

# *Growing Orchids at Home*

Gardeners of Central Lake County



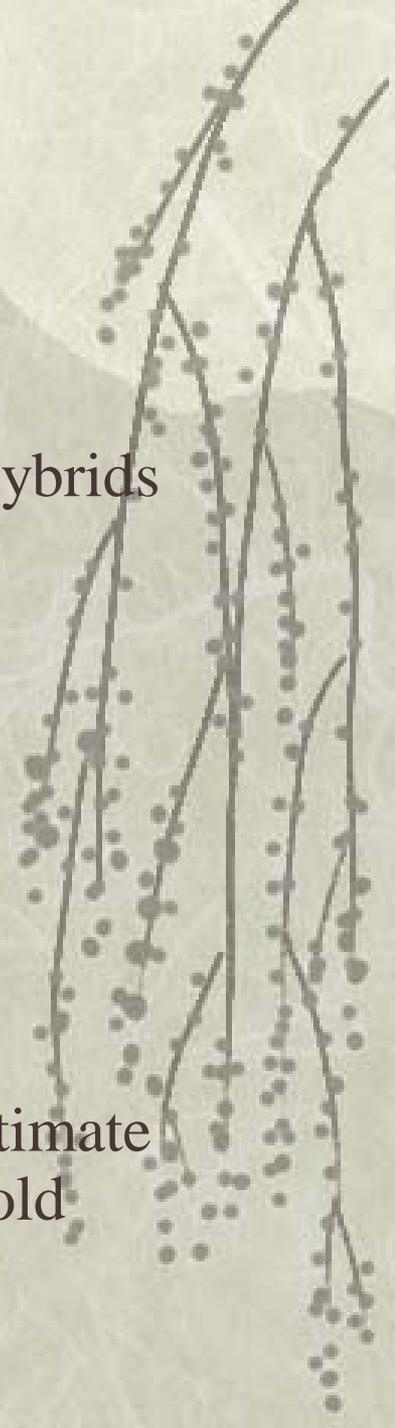
CATTELEYA × CALUMMATA BLU var. GRIGNANI L. LIND.



# *Understanding Orchids*

## ❖ Brief Orchid data

- Are about 27,000 species orchids
  - Commercial growers create about 150,000 hybrids every year
- Found on all continents except Antarctica
- Approximately 85-90% are tropical - epiphytic
- Illinois has 45 species orchids – terrestrial
  - 18 are threatened or endangered
- Oldest known living orchid – 154 years
  - Tiger orchid – Singapore
- Oldest fossil – 45-55 million years; scientists estimate that the orchid family is about 80 million years old
  - Even dinosaurs enjoyed orchids!



# *Orchid Types*

- ❖ In nature, orchids anchor themselves in one of two ways:
  - **Epiphytes** attach themselves to other objects like trees or rocks – (not parasites)
  - **Terrestrials** grow like most garden plants, in soil (will discuss briefly)
- ❖ Important in replicating the natural habitat of your orchid

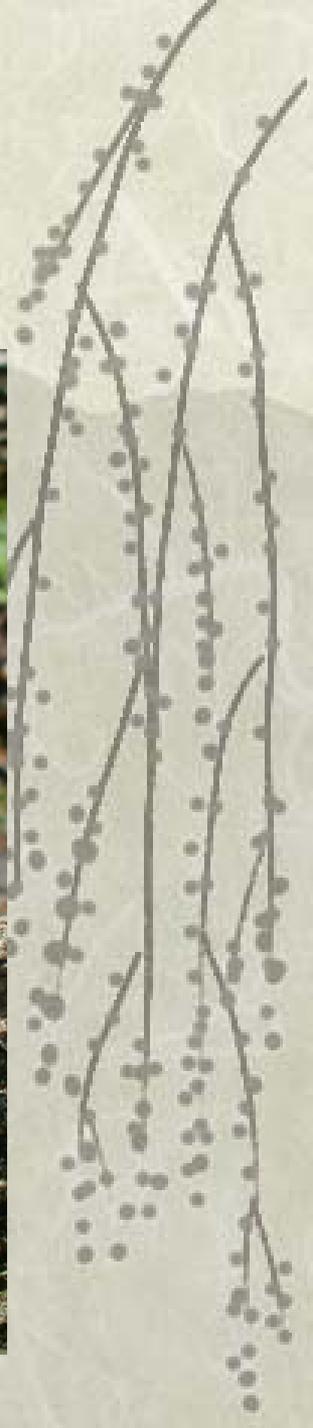
# *Epiphytes and Terrestrials*

## EPIPHYTES

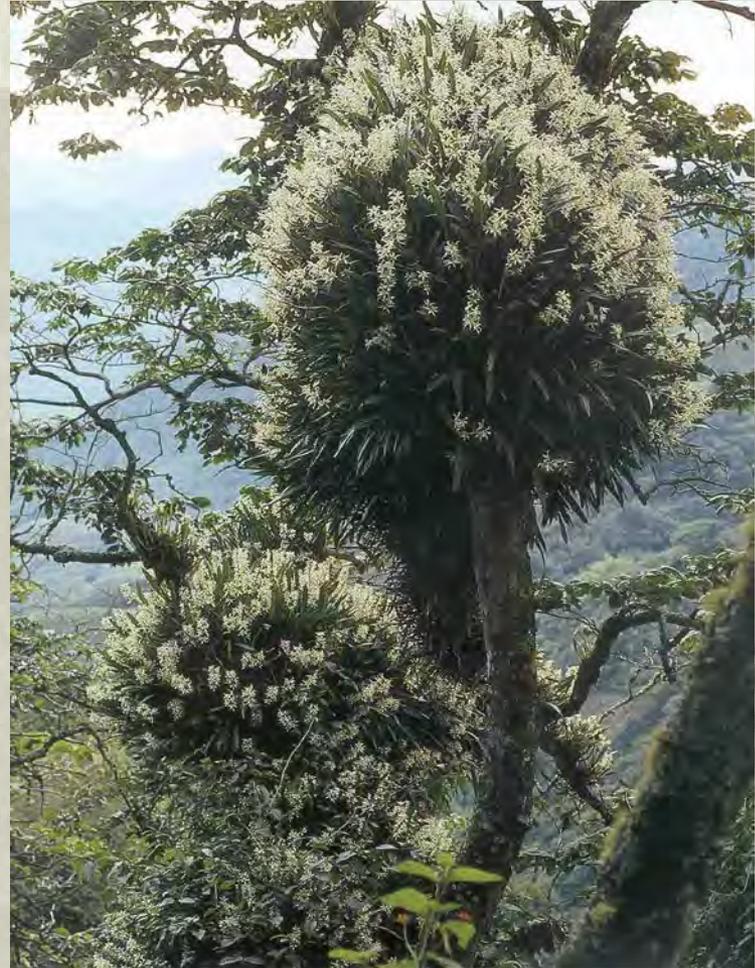
- Anchor on another plant but does not use it for food.
- Most tropical orchids need to be elevated
- Feed on decaying plant matter
- Roots get moist then dry out



# *Epiphytic Orchids*



# *Epiphytic Orchids*



# *Terrestrial Orchids*

*Legally protected – do not dig*

## ❖ Lake Co. Terrestrials

### – Lady Slipper

- *Cypripedium pubescens*

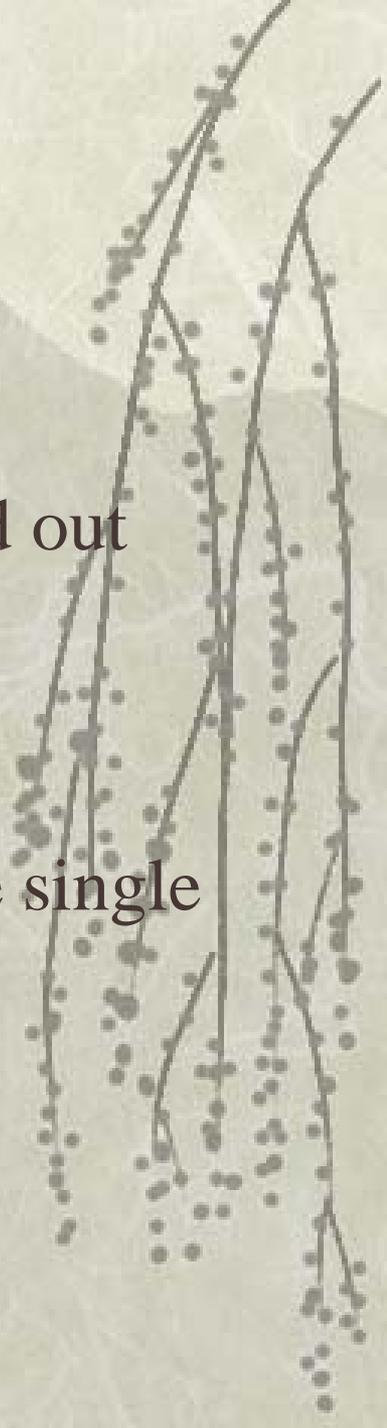
### – Western Fringed Prairie Orchid

- *Platanthera praeclara*



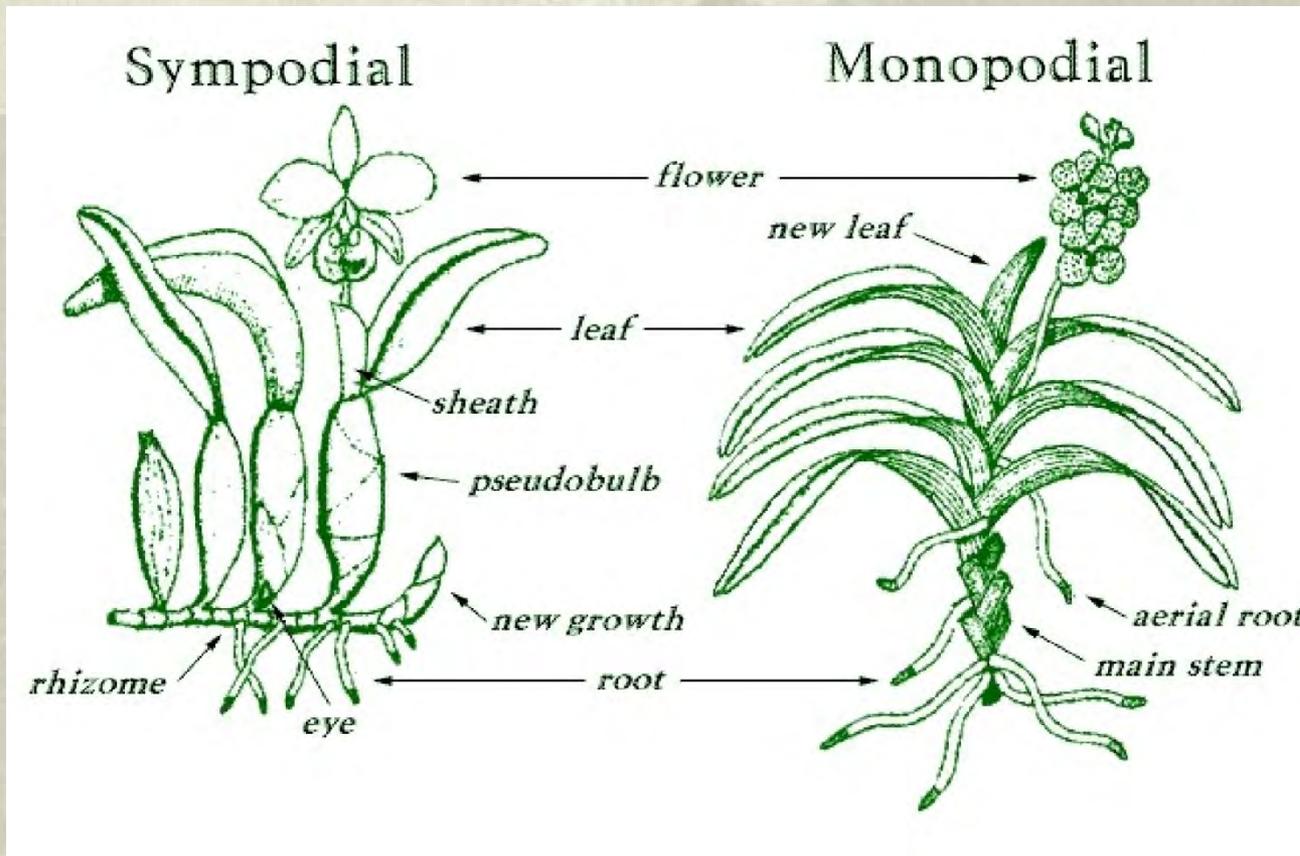
# *Orchid Growth Habits*

- ❖ There are two basic growth habits:
  - **Sympodial** (‘many footed’) orchids send out rhizomes, form pseudobulbs, and extend sideways
    - *Oncidium, Dendrobium*
  - **Monopodial** (‘single foot’) orchids have single main stem that grows upward
    - *Phalaenopsis, Vanda*



# Orchid Growth Habits

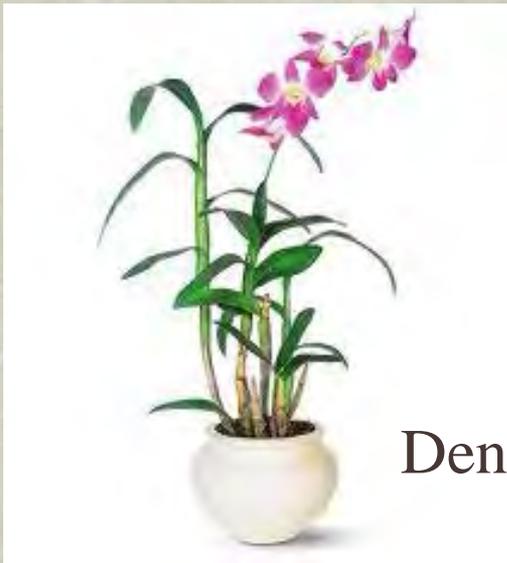
## Sympodial vs Monopodial



*Sympodial*

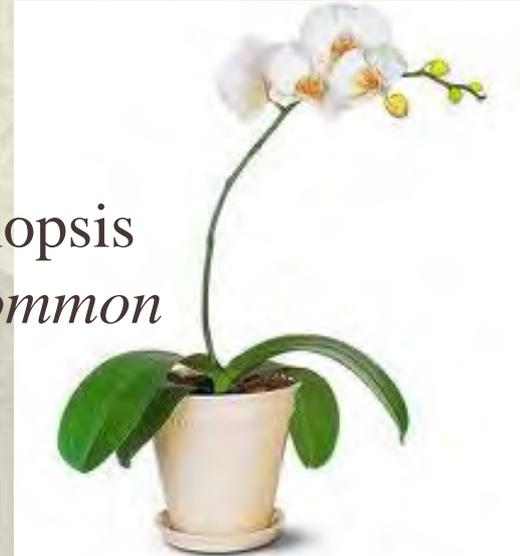


Oncidium



Dendrobium

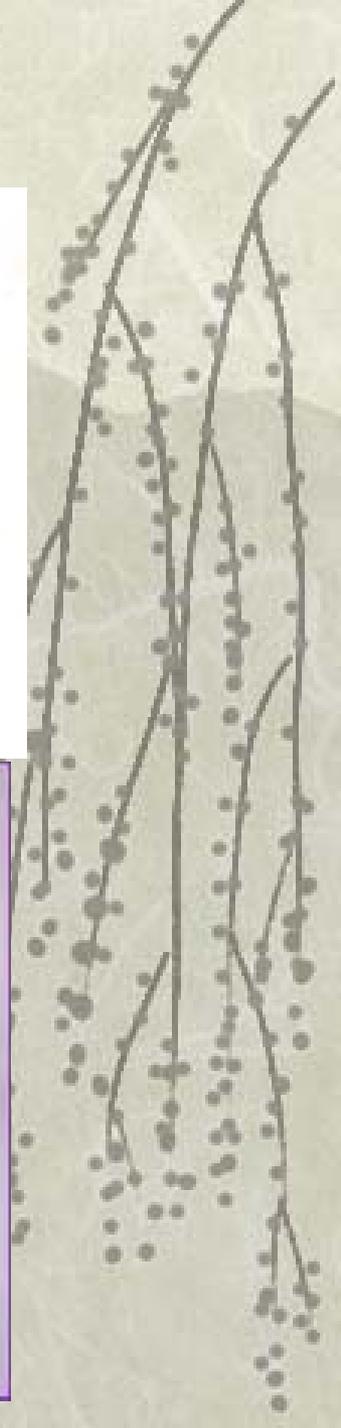
*Monopodial*



Phalaenopsis  
*Most common*



Vanda

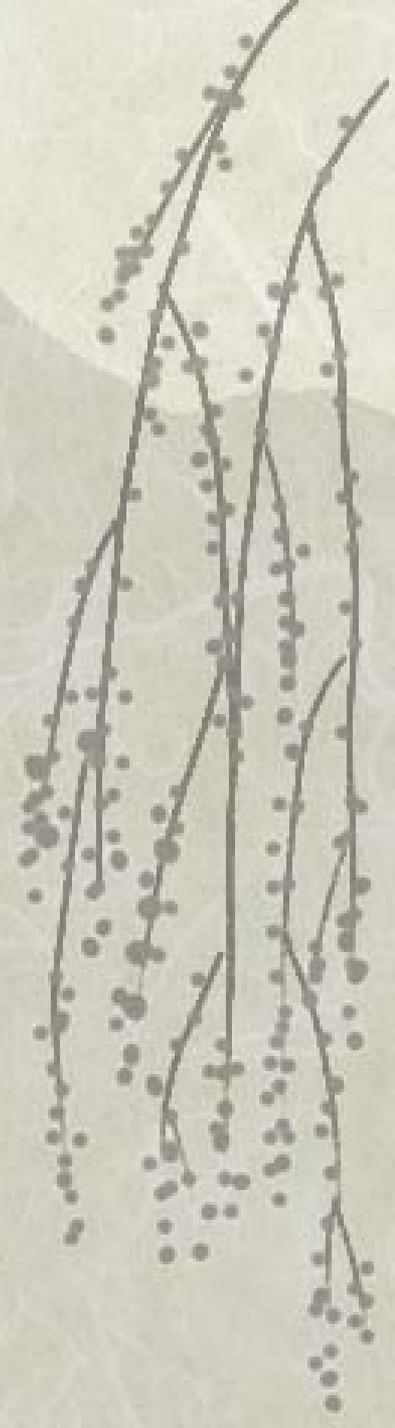


# *Growing Orchids at Home*

- ❖ When you bring your first orchid home, allow it to continue blooming as long as possible
  - Eliminate cold drafts, use water that has ‘sat out’
    - 24-48 hours to evaporate chlorine and flourine
    - Room temperature water does not shock roots/plants
- ❖ Once it is done blooming, the bloom spike should be removed and the plant should be repotted - later
  - Root systems not important to retailers
- ❖ Since you cannot attach the plants to outdoor trees in the midwest, need to find substitute “anchor”
  - Must allow air to get to the roots, as it did in natural habitat, while still delivering nutrients

# *Care for Orchids*

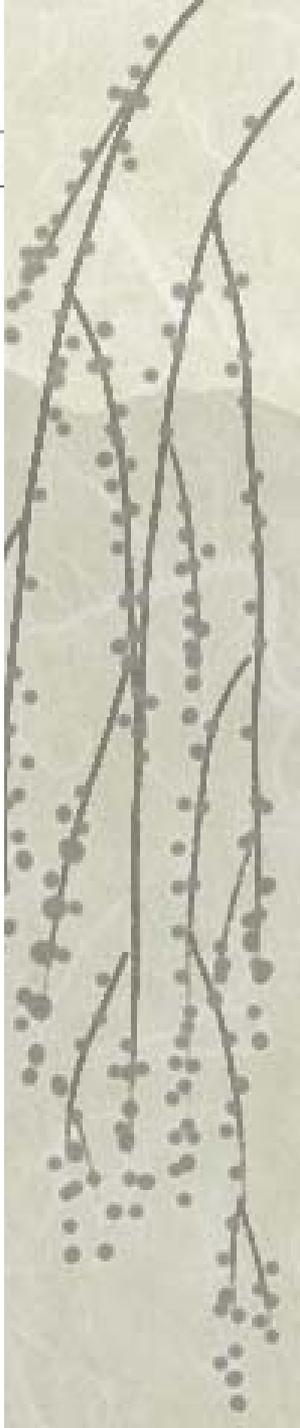
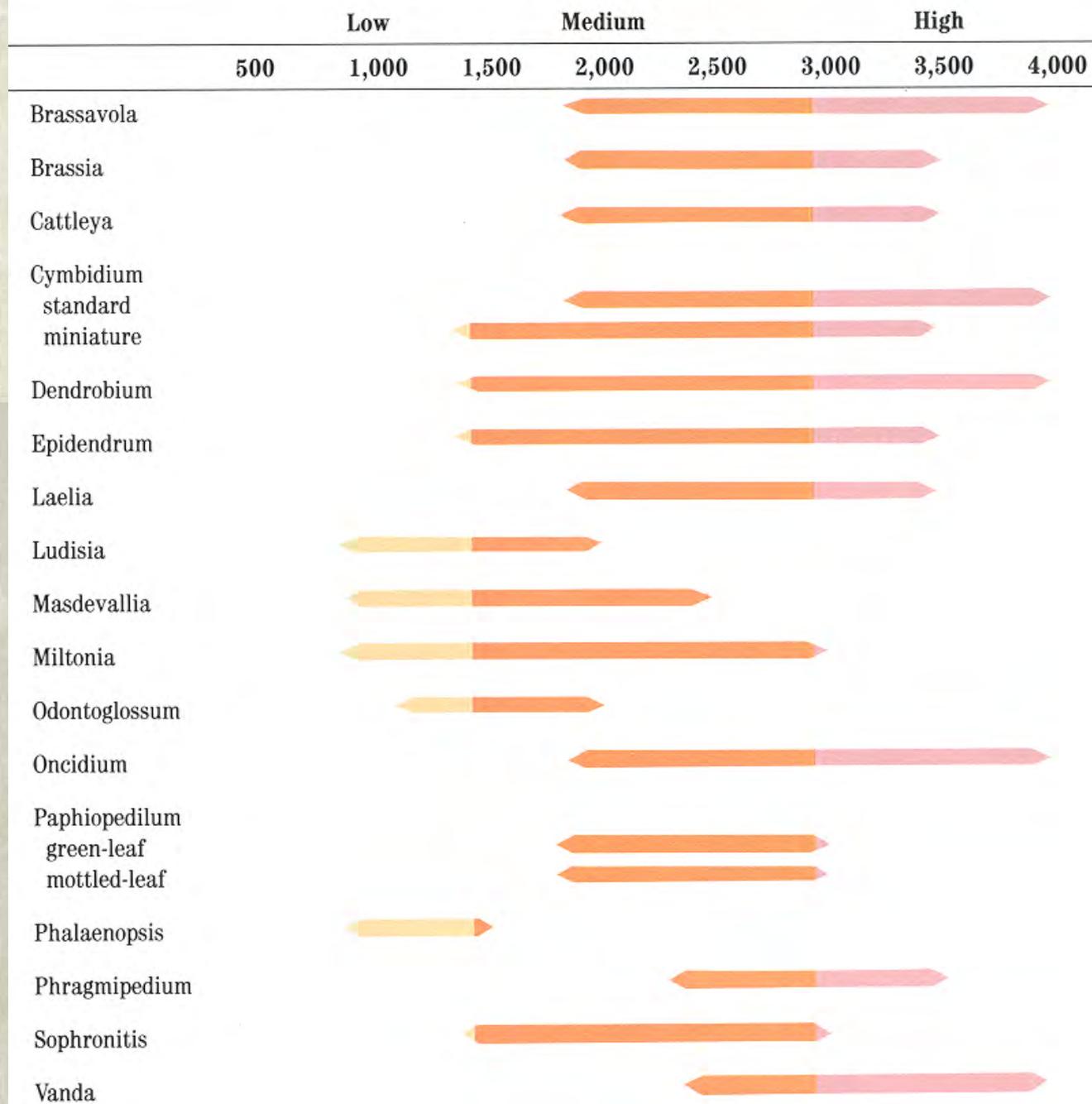
- ❖ Important information for success:
  - What do **you** need to control?
    - Light
    - Temperature
    - Humidity
    - Fertilizer
    - Potting – will demonstrate at the end



# *Light*

- ❖ Generally – apply as much as you can
- ❖ Leaves should be a yellow-green not deep green
  - Purple or red cast on leaves indicates maximal but not damaging amount of light
- ❖ Most like bright, indirect “dappled” sunlight
- ❖ Too much results in sunburn; damaged leaves
- ❖ Too little results in deep green, non-blooming plants

# Ideal Light Ranges

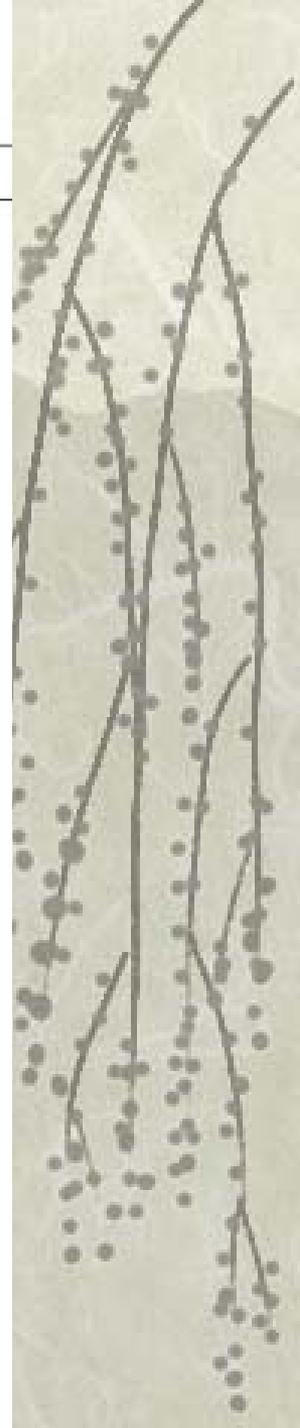
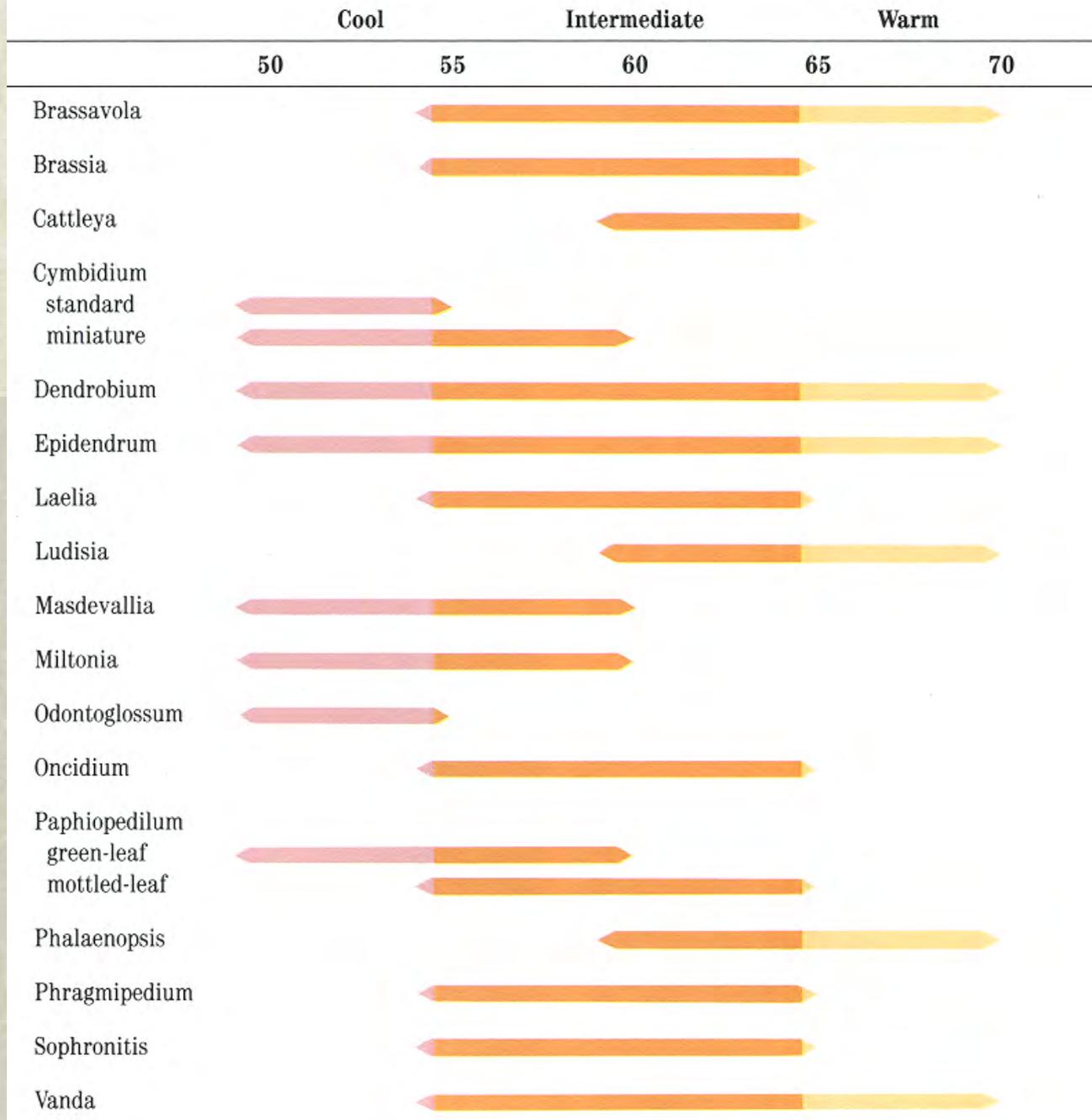


**Note low light requirement for Phalaenopsis → Eastern window works well**

# *Temperature*

- ❖ Nature provides a day-night fluctuation
- ❖ Orchids expect this and require it
  - Most common cause of failure to bloom
    - Will still have healthy foliage
  - Most orchids like a 10-15 degree fluctuation
- ❖ Three temperature categories of orchids
  - Warm, Intermediate, and Cool orchids
    - W = 80-90° days, 65-70 nights
    - I = 70-80° days, 55-65 nights
    - C = 60-70° days, 50-55 nights
  - Phals are Warm orchids

# Ideal Night Temperature Ranges



**Note how the temperature requirement for Phalaenopsis → mimics home temperatures**

# *Humidity*

- ❖ Most do best in relative humidity of 40% or so
  - Serious problem in the winter in the midwest
    - Relative humidity falls as the temperature rises
- ❖ Simplest way to keep humidity up is to place plants on gravel tray, then water
  - Evaporating water helps keep plants humid
  - If not, make sure to keep them adequately watered
- ❖ Phals, like most orchids, need to be watered so that the water runs through the pot
  - Keeps roots moist but they can still “breathe”

# *Example of gravel trays*



# *Watering*

- ❖ Water the plants about once a week
  - Less for large pots, more for small pots
  - Over watering is the major cause of damage to orchids
- ❖ Let water sit 24-48 hours prior to using
  - Warms up to room temperature
  - Fluoride, Chloride dissipate
- ❖ DO NOT allow orchids to sit in water
- ❖ Do NOT water on the plant crowns - just on the roots and potting medium
  - Blow water out of crown



# Watering

## ❖ Hard Water

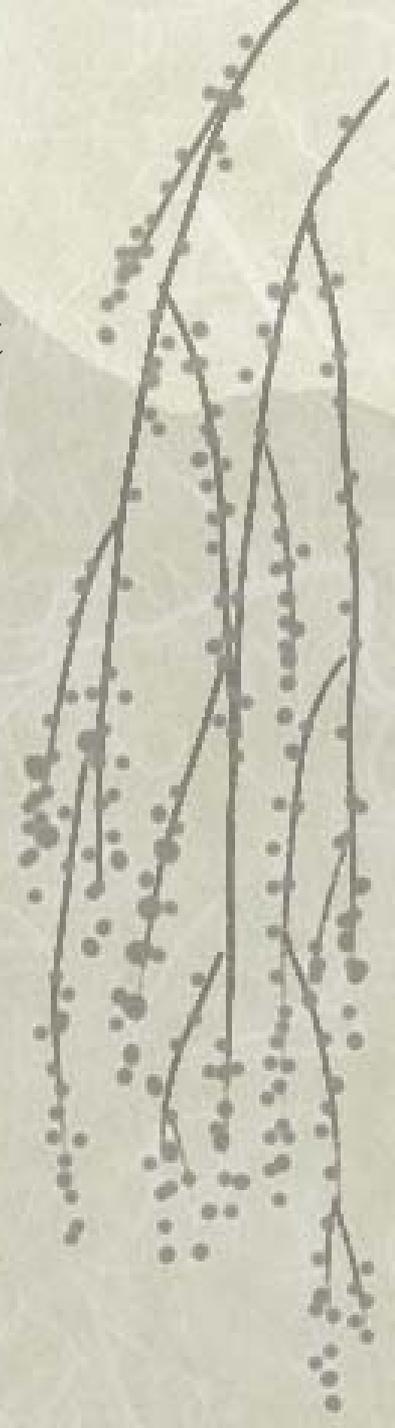
- Hard water is  $>120$  ppm mineral content
  - Lake Michigan water is around 140 ppm
    - Midwest limestone is calcium
    - Hard (calcium) water spots leaves
    - Minerals accumulate – remove when repot

## ❖ Soft Water

- Soft water is conditioned two ways
  - Sodium Chloride (salt) adds sodium – toxic
  - Potassium chloride is ok

## ❖ Rain Water

- Generally very good, unless ‘acid rain’
  - Results from sulfur or nitrogen pollution



# *Fertilizing*

- ❖ In the wild, nutrients come from natural sources
  - Epiphytes - nutrients run down tree branches
  - Terrestrials - nutrients come through soil
- ❖ Potted orchids need supplemental fertilizer
- ❖ Fertilizers use 3 symbols – NPK
  - N is Nitrogen
  - P is Phosphorous
  - K is Potassium
  - 10-10-10 indicates 10% N, 10% P, 10% K
  - Many contain other micronutrients

# *Fertilizing*

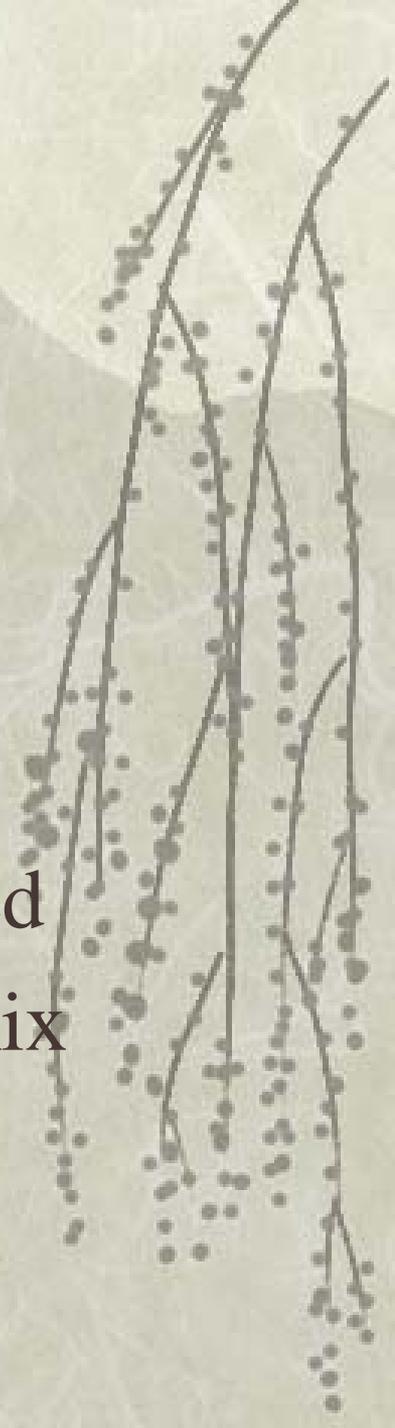
- ❖ Use water-soluble inorganic fertilizer
  - Water “weekly, weakly”
    - mix at  $\frac{1}{4}$  strength suggested for terrestrial or garden plants, usually  $\frac{1}{4}$  tablespoon per gallon
  - insure that fertilizer is completely dissolved
  - pour on bark mix, not on leaves
- ❖ Fertilizer ‘salts’ will build up over time
  - remove by repotting and thoroughly cleaning pots
- ❖ Too much fertilizer creates ‘burn’
- ❖ Too little creates weak plants, few blooms

# *Potting Orchids*

- ❖ Orchids should be repotted about once every 1-2 years
- ❖ Most common for epiphytes is fir bark
  - Provides for root stability, good aeration, allows roots to be damp but not wet
  - Removes most salts, calcium, etc.
- ❖ Disadvantages are:
  - Need to repot more often than other materials
  - Need to replace nitrogen lost as it decomposes

# *Potting Orchids*

- ❖ Water thoroughly the night before
  - Helps soften roots attached to pot
- ❖ Remove the plant from the pot
- ❖ Clean the roots; remove dead roots
- ❖ Repot so the roots are slightly crowded
- ❖ Fill with previously soaked fir bark mix
- ❖ Make certain the orchid is supported
  - Don't let it flop around!



# *Potting Media for Orchids*



*Ground bark can be used  
alone or in mixes*



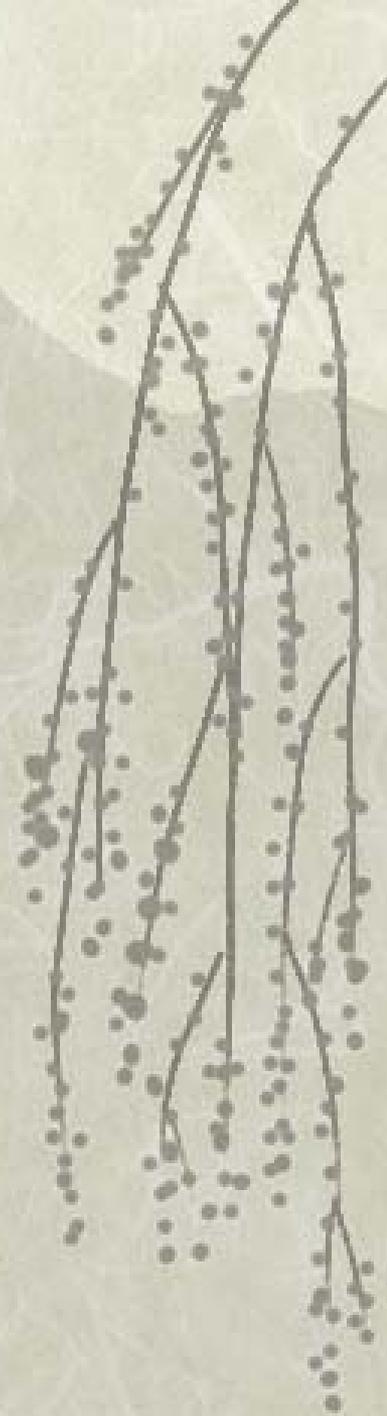
*Peatmoss combines easily  
with other media*



*Epiphytic  
orchids thrive  
on cork bark,  
which lasts  
for years*



*50/50 mix of peat and perlite  
is good for most orchids*



# *Phal Potting Mix*

- ❖ Generally speaking, the thicker the roots of a species, the coarser the mix should be
- ❖ Phals have moderately thick roots so are often potted in a medium coarse bark mix
  - They prefer to be loosely potted in bark mixes

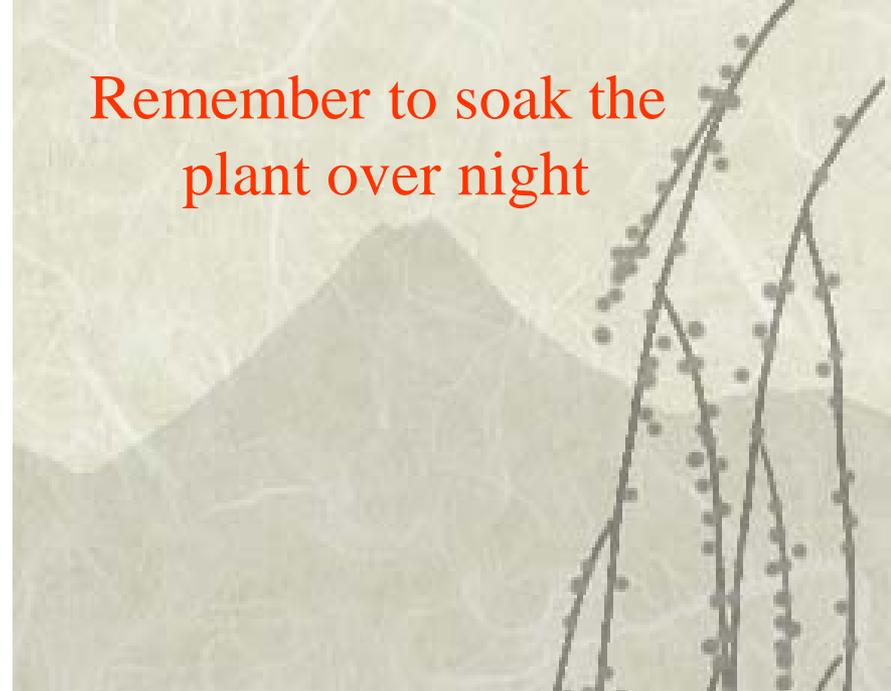


Sphagnum moss and vermiculite are often added to the bark, for water retention and aeration

**Remove the Plant From the Pot**



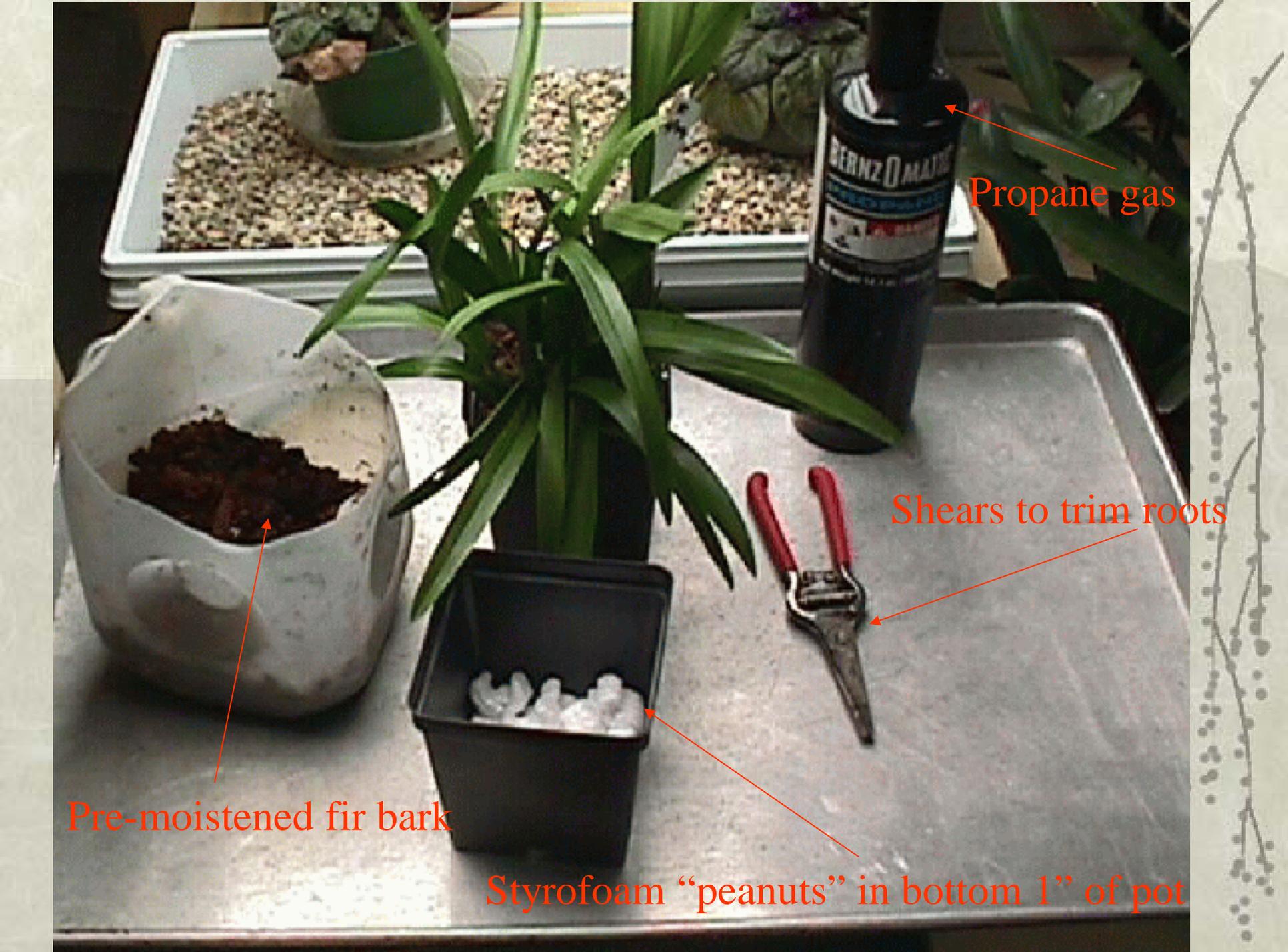
**Remember to soak the  
plant over night**



**Clean and Trim the Roots**

**Remember to sterilize  
the shears**





Propane gas

Shears to trim roots

Pre-moistened fir bark

Styrofoam "peanuts" in bottom 1" of pot



Old Fir Bark to  
be Removed

New Root Tips

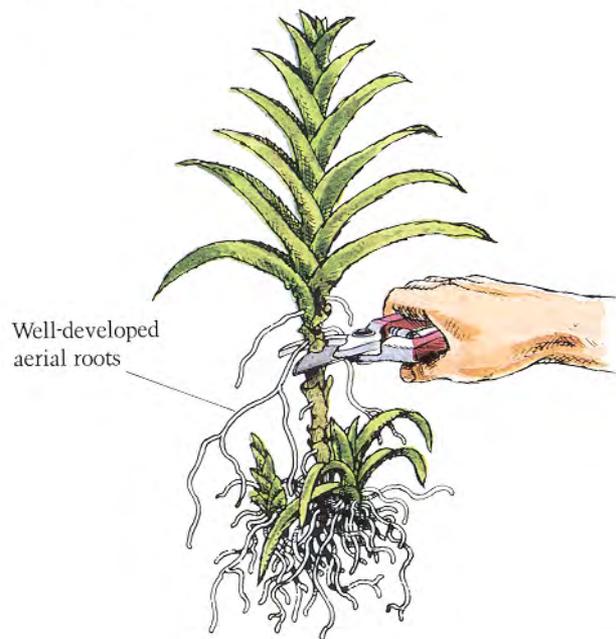
Old Roots to  
be Removed

Healthy Roots

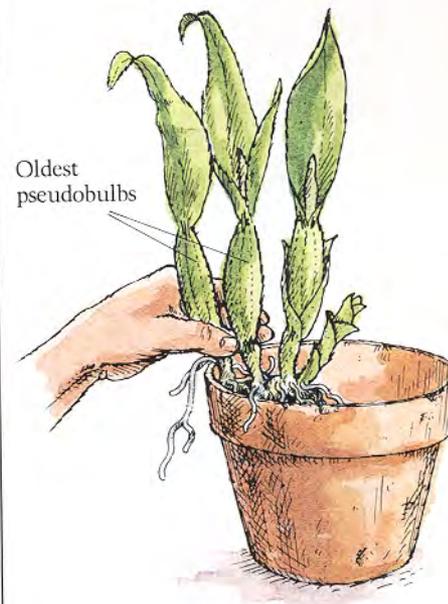
### Dividing a Sympodial



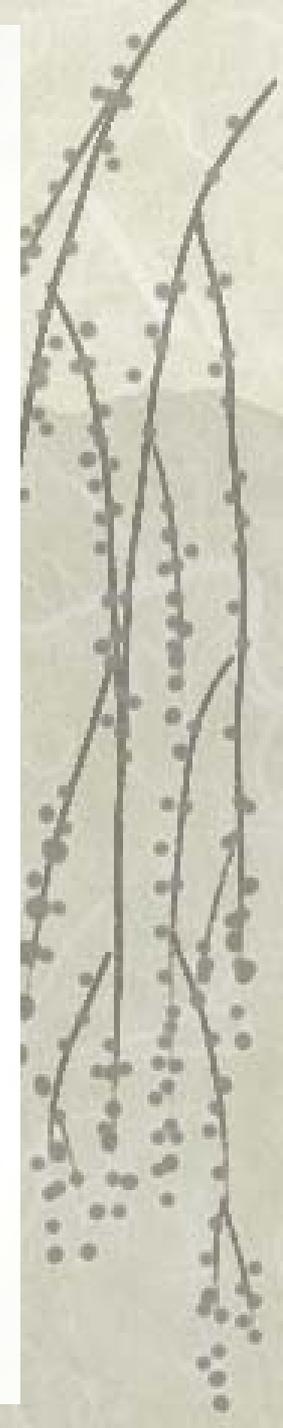
### Dividing a Monopodial



### Positioning a Sympodial

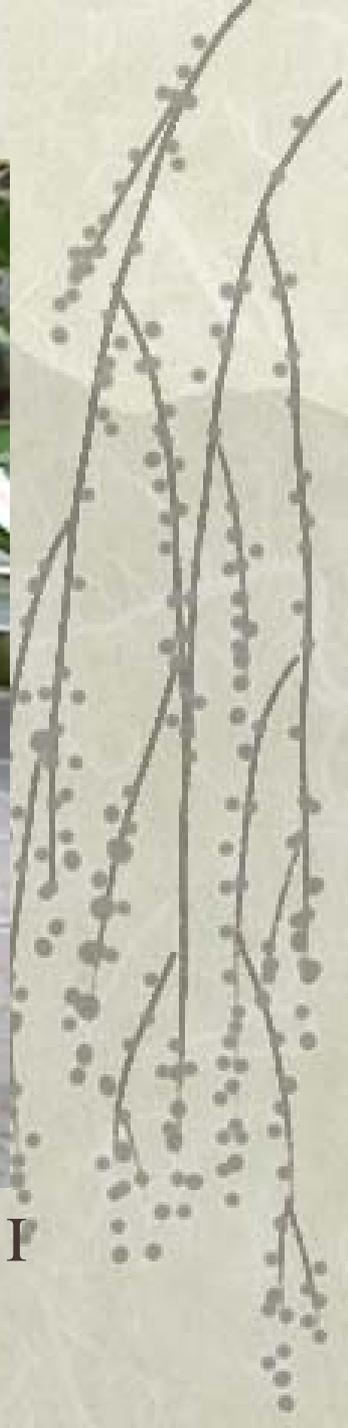


### Positioning a Monopodial





Begin with a clean pot, add bark mix, then pack it lightly around the roots of the orchid



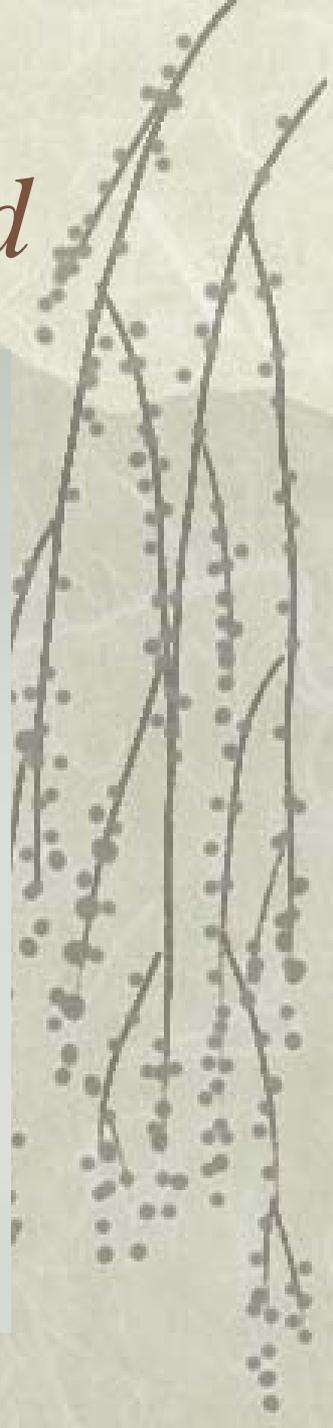
Be sure to label each plant. I also keep track of when I repot and when each plant blooms on a separate label.

# *After Repotting, Then What?*

- ❖ GOAL is to replicate the specific orchid's natural environment
  - Light
  - Temperature
  - Humidity
- ❖ Many orchid books give natural background
  - Each type may have different needs
  - Will work better the closer you replicate nature
- ❖ Often difficult because of hybridization
  - Make sure to keep the tags with the name of the orchid

# *Most Popular Home Orchid*

- ❖ Perhaps the “easiest” home orchid is the **Phalaenopsis** orchid  
(fayl-eh-a-NOP-siss)
  - requires temperature and light similar to human needs
  - come in huge range of colors
  - relatively inexpensive
  - long blooming
  - easily obtainable



# “Phal” Bloom Shots



Phal. (Miva Smartissimo x Quail Creek)



Dtps. Kiska

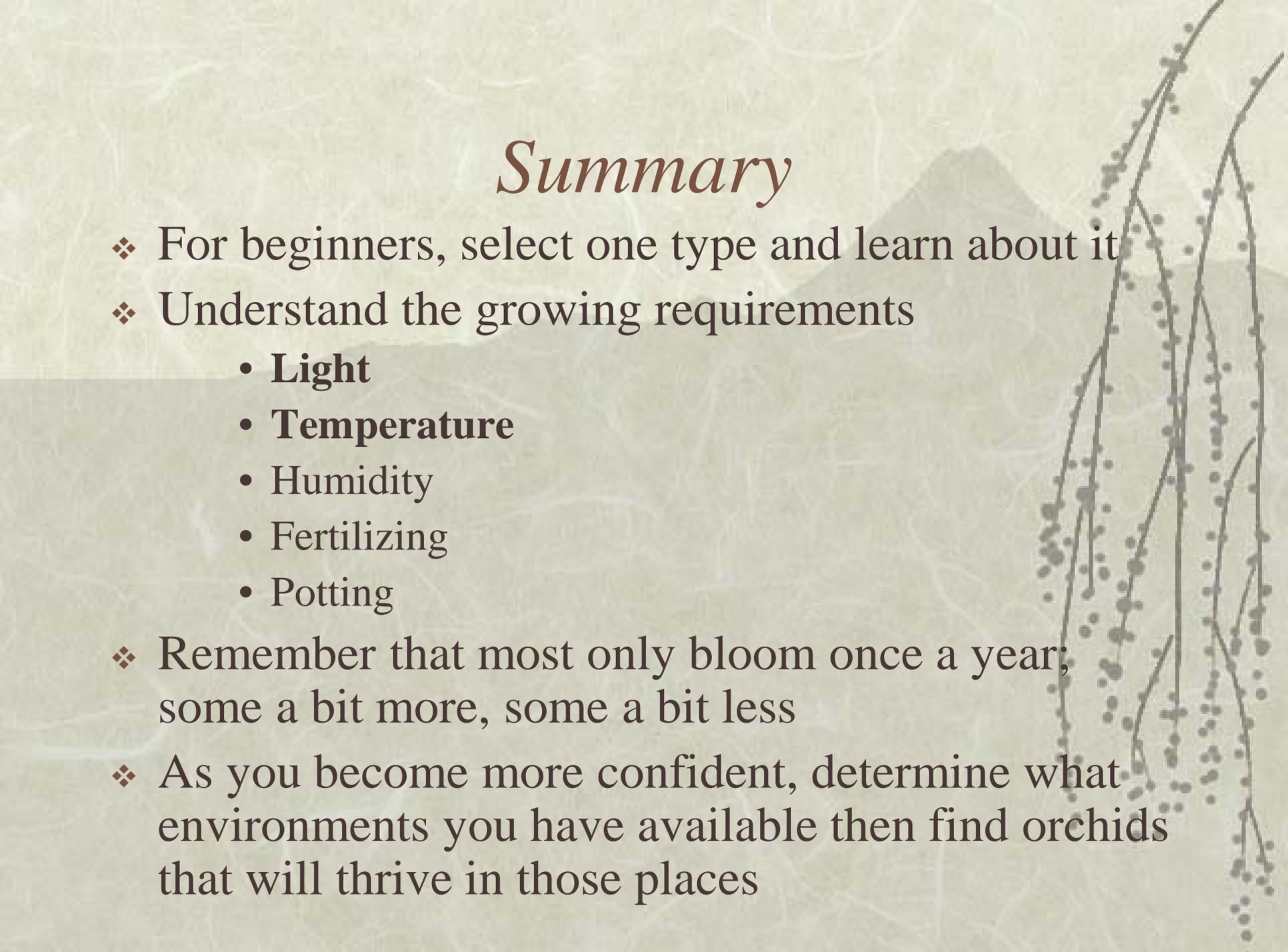


Phal. (Miva Smartissimo x Quail Creek)  
x (Eastern Stripe x Chih Shang's Stripe)



((Phal. Tropicana Lady x Dtps. King Shiang's Rose)  
x Phal. Be Tris)

# *Summary*

- ❖ For beginners, select one type and learn about it
  - ❖ Understand the growing requirements
    - **Light**
    - **Temperature**
    - Humidity
    - Fertilizing
    - Potting
  - ❖ Remember that most only bloom once a year; some a bit more, some a bit less
  - ❖ As you become more confident, determine what environments you have available then find orchids that will thrive in those places
- 
- The background of the slide features a soft, sepia-toned illustration of a mountain range in the distance. In the foreground on the right side, there are several thin, dark branches of an orchid, each bearing a cluster of small, light-colored flowers. The overall aesthetic is elegant and naturalistic.

# *Enjoy Yourself*

- ❖ Most important of all is to have fun
- ❖ Find orchids you like and figure out what they like
- ❖ Information about orchids is everywhere
- ❖ There are so many types very few amateurs will ever learn how to raise all orchid types.
- ❖ End with photos of other major orchid types
  - You will need to adjust **Light** and **Temp** for each type





*Cattleya dormaniana*

# *Cattleya*

*KAT-lee-ah*



*Cattleya Oviedo*



*Cattleya schilleriana*  
*'JEM' AM/AOS*



*Cattleya loddigesii*

# Cymbidium

*sym-BID-ee-um*



*Cymbidium Emotional Rescue*  
*'Everglades' HCC/AOS*



*Cymbidium Sweet Dreams*  
*'Everyglades Mist' JCC/AOS*



*Cymbidium Everglades*  
*'Diamond Jubilee' AM/AOS*



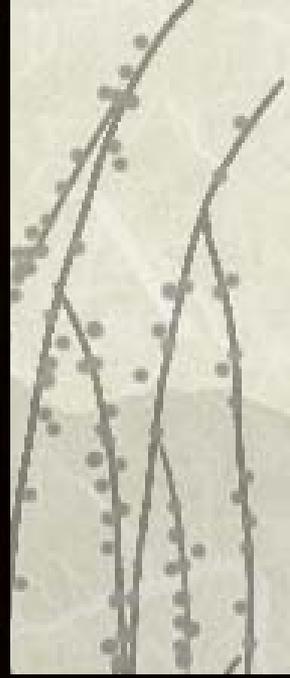
*Cymbidium Florida Flamingo*  
*'Pink Passion' AM/AOS*



*Dendrobium*  
*den-DRO-bee-um*



DENDROBIUM SULCATUM



Dendrobium nobile



Dendrobium parishii

*Miltonia*  
*mil-TOH-nee-ah*



*Miltonia 'Hof'*



*Miltonia regenellii*



*Miltonia roezlii*



*Miltonia 'Morris Chestnut'*

*Oncidium*  
*on-SID-ee-um*



*Oncidium Snow White*



*Oncidium Ladda Salaya*



*Oncidium Sweet Sugar*



*Oncidium Moonshadow*



*Oncidium Milineum Gold*

# *Paphiopedilum*

*paff-ee-oh-PED-ih-lum*



*Paphiopedilum Kobold's Doll*



*Paphiopedilum dayanum*



*Paphiopedilum concolorbellatulum*



*Paphiopedilum glanduliferum*



*Paphiopedilum niveum*



*Vanda Mimi Palmer X Vanda tessellata*

# *Vanda* *VAN-dah*



*Vanda sanderiana*



*Vanda Manuvade 'Sky'*



*Vanda lamellata*



*Vanda Loke*

# *A final assortment*



Cattelya



Miltonia



Phalaenopsis



Paphiopedilum

*Thank you for  
coming –*

*Happy Orchid  
Growing*



Oncidium



# *Things to bring*

- ❖ See Excel Sheet

