

**The Phalaenopsis Alliance
Genus Phalaenopsis
Subgenus Phalaenopsis
Section Phalaenopsis**

Genus Summary:

The first *Phalaenopsis* species discovered by Europeans was found on a small island of the east coast of New Guinea by botanist, Rumphius (1627-1702) in 1653. The species remained in obscurity until Karl Ludwig Blume established the genus, *Phalaenopsis* in 1825. The genus is currently known as *Phalaenopsis amabilis*. The subfamily for this genus is Epidendroidex; tribe Vandex; and subtribe Aeridinae.

There are some 86 species in this genus. They are monopodial, terrestrial, epiphytic, or occasional lithophytic species which are commonly known as moth orchids. They grow in dense, warm, humid, low elevation, shady hill scrub with a few species found in seasonally cool, upper elevation, montane forests from southern and eastern China, Taiwan, southern Japan, India, Sri Lanka, Myanmar to Vietnam, Malaysia, Indonesia, the Philippines and New Guinea to northeastern Australia.

These plants have short, leafy stems, each with several broad, usually drooping closely clustered leaves; and few species have patterned leaves. The short or long inflorescence grows off the stem among the leaves and can have solitary to numerous flowered inflorescences. The flowers can be exquisitely fragrant or not and are often large and colorful long lasting blooms. The bloom are solid colored or can be spotted, marbled, or even barred with various colors. The sepals and petals range from large and roundish to long and narrow. The petals are usually larger than the sepals which give the flower a roundish appearance. The lip is claw shaped and tri-lobed. The pollinia are either two or four, hard, waxy and on a broad stipe.

Today, Taiwan is the leading producer of *Phalaenopsis* in the world with innovative breeding strategies and consistent development of new varieties. A couple of the of the more successful hybrids are *Phal. amabilis* and the hybrid, *Phal. Doris*. Novelty plants to include the Harlequins and the multi-floral types are often parented by *Phal. Golden Peoker* and the wild species, *Phal. equestris*. Finally, *Phalaenopsis* is the second most valuable potted plant in the United States. They comprise the majority of commercial orchids (up to 90%) due to their long-lasting flowers, easy care, and low cost.

Taxonomy of subgenus Phalaenopsis

The subgenus *Phalaenopsis* contains two sections. The first section (also known as *Phalaenopsis*) contains 9 species which are easily recognized due to the petals being

wider than the sepals. Located in this group is the *Phal. amabilis*. *Phal. schilleriana* is the only fragrant species in this section.

The second section is *Polychilus*. It is much larger containing some 36 species. The petals are narrower and fleshier than those of section *Phalaenopsis*. A more familiar species for section *Polychilus* is *Phal. violacea*. The inflorescence stem is often flattened and may be fragrant. This group has been utilized in hybridization to produce for vibrant colors.

Key to the species of section *Phalaenopsis*:

Flower White :

specie name	leaf	lobe	callus
<i>P. philippinensis</i>	marbled	lateral lobes of lip bright yellow, unspotted; midlobe not spotted	
<i>P. stuartiana</i>	marbled	lateral and midlobe of lip densely spotted	
<i>P. x intermedia</i>	not marbled	midlobe lip rose	
<i>P. amabilis</i>	not marbled	midlobe of lip white	shield-shaped upper edge ending in one pair of divergent teeth
<i>P. aphrodite</i>	not marbled	midlobe white	not shield-shaped with upper edge ending in two pairs of subparallel teeth

Flower Pink:

name	leaf	lobe	callus
<i>P. sanderiana</i>	green or overlain with silver/generally not marbled	lip apex is long, narrow tails longer than the midlobe	bilobed with a deep central sinus
<i>P. schilleriana</i>	strongly marbled deep green and silver with purple undersurface	apex of lip bilobed; gently recurved falcate lobes less than 1/2 length of midlobe	shield shaped with one shallow notch at apex

Species in subgenus Phalaenopsis:

name	hybridization use	awards Type and Number	breeding strengths/ weaknesses
P. philippinensis	F1 off. = 111 189 progeny	12 AOS awards= 4 AM; 1 CCE; 1 CCM; 5 HCC; 1 JC	large petals; roundness; flatness
P. stuartiana	F1 off. = 398 27,989 progeny	33 AOS awards = 12 AM; 5 CCM; 2 CHM; 14 HCC	long-lasting flowers; floriferous triploid display ; note: P. Cassandra (equestris x stuartiana)
P. amabilis	F1 off. 479 33,022 progeny	44 AOS awards = 20 AM; 1 AQ; 8 CCM; 1 CHM; 11HCC; 3 JC	largest flowers of species; full form; roundness; portrays industry standard; numerous flowers; highly effective rate of pollination
P. sanderiana	F1 off. 116 26,988 progeny	10 awards 6 AOS 2 AM; 1 CBM; 1 CCM; 1 FCC	coloration; large flower (7.9 natural spread
P. rimestadiana	F1 off. 18 32,675 progeny	7 awards 5 AOS 3 AM; 1 CC; 1HCC	naturally occurring tetraploid form of amabilis. thick flower substance; long lasting qualities. key in perfection of the white hybrid.
P. schilleriana	F1 off. 252 29,274 progeny	70 awards 50 AOS 19 AM; 1 AQ; 2 CC; 4 CCE; 11 CCM; 13 HCC	parent of choice for producing pink hybrids
P. aphrodite	F1 off. 62 33, 114	64 awards 38 AOS 13 AM; 1 AQ; 1 CBR; 2 CCE; 12 CCM; 1 CHM; 8 HCC	modern standard white hybrid.; strong vigor; high flower counts; branched inflorescences



Phal. stuartiana



Phal. amabilis



Phal. philippinensis