at any time, so an early start to the disease prevention program explicated in Florida Orchid Growing is advised. Now, if not done already, is the time to apply 6 month formula, low phosphorus time release fertilizer. The low phosphorus formula marketed as Dynamite and labeled for "Citrus" is available at Lowe's in a six month form. Our Vandas have also been enjoying the moist warm air. Give them plenty of water and on the hottest driest days they will enjoy a second watering mid afternoon and still be dry by evening. With such frequent watering, fertilizer can be substituted for water every 5-6 days. This will get them growing strongly into the rainy season.

[12]

What a perfect May! The cooler and much drier weather of this May has suited our orchids to perfection. A ll of our sympodial orchids are off to an excellent start, their new growths unhampered by any disease problems. The cooler than average temperatures have made for wider than normal swings of day to night temperatures stimulating both roots and flowers in our Vandas. In hindsight, we should have had a slightly heavier hand on the watering. Any plants showing symptoms of dehydration at this stage should be watered very heavily at each application. The drought of May will yield long term benefit to our orchids as the inevitable build up of disease pressure has been delayed for a full month. It is not too late to begin the disease control spray schedule set forth in Florida Orchid Growing, pg. 168. The cooler temperatures of this May slowed somewhat the progress of our perpetual foes mites and thrips but lacking the rain to wash most of them away, they need to be dealt with. Remember: do not use oil sprays in hot weather and soap should not be applied to dehydrated plants. Use with care, the chemical controls recommended by Florida State set forth in Florida Orchid Growing. Snails have been stopped in their tracks by the drought but are waiting to take up where they left off with the first heavy rains. A light application of snail bait after the rain will keep them at bay. The gentle easing into summer of this May reminds us again that Florida summer while long is not nearly as hot as most of the continent. Set the thermostat at 78 and enjoy one of the finest climates in the world. Spend more time with your orchids and share their joy in the great weather.

July

- Dry plants hard once or twice
- Apply liquid fertilizer instead of water during dry patches
- Watch for Thrips when rain has been sparse for several days
- Finish top cutting and planting of vandaceous general

[--]

June has been much cooler and exceptionally dry this year. The late advent of the rainy season has allowed our orchids to get off to an excellent start free from disease pressure. The drier air has also produced much wider swings in day to night temperatures which have stimulated exceptional rooting and prolific production of flower spikes in our vandas. All in all, growing conditions have been nearly perfect. Observant growers will have realized that the extraordinarily dry June weather has necessitated more frequent and heavier watering. Even now with the rainy season on a firmer footing, some plants showing symptoms of dehydration may need additional watering. July is typically drier than June but little in the weather has been typical this year.

Despite all the positive benefits that the exceptionally dry weather has conferred, it has brought an unexpected problem as well: mites. The heavy frequent rains of a typical June normally do a good job of washing mites from our plants. This year's drought has afforded mites a unique opportunity. Coupled with the lack of cleansing rain have come the higher temperatures which allow mites to reproduce at their fast rates. Growers should scout for mites and their tell tale damage and take immediate action to control them as outlined in Florida Orchid Growing, pg.169-171. Conditions were ripe for mites this June, so extra vigilance for them will be required during drier patches in July and August.

August

[20]

- Finish cutting teretes and reed stem Epidendrums early in month.
- Reset strap leaf vandas early or not at all.
- Dry hard once or twice.
- Continue anti fungal spray program.
- Apply snail bait lightly, twice, ten days apart.

Be sure trees are properly prune to withstand storms.

Should July turn out to be drier than usual, this can be good for our orchids, reducing diseases. Greater ability to choose when our orchids receive water is to be prized midway in the rainy season. Use this advantage wisely, watering early in the day, and only when needed. As days shorten dramatically in August, there is less time for our plants to dry during the day. We must also be prepared for a quixotic season to deliver an especially wet August. Most sympodial orchids will be completing their growths, so substituting liquid fertilizer for water is an excellent thing to do. Keep up the disease control schedule from Florida Orchid Growing (pg. 168) to have your plants protected from the disease threat that always looms in September. The drier conditions that have prevailed also open the potential for mites to attack the soft new leaves of Dendrobiums, Catasetums, Phaius and Calanthes. Mite damage first manifests itself as silvery patches, usually on the underside of the leaves. These lesions later oxidize and turn black, which is frequently mistaken for fungus, particularly in Phalaenopsis. Two ounces of liquid dish washing soap (we recommend Ajax) per gallon of water applied twice at 7-10 days' interval will give good control. Other chemicals are recommended in Florida Orchid Growing. As in any summer, the constant rains have given free range to our relentless enemy, the snail. Remember, snail bait should be applied very lightly (one pellet per square foot or less) but frequently every 10 days to two weeks.

The longer nights of August yield up mornings that are cooler. Rising early will give one the energy to get much more done in the garden.

[--]

Now that the serious rains of summer have begun, they have washed away most of our problems with Thrips and mites. Now our focus, as usual, is on attention to disease prevention. With the shorting day lengths of August and the typical afternoon thunderstorms, our plants stay wet longer overnight. Take some time to be sure your plants are spaced properly to insure good air movement through them. Also, it's always a good idea to maximize the amount of light your plants receive by trimming trees and shrubbery. This too increases air movement and speeds drying.
The snails are, of course, loving the rain and your neighbors have doubtless not been as diligent as you in controlling them. One or two rainy nights will allow snails to travel long distances. Remember to apply snail bait very lightly but frequently (every 10-12 days) for complete control.

September

[8]:

Space plants to permit more air circulation.

Trim trees to permit more light and lessen wind load.

Clean up growing area.

Remove dead leaves or other organic matter. This helps to remove potential for diseases which thrive on both dead and living plant material. See Florida Orchid Growing.

Tidy up old pots or other objects on the ground.

Apply snail bait, lightly and frequently.

Quarternary ammonium chloride compounds (Physan, Consan, pool algaecides) are very useful for disinfecting plants and growing areas even when they are wet from rain.

[19]

Space plants to permit more air circulation
Trim trees to permit more light and lessen the wind load on them
Clean up growing area removing any dead leaves or other organic matter
Tidy up old pots or other objects on the ground
Apply snail bait; lightly, frequently

Although August can yield some patches of excellent drying weather, but it might also be wetter than usual. Disease pressure on our plants can be severe. Both bacterial and fungal diseases can be prevalent to a degree not usual for August. We must be extra vigilant and respond immediately to any leaf spotting or discoloration of foliage. Immediately move the plant undercover if possible. Now is a good time to practice greenhouse hygiene by removing any old dead dry leaves. By removing dead leaves, one also removes the potential for other diseases, as several diseases thrive on both dead and living plant material. On

dead leaves they can, of course, go unobserved. If all dead material is removed, the eye is immediately drawn to any new discoloration, instantly alerting us to any emerging problem. The disease control and treatments recommended in Florida Orchid Growing are especially needed this year. September may be even wetter than usual. Even if one has been good at controlling snails all summer, the wet conditions of August have permitted them to make a fresh assault. Often the first wave of this new campaign appear as small, half grown specimens no bigger than your fingernail. They will soon grow fat on the soft newly completed growths of our orchids. These snails are hatched from the eggs of those large snails we killed earlier. Eradicating them before they can produce eggs will give us a leg up on
snail control for next year. Remember apply snail bait lightly (one pellet per square yard) and frequently (every two weeks).

Days are shorter. If watering is necessary, consider substituting liquid fertilizer. Be sure to water early in the day. Withhold fertilizer from Himalayan Dendrobiums, Catasetums, Calanthes and other genera which are preparing to go dormant.
Mornings are now becoming deliciously cool. Enjoy working with your orchids and in your garden.

October

[8]

Space plants to increase air circulation

Water as early as possible in the day

Move Himalayan dendrobiums, catasetums, calanthes and other seasonally dormant plants to dry bright locations.

Reduce general fertilizer

Apply extra magnesium and potassium

[18]

September in south Florida often feels more like August. Although there were considerable periods of overcast and drizzle there were unusually long periods of dry weather punctuated with heavy rainfall producing more than average accumulations of rain. Surprisingly for September, dry weather persisted for long enough that Thrips became a problem.
At whatever season, when 3-4 days pass without rain and the temperature is above 85F (30C) Thrips are likely to attack our orchids. If warm weather persists into October as it usually does, and periods of drought occur, the measures of control outlined in Florida Orchid Growing will need to be applied. Because of its persistence, a single application of acephate(Orthene) will usually suffice at this time of year to control Thrips.
As usual snails are on the move and black rot must be guarded against. Be sure to look at each of your plants every day to protect them. Move infected plants to a dry spot and remove any diseased tissue with a sterilized cutting tool. This is the season when the truth of the adage "An ounce of prevention is worth a

pound of cure".

Of the chemicals recommended in Florida Orchid Growing, Alliette is probably the most practical for the home grower. Applied prophylactically, Alliette will prevent black rot altogether. Applied to infected plants it will cure them.
Our vandas are enjoying all of the water falling from the sky and section Callista dendrobiums are pushing an extra new grow. Be sure to feed these. Many dendrobiums, cattleyas, and Catasetinae are slipping into rest. Be careful of watering these as days are shortening quickly and drying potential is ebbing fast.

Look for an abundance of flower spikes emerging on our vandas as a result of the wider swing of day to night temperatures.

November [17]

Winter is coming. Prepare for the cold. Reduce fertilizer.
Apply extra potassium and magnesium.
Segregate dormant genera in a bright, dry area.
Repot plants after flowering.
Groom plants and flower spikes for holiday display.

A wet October normally comes to an exceptionally wet end. Soggy October weather is always problematic as the shorter days and longer nights allow for much less drying time. Properly-spaced plants and bright growing conditions are essential to weathering a wet October without losses.

Good cultural practices and the spray program outlined in Florida Orchid Growing, faithfully followed across the rainy season also ensure that disease problems will be minimized should late rains occur.

Regular spraying as recommended also minimizes the possibility of leaf spotting diseases including the dreaded Phyllostictina which is spread by slow late season rains which allows the rough lesions to open, infecting leaves higher up the plant. Because the symptoms occur later, seemly mysteriously, with the onset of cold weather, many people do not realize that the time to prevent this disease is in the late rainy season.

Thiophanate methyl (Cleary's 3336 or Thiomil) provides thorough control if applied consistently in the recommended fashion.

At this juncture care should be taken to dry our plants as thoroughly as possible until the true onset of the dry season occurs. While the rain and the cooler temperatures that they bring diminishes the threat from Thrips, they could still be problematic as things dry out. Mites are also waiting and hoping for our plants to dry out. Luckily, the best home cure is now available because of the lower temperatures of November. Three tablespoons of cooking oil per gallon of water can now be applied to all plant surfaces using a sprayer that is kept agitated. This spray should be followed in 7-10 days by four tablespoons of liquid dish soap (such as Publix Mild & Gentle) per gallon. This order of spraying is best as

the soap will remove some of the oil and in the process eliminate the possibility of burning our plants should unseasonably hot weather occur. Repeating this regime twice more before truly hot weather returns in mid-March will keep our plants clean of mites and greatly reduce the threat of Thrips.

If you have not already made two or three light applications of snail bait during the October deluge, it is probably too late, unless a patch of rainy weather occurs early in November. The snails will regrettably be back from their long winter's rest in February. Meanwhile, moving the dormant genera to drier locations and re-potting sympodial orchid which have flowered, is the perfect excuse to be outside.

References

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[4] Vern Block, TOS lecture 25 Apr 2016, "Leaves and Roots".

[5] Robert Miller, Art of Palms Landscaping.

[6] Gail Miller, Miller Way Orchids, 954-629-8363, millerwayorchidsinc@gmail.com.

TOS lecture "Tricks of the Trade".

[7] Vern Block, AOS lecture 28 May 2015, "What's Wrong With My Orchid?"

[8] Dr. Martin Modes, "Florida Orchid Growing Month by Month".

[9] Tony Millet, 28 Jul 2016, "Benefits of Hybridiing - Growing from Seed - Tips & Advice"

[10] Tony Romani, 24 Sept 2016,Talk on Vandas at open house at R&R Orchids in Loxahatchee. Has appx 20,000 Vandas.

[11] John Salventi, 21 Nov 2016, "Roots"

[12] Dr. Martin Motes, President Motes Orchids. Author of "Florida Orchid Growing Month by Month". www.motesorchids.com

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[16] Jan 2017 TOS Newsletter, Dr. Martin Motes , "Tasks for February", www.motesorchids.com

[17] Nov 2016 TOS Newsletter, Dr. Martin Motes , "Tasks for November", www.motesorchids.com

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Meeting Presentations

28 June 2012, Ron McHatton, “New Approaches to Pest and Disease control”

23 Apr 2015, Jim and Melana Davison, "Dendrobiums"

28 May 2015, Vern Bloch, “What's wrong with my Orchid?”
25 June 2015, Bill Thoms, "General Culture with emphasis on fixing problems"

28 Jun 2015, Ron McHatton, "Pest & Diseases"

25 Jun 2015, Bill Thoms, "General Culture with Emphasis on Fixing Problems"

23 Jul 2015, Glenn Gross, "Mounting Orchids on Wood"

27 Aug 2015, John Budree, "Paphiopedilums"

24 Sept 2015, Brian Monk, "Warm Growing Miltonias"

30 Nov 2015, Mark Edlund, "Repotting"

28 Jan 2016, Dr. Courtney T. Hackney, "Growing Tips and Other Facets of Orchid Culture"

25 Apr 2016, Vern Block, "Leaves and Roots"

24 Mar 2016, Gail Miller, "Tricks of the Trade"

28 Apr 2016, Mac Rivenbark, "Vandas and Vandaceous Orchids"

26 May 2016, Jim Watts, "Leafless Orchids"

28 Jul 2016, Tony Millet, "Benefits of Hybridiing - Growing from Seed - Tips & Advice"

25 Aug 2016, Dan Christenson, Dan and Margie Orchids

21 Nov 2016, John Salventi, "Roots"

Orchid Shows and Festivals

Orchid Growers and Dealers

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Toni Romanio, "The Vanda Man"
Vast collection (appx 20,000) pf Vandas
561.541.2992

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1400 SW 32nd Ct.
Ft. Lauderdale FL 33315
954.410.8580
mac@macsorchids.com
Mac is a frequent presenter and auctioneer at TOS

Books and Magazines

"Wild Orchids of Florida, with References to the Atlantic and Gulf Coastal Plains"

Paul Martin Brown

University Press of Florida

ISBN 0-8130-2438-2

"From the Hands of God to the Miracles of Orchids"

Milton Carpenter

Everglades Publications

Everglades Orchids, 1101 Tabit Road, Belle Glade FL 33430

www/everg;adesorchids.com

"Orchid Pests and Diseases"

American Orchid Society Guide

Series Editor: James B. Watson

American Orchid Society, Delray Beach FL

"Bulbophyllums, The Incomplete Guide; From A to WHY?"

Bill Thoms

1605 Palace Ct, Valrico FL 33594

ISBN 978-1-61584-844-7

Bill has been a speaker at some of our monthly meetings

"Florida Orchid Growing Month by Month"

Martin Motes

SBN-10: 0967434335
ISBN-13: 978-0967434339
Available on Amazon, 4-1/2 star rating

Orchid Software

OrchidWiz Encyclopedia

As of October 2016, the OrchidWiz database contained information on 162,673 orchid hybrids and 32,649 orchid species; 154,315 photographs and illustrations of orchids; 277,335 image references; and 4,763 orchid-species culture sheets by Charles Baker. OrchidWiz also lists orchid species by 9 continents, 51 regions, and 334 botanical areas.

www.orchidwiz.com

www.orchidwiz.com

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Stores

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926 Belvedere Rd, West Palm Beach, FL 33405

561.832.8328

Horticulture supplies and landscape equipment. Orchid supplies & bonsai pots, Sunniland fertilizer, custom blends, pesticides; Bengal Gold Roach Spray, organic fertilizers and pesticides, potting mixes and soils, mulch, pottery, power equipment, service and repair most brands.

Receive a 10% discount on any orchid supplies with current TOS membership tag. Cash and debit card only. Discount applies to orchid supplies only, not things such as tools, mowers, etc.

Orchid pots

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Osmocote ?

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5185 Conklin Drive, Delray Beach FL 33484

561.499.2810, www.greenbarnorchid.com

Dollar store [6]:

Baby liquid vitamins

Green tree wire

Rubbing alcohol

Cinnemon - 3:1 water, put in sprayer, stronger for scale

Sprinkler systems

Windmill Irrigation and Hardware

441 south to Atlantic Ave. Left on Atlantic. Windmill is on the left, almost immediately after you turn onto Atlantic.

Sprinkler systems and heads.

Home Depot

Fire ant killer

Hang-a-Pot, "The Hidden Hanger"

www.hangapot.com

Broward Orchid Supply

Broward Orchid Supply

Winfield Solutions 790 NW 10th Ave, Homestead 33030 305.247.1521

CalMag

Atlantic FEC Fertilizer Co, 18375 SW 260th St, Homestead 33031

Hang-a-Pot

"The Hidden Hanger"

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These hangers are strong plastic, and take little room on a post or tree.

$12.94 for a pack of three.

Critter Creek Laboratory, 400 Critter Creek Rd, Lincoln CA 95648 916.645.7111

Lab virus check by mail. Average turnaround is about a week. $5 per plant

http://www.crittercreeklab.com/main.html

Products

Shade cloth:

Aluminet - light shading ranging from 30% to 90%.

Greenhouse Megastore

http://www.greenhousemegastore.com/product/50-percent-aluminet-shade-curtain/shade-cloth_1

Orchid pots:

Fertilizers:

CalMag - Winfield Solutions 790 NW 10th Ave, Homestead 33030 305.247.1521 [5]

Atlantic FEC Fertilizer Co, 18375 SW 260th St, Homestead 33031 [5]

DWS Distributers (sp?) - local.

Mosses:

Hydroton:

Neutricote:

Lanolin

Normally available at a local pharmacy [6].

Potassium nitrate:

Broward Orchid Supply

OFE

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No dyes or urea. Has nitrogen in the form of ammonium nitrate.

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See http://www.pestrong.com/file/698-SA-20_LABEL.

Physan

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Pool algaecides

Aliette

Cleary 3336F

A fungicide.

Thiomil (sp?)

Perlite

Sponge rock.

Peters Excel

Fertilizer

Epsom Salts

Coconut husk

Spanish moss

Bloom Booster

CalMag

Winfield Solutions 790 NW 10th Ave, Homestead 33030 305.247.1521

Atlantic FEC Fertilizer Co, 18375 SW 260th St, Homestead 33031

Univ. Elt. Pompano ?

Dynamite

MSU
Orchid fertilizer.

Florikam Nutricote

Malathion

Orthene

Safer Soap

Sticky blue note cards

Miticide

Eg, Kelthand

Ash

Diatomaceous earth

BT
Bacilus Thuringiensis

Boric acid

Sevin

Fire ant killer

Available at Home Depot.

-- does brand matter?

-- liquid or dry?

Physon 20

RD-20

Cinnemon

Pea rock

Grey rock preferred, but red is commonly used.

Hang-a-Pot, "The Hidden Hanger"

www.hangapot.com

Broward Orchid Supply

Sprinkler systems

Windmill Irrigation and Hardware

Definitions

Hybrid

A hybrid is the result of breeding one orchid with a different orchid, be they species or hybrids.

Intergeneric hybrids are produced by crossing different genera.

Keiki

Occasionally an orchid plant will bear a little plantlet off of its flower stem or pseudobulb. This is called a keiki (pronounced "kay-kee" or "kee-kee"; the Hawaiian word for baby or child). They occur naturally when growth hormones accumulate at a node on the flower spike. The production of keikis can also be induced through the use of keiki paste. This paste consists of concentrated growth hormones and is applied directly to the node.

A keiki is the product of asexual propagation by a mature plant resulting in an exact clone of its parent

Monopodial

Following extracted from https://myfirstorchid.wordpress.com/2016/08/12/monopodial-and-sympodial-orchids/.

Monopodial orchids grow as a single upright “stem” with one leaf following another on opposite sides of the center. Monopodial orchids are repotted in the center of the pot as they will grow straight up. Common monopodial orchids are Phalaenopsis, Paphiopedilums, and Vanda (shown above).

Orchids with this characteristic pattern of growth do not contain water reservoirs (no pseudobulbs) apart from their leaves and thick roots, thus should be watered just as the medium in which they are potted in dries out completely.

At the base of monopodial orchids are small nodes that lie dormant, often for a very long time. Occasionally, however, monopodial orchids will multiply by starting a new shoots at the base of the plant and in this way develop into sizable specimen plants. The new plant is called a “basal Keiki.”

See also **Simpodial** below.

Pseudobulb

Sympodial

Following extracted from https://myfirstorchid.wordpress.com/2016/08/12/monopodial-and-sympodial-orchids/.

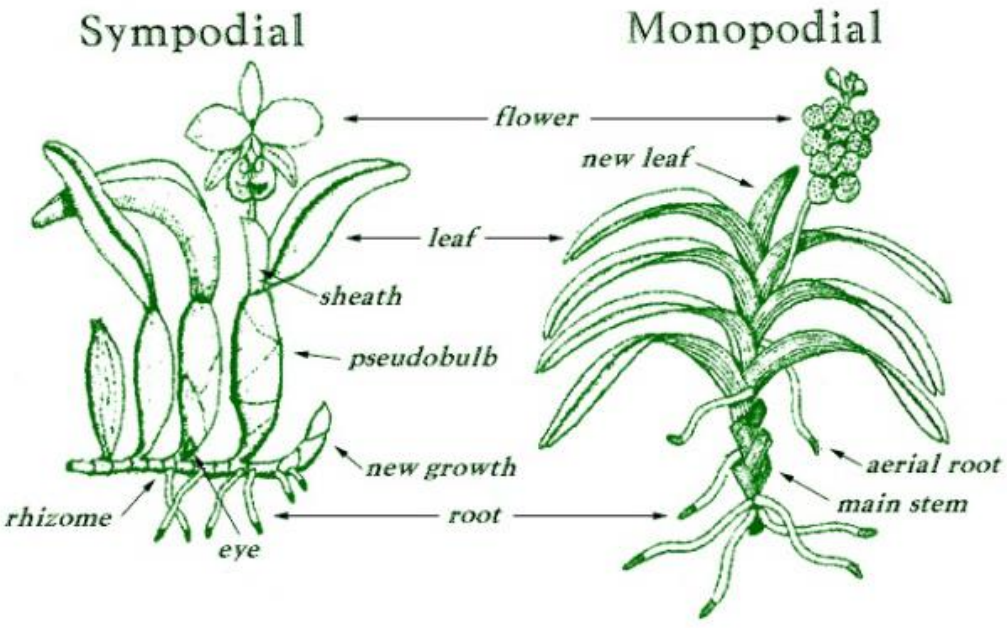
Sympodial growth is defined as an orchid that does not grow from a single vertical stem but from a stem that is more or less horizontal. They have the appearance of looking like flower bulbs but they are not. Their real function is to store water. These kind of orchids can go for prolong durations without water until the medium dries out because they store water in their pseudobulbs.

Sympodial orchids grow new pseudobulbs from the base of the previous pseudobulb and over time develop multiple growth leads along a single horizontal stem. This horizontal stem is called the rhizome. From the rhizome roots will grow. Most orchid genera are sympodial such as the Cattleya, Cymbidium, Dendrobium and Oncidium.

A pseudobulb refers to and individual “shoot” of a sympodial orchid which has a chunky base to hold water topped with leaves. Sometimes the pseudobulb is small and the leaves are long (as in Cymbidiums, shown at above, 1st pic above). Sometimes the pseudobulbs are long and thick (they look like leaf canes) and the leaves are small (as in Dendrobiums, shown above, 2nd pic above). Bloom spikes usually come from where the outermost leaf meets the pseudobulb. To assist in anchoring a sympodial orchid in the pot, a clip can be placed across the pot and between the pseudobulbs to secure.

See also **Monopodial** above.

The following picture contrasts monopodial and sympodial.



Size division

???

Species

Loosely speaking, species orchids are native orchids that grow (or grew) wild somewhere in the world.

Specimen size

What you get after many years without dividing.

When the plant has an age, a size, a health rarely seen in cultivation and in nature and could be taken as "example" of perfection or state of art of that species or hybrid.

Even miniature orchids can become specimens due to the amount of growth.

Sympodial

Terete

Vandas have three main leaf forms:

- strap leaf - leaf is open
- terete leaf - leaf resembles a pencil
- semi-terete leaf - leaf is almost closed.

Basically there are actually two types - strap and terete. Others such as sem- and quarter-terete are simply hybrids of these two. A terete-leaved plant will typically take very high light levels [6].

See the book "Vandas and Ascocendas" by David Grove.

[6] This quote is taken from http://www.orchidboard.com/community/beginner-discussion/13359-quarter-terete.html.