

**Orchid Diversity.**  
**A smattering of the diversity found in the Orchidaceae.**

Author: Timothy C. Choltco  
Harbinger Orchids and Exotics  
harbingerorchids.com  
Produced for Fort Pitt Capital Group LLC

- The Orchidaceae comprises approximately 25,000 – 28,000 species in 1,500+ genera.
- Genera contain from 1 species (ex. *Dyakia* and *Ceratocentron*, to a thousand or more species (ex. *Bulbophyllum*, *Dendrobium*, *Epidendrum*). With the majority containing 25-50.
- Orchids are found on every continent but Antarctica (yet!!!).
- The vast majority of species inhabit the tropical rainforests.
- Orchids are also found in tundra (*Amerorchis* some *Platanthera*) and Desert (some *Eulophia*).
- Orchids are terrestrial (growing in soil), epiphytic (growing on trees and other plants), lithophytic (growing on rocks), saprophytic / mycotrophic (dependent upon fungi), and achlorophyllous (lacking chlorophyll and dependent upon fungi for survival).
- Sometimes the diversity within a genus is EXTREME (*Bulbophyllum*, *Dendrobium*, *Epidendrum*, *Maxillaria*).

*Rhizanthella* (3 slides)

- A genus of 4-5 species of Australian orchids.
- The entire plant is subterranean and saprophytic / mycotrophic.
- *R. gardneri* is strictly associated with *Melaleuca uncinata*.
- Discovered in 1928 when a farmer tilled them up on his farm.
- The inflorescence "Flower head" pushes to the surface. As the flower head opens it cracks the surface of the soil sometimes pushing above the surface. The inflorescence is often still covered by leaf litter and detritus.
- The entire flower head is about 2-3cm (1") across.

**Tropical Orchids**  
**Commonly Grown**  
**Evergreen, deciduous, or with distinct dormancy**

*Angraecum* (6 slides)

- Genus contains about 220 species.
- Species are native to tropical central and southern Africa, Madagascar, the Indian Ocean islands.
- Flowers are mostly white with some having some green, yellow, or pink flushing
- Most flowers have relatively long nectary spurs.
- Flowers are mostly fragrant at night.

- These are the hallmarks of a moth pollinated flower.
- Species: *Angcm. sesquipedalae*, *bossieri*. *Angcm. compactum*, *leonis*, *rutenbergianum*. *Angcm. germinyanum*, *magdalenae*. *Angcm. eichlerianum*. *Angcm. florulentum*.

#### *Brassavola* (1 slide)

- Genus contains about 18 – 21 species.
- Species are native to Central America, South America, and the Caribbean Islands.
- Flowers are mostly white with some having some green, yellow, or pink flushing on the petals and sepals.
- Most have thin strap shaped petals and a somewhat heart shaped central labellum.
- Flowers are mostly fragrant at night.
- A hallmark of a moth pollinated flower.
- *B. cucullata*, *nodosa*.

#### *Catasetinae* (6 slides)

- Group of 8 genera native to Central and South America.
- The genus *Catasetum* (~166 species) exhibits sequential hermaphroditism. Meaning they produce male and female flowers on different plants depending on the strength and vigor of the plant.
- This is a characteristic it shares with *Arisaema* which includes our native N. American Jack – in – the – Pulpit.
- Young or weakened plants will produce several to many male flowers.
- Mature and strong plants will produce few female flowers.
- Male and female flowers are often VERY different.
- Species: *Ctsm. saccatum* ♀♀. *Ctsm. sanguineum* ♀♀ / ♂♂. *tabulare* var. *rhinophorum* ♀♀ / ♂♂. Hybrids: *Ctsm. Dreamboat*. *Melana Davidson* ♀♀ and ♂♂. *Clowesetum Dragon's Treasure*.

#### *Cattleya* (5 slides)

- Native to Central and South America from Costa Rica to northern Argentina.
- Genus contains 45-50 species if you are a splitter or about 122 species if you are a lumpers.
- Currently includes all *Sophranitis* (9 species) and all the Brazilian *Laelia* (66 species).
- The large unifoliate species are the basis for the large corsage flowers our grandmothers and mothers wore.
- Many intra-generic hybrids exist.
- Many more inter-generic hybrids exist including those with the aforementioned *Brassavola*.
- Some are into the 22nd – 25th generation from the species.
- Species: *C. amethystoglossa*, *bicolor*, *leuddemanniana*, *maxima*, *mossiae*, *percivalliana*. *C. quadricolor*, *schilleriana*,  *trianae*, (*Sophranitis*) *cenuua*, *coccinea*, (*Laelia*) *flava*. (*Laelia*) *jonghiana*, *perrinii*, *purpurata*.
- Hybrids: *C. Dinard*, *C. Final Touch*, *C. June Bug*, *C. Mary Lynn McKenzie*, *C. Tropical Pointer*, *Ctt. Chocolate Drop*, *Guaricyclia Kyguchi*, *Rlc. Hawaiian Prominence*.

### *Dendrobium* (6 slides)

- Native to most of tropical South Asia, Southeast Asia, the Pacific Islands, and Australia
- Genus contains 1,800 – 2,000 species
- A sectional presentation of the genus would take an hour.
- Species are found growing at sea level to 6,500 miles in elevation.
- Many sections grow very differently.
  - There are some that are warm growing and evergreen
  - There are others that are warm growing and deciduous.
  - There are some that grow warm, but require a cool to cold deciduous period to flower.
- Plant and foliage variations - *Den. lichenastrum*, *pulchellum*, *cucurmerium*, *peguanum*, *anceps*.
- Species: *Den. mohlmanum*, *purpurescens*, *spectabile*, *pulchellum*, *sanderdae*, *victoria-regina*.
- Hybrids: Bruce Gordon, Edfrans Gem, Enobi Purple, Fire Wings, Lori Tokunaga, Love Memory.

### *Epidendrum* (8 slides)

- The genus contains more than 1,500 species.
- Species are native to Central and South America and as far north as Florida and southern South Carolina.
- Many of the “Reed-Stemmed” *Epidendrum* species and hybrids are now invasive in Florida, Louisiana, Hawaii, and many tropical areas around the globe.
- MANY, MANY, MANY species. Too many to cover.
- *Epi. ibaguense*, *Epi. radicans*, *Epi. secundum*, *Epi. escobarianum*, *quisayanum*, *Epi. porpax*, *schlechterianum*, *Epi. leucochilum*, *Epi. stamfordianum*.

### *Phalaenopsis* (6 slides)

- The Moth Orchids (Big Box Store Orchid).
- The genus contains 70 – 75 species.
- Species are native to South Asia, Southeast Asia, southern China, Indonesia, the Philippines, New Guinea, and Northern Australia.
- The majority of those commonly cultivated are hybrids. 100,000+
- The beautiful *Phalaenopsis* hybrids, common in cultivation, are hybrids that are descended from 3 – 7 of the 70-75 species in the genus.
- Many of the complex standard white, pink, white with colored lips, and striped hybrids are 18 – 25 generations away from their species progenitors.
- There are other novelty hybrids that comprise additional species and are 2 – 5 generations away from their species progenitors.
- Species: *amabilis*, *amboinensis*, *aphrodite*, *bellina*, *equestris*, *leuddemanniana*, *Phal. philippinensis*, *pulcherrima*, *schilleriana*, *stuartiana*, *venosa*.
- Hybrids: Long Pride Golden Heart, Taisuco Roseherz, DeLeon's Kisses, Frank Sarris, Phal. Brother Peoker, Jeanette Brandon, Chian Xen Pearl, Green Field Red Zuul, KV Charmer, Long Pride Fancy, Phal. Alensica, Border's Gold, David Lim, Jennifer Palmerno, Krull's Little Prince, Perfection Is, Samera, Summer Venus.



## Slipper Orchids

### Phipps Conservatory: National Lady Slipper Orchid Collection

- The collection is aimed at the preservation of species of the genera:
  - *Cypripedium* (+/- 60 sp.) North American and Eurasian.
  - *Mexipedium* (1 sp.) 1 population in Oaxaca Mexico.
  - *Paphiopedilum* (80 + sp.) Southeast Asia
  - *Phragmipedium* (20-25 sp.) Central and South America.
  - *Selenipedium* (9-10 sp.) Central and South America.
- It is also aimed at the preservation of the earliest hybrids and key hybrids that have been produced since 1869.
- *Paphiopedilum* *Harrisianum* is THE first *Paphiopedilum* hybrid registered.
- It is an artificial hybrid of *Paph. barbatum* and *Paph. villosum* that was registered in 1869.
- The cultivar 'G. S. Ball' is from the original cross and is still in cultivation.

### *Paphiopedilum* (6 slides)

- Species: *armeniacum*, *bellatulum*, *delenatii*, *godefroyae*, *malipoensis*, *niveum*, *micranthum*, *thaianum*. *Paph. appletonianum*, *barbatum*, *callosum*, *dayanum*, *sugiyamanum*, *sukhakulii*, *venustum*, *volonteanum*. *Paph. barbigerum*, *fairrieanum*, *graetrixianum*, *hirsutissimum*, *insigne*, *spicerianum*, *tigrinum*, *villosum*. *Paph. kolopokingii*, *lowii*, *rothschildianum*, *philippinense*, *sanderianum*. *Paph. liemianum*, *primulinum*.
- Hybrids: Black Diamond, Chiu Hua Dancer, Delightfully Wood, Hilo Leopard, Keyeshill, Oriental Spring, Pinocchio, Stone Lovely.

### *Phragmipedium* (3 slides)

- Species: *andreaettae*, *besseae*, *fischeri*, *schlimii*, *richteri*, *humboldii*.
- Hybrids: After-Glo, Augres, Cardinale, Evening Blaze, Fritz Schoenbourg, Leslie Garay. Phrag. Little Deschutes, Memoria Ann Stuckey, Memoria Dick Clements, Memoria Mariza Rolando, Memoria Neil Mitchell, Paul Eugene Conroy.

### *Mexipedium xyrophyticum* (1 slide)

- Discovered in the late 1980s and published in 1990.
- Upon discovery 3 plants were collected these designated 'Oaxaca', '#1' and '#2'.
- After a series of fire in the locale the species was declared extinct after 2 decades of searching.
- In 2010 a relict population was discovered some miles away. This population was cited to contain 10 – 20 plants.
- The 3 collected plants have been used to propagate the species in cultivation.
- Flowers are under ½" across.

## Temperate (Hardy) Orchids

### *Goodyera* (2 slides)

- Genus of about 100 species.
- Native to Europe, Asia, Southeast Asia, North and South America.
- The majority of species are found in tropical eastern Asia.
- Some species are temperate with 4 species native to the United States (2 in Pennsylvania).
- *Goodyera pubescens*

### *Platanthera* (4 slides)

- Genus of about 150 - 160 species.
- Native to Europe, Asia, Southeast Asia, and North America (Alaska, Hudson Bay, Canada, and southern Greenland included), 1 in Hawai'i.
- The majority of species are found in temperate Asia and North America.
- Commonly called the Butterfly Orchids or the Fringed Orchids.
- Most of the "Fringed" species are pollinated by butterflies.
- *Pl. blephariglottis*, *x bicolor*, *ciliaris*. *Pl. psychodes*, *shriveri*. *Pl. orbiculata*.

### *Cypripedium* (5 slides)

- Genus of about 50 – 60 species.
- Native to Eastern Asia (the Himalia, eastern Siberia, China, and Taiwan), North America (Alaska, Canada, western US, eastern US, and Oaxaca Mexico), 1 species ranges from England across to eastern Siberia.
- These are the temperate (garden hardy) Slipper Orchids.
- Several Asian and North American species are easy to cultivate if grown from seed grown sources.
- Wild collected plants tend to survive a few years then eventually die.
- *Cypripedium acaule* though the most widespread in the US is very difficult to grow in cultivation and 90 – 95% of collected plants die within 2 years.
- Species: *Cyp. acaule*. *Cyp. pubescens*. *Cyp. reginae*.
- Hybrids: *Cyp. Gabriela*. *Cyp. Philipp*, *Gisela*.