



History

- Orchids became a craze by the mid-19th century.
- Tons of orchids were shipped from tropical areas, and few survived.
- Overzealous collecting and habitat destruction have made many species endangered.
- Brought to England in the early 1700's from China and the West Indies.
- The Aztecs used vanilla flavoring, and this was introduced to Europe after the Spanish conquest of Mexico

Growth Habits

- Epiphytes grow on trees and rocks. Most of the commercially available orchids are epiphytic.
- Terrestrial orchids grow in dirt like most other plants. Some grow wild in the US
- They come in all sizes.
- Grow slowly.
- Most orchids are adapted to survive some water deprivation.
- They are found on every continent
- Orchidaceae is the largest family in the plant kingdom.
- Over 25,000 species and 100,000 hybrids.
- Intergeneric hybrids.

Containers

- Pots, glazed clay, unglazed clay or plastic
- Ventilation for roots is mandatory.
- Baskets
- Mounting on wood, cork or osmundia.
- Mounting on trees!

Potting media

- Fir bark chunks
- Coconut husk chunks or coir
- Osmundia or tree fern
- Sphagnum moss for those plants that like to be wetter.
- Mixes may contain bark, perlite, charcoal and other porous rock.
- Mount on cork, manzanita, osmundia or pieces of wood.

Water

- **Don't over-water.** Over-watering is one of the best ways to kill an orchid.
- Avoid hard water and any softened water unless using reverse osmosis.
- The media should look and feel dry.
- Every few months, a shower and drenching with plain water helps clean the plants and wash out accumulated salts from the media.

Temperature

- Cool growers and warm growers
- Many warm growers can be left outside all summer.
- Some require minimum 20 degree difference between night and day to bloom.
- Most do well at 50-85 degrees.

Humidity

- Most orchids like 50-70% humidity.
- Measuring humidity.
- Misters, humidity trays, humidifiers.
- Keep a pot of water boiling on a wood stove.
- "Cool mist" or steam vaporizers not good.
- Air movement.

Light

- Light meters
- Natural is best and easiest, windows, skylights and solatubes.
- Types of artificial lights.
- How many hours of light?
- Outside shade.
- No direct sun.

Fertilizing

- Remember, they grow very slowly.
- Feed weekly, weakly.
- Types of fertilizers.
- Micronutrients.
- Calcium and magnesium?

Repotting

- Don't repot very often; most orchids like to have crowded roots.
- Roots often grow outside the pot.
- Usually repot after bloom when new roots and leaves are growing.
- Repot when old medium is breaking down or when roots are too crowded.
- Use either a clean pot that has been disinfected or a new pot.
- Wet new media.
- Water first to make it easier to remove roots from old pot.
- Gently pull plant out and knock off old medium. Slosh in a bucket of water.
- Trim off diseased roots.
- Spray with dilute Physan 20.
- Spread roots over new medium in the pot.
- Gently pack new medium around roots and water.
- Mark the date.
- Some plants may not bloom for over a year after being repotted.

Insect control

- Aphids: wash them off, insecticidal soap, horticultural oil.
- Mealy bugs: same as aphids and use an alcohol soaked Q tip to remove.
- Whiteflies, same controls as aphids.
- Scale: wipe and scrape off with alcohol soaked Q tip or cotton ball. Systemic such as imidacloprid.
- For all the above pests, be sure to treat roots and base of plant.
- Slugs and snails: hand pick or use baits.
- Mites cause stippling and a silver appearance of the leaves. Mites are nearly microscopic; use a hand lens to see them. Use horticultural oil.

Fungal and bacterial diseases

- Fungal infections of roots may be caused by too much water, poor drainage or spread from other infected plants.
- Soft, rotten roots cause plants to die for lack of water.
- Fungal infection of leaves causes brown or black spots and discoloration.
- Bacterial infections may cause soft mushy spots on leaves.
- Use good sanitation, clean and disinfect cutting tools. Physan and other fungicides.

Viral diseases

- Tobacco mosaic virus, Cymbidium mosaic virus and others.
- No tobacco allowed.
- Use good sanitation and disinfection of cutting tools and used pots.
- Symptoms are variable and sometimes hard to recognize.
- Get rid of infected plants.
- For virus testing, see <http://www.crittercreeklab.com/>(916) 645-7111

Propagation

- Keikis.
- Splitting sympodial orchids.
- 3 pseudobulbs per division.

Growing phalaenopsis, “Moth orchids”

- Commonly available and easy to grow.
- They tolerate relatively low humidity and light and common household temperatures.
- Very reliable bloomers.
- Very long lasting flowers
- After blooming cut the flower stalk just above a node, and it may rebloom.
- Usually bloom late winter and early spring.

Cymbidiums

- Outdoors, but no direct sun.
- Bloom midwinter to early spring.
- Leaves tolerate light frost, but flowers do not.
- Excellent cut flowers.
- Easy to propagate with pseudobulbs.
- They need at least 20 degrees difference between night and day to bloom.

Good terrestrial orchids for our climate—shade only

- *Bletilla striata*—Chinese Ground Orchid
- *Epipactis gigantea*, native to California
- *Pleione tongariro*
- All easy and reliable.

Good Resources

- American Orchid Society
 - Sacramento Orchid Society
 - San Francisco Orchid Society www.orchidsanfrancisco.org
 - Sunset Orchids
 - <http://www.ipm.ucdavis.edu/index.html>
 - <http://www.orchidspecies.com/index.htm>
 - Virus testing <http://www.crittercreeklab.com/> (916) 645-7111
- Google the name to get information on growing requirements.