



CHICAGO BOTANIC GARDEN

PLANT INFORMATION FACT SHEET

ORCHIDS AS HOUSEPLANTS

Few plant families have been so honored in literature as the orchid family, *Orchidaceae*. Hundreds of books have been written about orchid botany and culture. The orchid family is the largest flowering plant family in the world. The current number of species is approximately 26,000, grouped into 880 genera with new species identified every year. Breeders have introduced hundreds of thousands of registered hybrids. Orchids are difficult to classify due to their wide variety of characteristics. Classifications continue to change as a result of new technologies and improved DNA analysis.

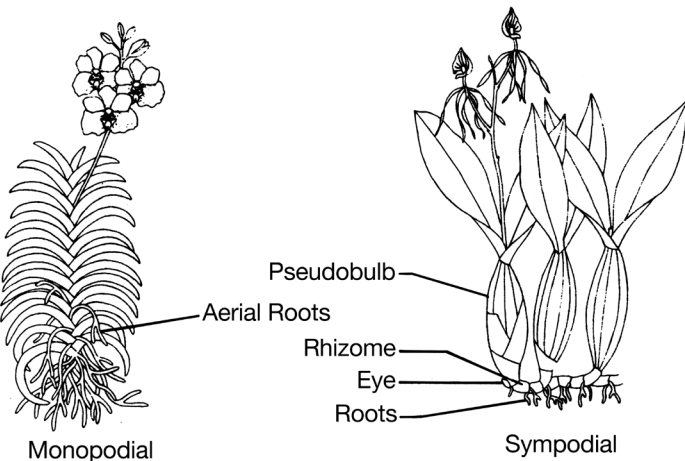
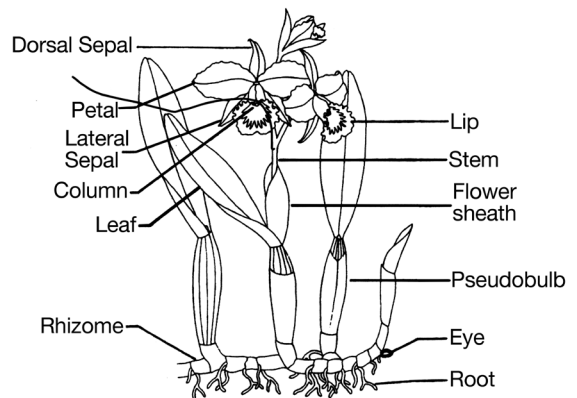
Orchids grow naturally throughout the world with the exception of the very coldest or driest habitats. They are found on all continents with the exception of Antarctica. The majority of species are found in the tropical and subtropical regions of the world.

Selecting the appropriate orchid for the available growing conditions is an important factor in the success of a beginning orchid grower. With proper selection and care, orchids can be successfully grown as houseplants. Orchids can provide beautiful flowers and years of pleasure for an indoor gardener.

MORPHOLOGY (Plant Parts)

Orchids have two habits of growth: sympodial or monopodial. Sympodial orchids increase in size through horizontal growth. New growth begins from a bud at the base of the previous year's stem. The new growth is called a lead, and the bud is called an eye. Monopodial types have a single, continuous vertical stem. These orchid types increase in height year after year.

Sympodial orchids have rhizomes (horizontal stems). Both the above-ground stem and roots grow from the rhizome. The base of the stem expands into a water-storing organ called a pseudobulb.



In nature, orchids are terrestrial (growing in the ground) or epiphytic (growing on trees or rocks). Epiphytic orchids cling to their hosts with long, thick roots. They obtain moisture from rain, dew, and humidity, and nutrients from decaying leaves or other debris that accumulate among the tangled roots.

The flowers of all orchids have the same basic form. Each flower has three sepals and three petals. The sepals serve as the bud or cover, open to become the outermost flower part, and serve as a background for the petal. The inner three parts are the petals. Two petals are very similar while the third is highly modified and the most prominent part of the orchid flower. This petal is called the lip or labellum and may be frilled or cupped or may form a pouch as in *Paphiopedilum*. Reproductive organs are housed in the throat of the flower.

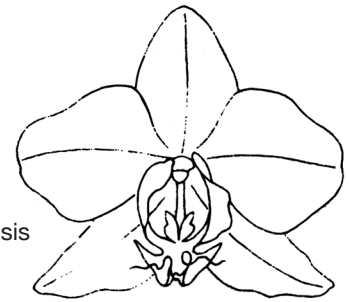


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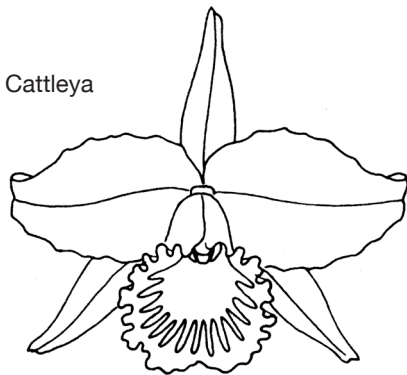
RECOMMENDED ORCHIDS

Orchids that can easily be grown as houseplants include *Phalaenopsis*, *Cattleya*, *Cymbidium*, *Dendrobium*, *Oncidium*, and *Paphiopedilum*, with the easiest being *Phalaenopsis*, *Cattleya*, and *Paphiopedilum*. These orchids are recommended for their adaptability and availability. Their light, temperature, and humidity needs can be met in most indoor home environments.



Phalaenopsis

Members of the genus *Phalaenopsis* are commonly called moth orchids. The name refers to the resemblance of long arching sprays of flowers to moths in flight. Within this genus are approximately 60 accepted species as well as numerous subspecies and naturally occurring varieties. These orchids are epiphytic and native to tropical Asia and the larger Pacific islands. They do not have pseudobulbs. The flowers are white, in shades of pink or yellow, or bicolored. *Phalaenopsis* is one of the most popular orchids because it is easy to grow and has long-lasting flowers that may remain in bloom for six weeks or longer.



Cattleya

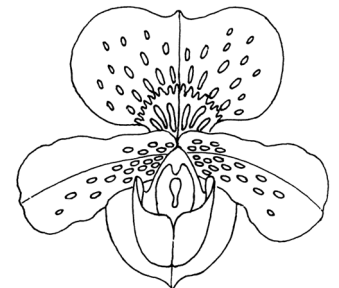
The genus *Cattleya* contains approximately 50 natural species native to Central and South America. The *Cattleya* is known for its spectacularly large flowers in colors that range from white and lavender to yellow, orange, red, and green. Many species have patterned or speckled flowers. The showy flowers are borne three to five per stem and are often fragrant.

Blooms of hybrid plants are usually fewer but larger than the species. *Cattleya* orchids are epiphytes that produce pseudobulbs. They perform best when provided with very bright light and can be longer lived than other orchids.

Cymbidium orchids include more than 50 recognized species and dozens of naturally occurring varieties. Native to Asia and Australia, *Cymbidium* orchids have a culture that can be traced back several thousand years. These orchids are epiphytes that produce pseudobulbs and long, strap-like leaves. *Cymbidiums* are valued for their showy sprays of flowers that come in a wide range of colors. There are two primary *Cymbidium* sizes—standard and miniature.

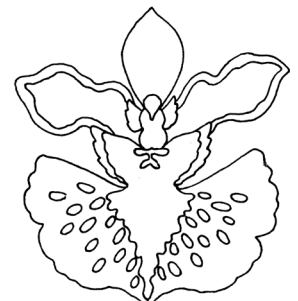
Dendrobium, commonly referred to as the spray orchid, is an extremely diverse genus. There are approximately 1,500 species in the genus; *Dendrobium* orchids are native to tropical and subtropical Asia, many of the Pacific Islands, and Australia. *Dendrobium* orchids are epiphytes, producing pseudobulbs that are frequently called “canes.” Individual species may produce long, flowering sprays, fragrant blooms, or flowers that last for only a day. Bright light is required for healthy growth and good flower production. Some species require long dormant periods. Water and feeding must be provided based on the specific type.

Within the genus *Paphiopedilum*, lady slipper orchid, there are approximately 50 species and thousands of hybrids. *Paphiopedilums* are native to tropical regions of Asia and India. They are terrestrial and do not produce pseudobulbs. Blooms are waxy with a distinctive pouch and are multiflowered or single-flowered stems. Flowers come in many different and unusual color combinations. Some species have silver or maroon mottling on their leaves. The mottled leaf types should be grown warm (70 to 85 degrees Fahrenheit) and are recommended for the beginning grower.



Paphiopedilum

The genus *Oncidium*, commonly called the dancing lady orchid, includes approximately 400 species. *Oncidiums* are epiphytic and native to tropical America. This genus typically produces sprays of small flowers on arching stems from fall to spring. A number of varieties are fragrant. Yellow and brown are the most common flower colors, but *Oncidiums* may also be found in shades of pink and several speckled color combinations.



Oncidium



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CULTURAL REQUIREMENTS

PLANTING MEDIUM

The growing medium should be composed of various grades of shredded bark. These mixes provide fast drainage and good air circulation around roots, and usually last a long time before decomposing. Commercially prepared orchid potting mixes are readily available and very helpful. Epiphytic types of orchids may also be grown on slabs made of tree limbs, cork, bark, or tree fern fiber.

Growers often propagate orchids in a moss planting medium that retains water. Buyers may want to consider replanting newly purchased orchids in a bark planting mix to prevent overwatering problems.

LIGHT

Proper lighting is necessary for flowering and healthy growth. Orchids should be placed near an east, west, or south window and must be protected from the direct rays of the midday sun, especially during the summer. Plants generally do not flower under low-light conditions. Too little light may also result in poor color, soft growth, or no growth at all. Too much direct sun may burn and bleach the foliage. Experimenting with orchids in different exposures will be helpful. If an orchid is taken outdoors in the summer, it must be protected from direct sun and drying winds. Plants are best placed in the shade of a tree or patio.

TEMPERATURE

The recommended orchids generally require a temperature range common to most homes. No plants, orchids included, grow well next to or in the direct air path of a heating or cooling unit. If orchids are taken outdoors in the summer, pay close attention to temperature extremes. Sustained periods of unfavorable temperatures (above 90 degrees Fahrenheit or below 45 degrees) can be detrimental to orchids. Orchids placed outside for the summer should be brought in before temperatures drop below 50 degrees.

WATER

Watering is seldom a practice that can be scheduled on a calendar. Roots need air as well as water and will die in a constantly soggy medium. There is no set schedule for watering orchids. One of the biggest problems with growing orchids is over-watering. Orchids that produce pseudobulbs (*Cattleya*) are able to store water while other orchids (*Phalaenopsis*) cannot store water and may need more frequent watering.

Orchids can easily be watered by moving the container to a sink. Containers can be watered thoroughly, allowing excess water to drain completely out of the pot. Wait a few minutes and repeat. Never allow pots to stand in water.

As a general rule, pots that need watering will feel light when lifted—check the pot's weight once a week. Water again when the pot seems lighter. Keep in mind that unglazed clay pots will dry out more quickly than glazed or plastic pots. Plants that are potted in moss will need less frequent watering.

HUMIDITY

Orchids usually require more humidity than is available in most homes, especially in winter. A common and practical way of creating humidity around a plant is to fill a tray with pebbles and water, and place the potted plant on top of the pebbles. The bottom of the pot should be above the water level and never allowed to sit in water. The water will evaporate and provide a small amount of humidity around the immediate location of the tray. Misting orchid foliage and using room humidifiers will also raise humidity levels. Misting should always be done early in the day to allow the plant to dry before evening to prevent fungal problems.

FERTILIZER

Orchids growing in shredded bark mixtures require regular fertilization during the growing season with a high-nitrogen fertilizer (30-10-10). Orchids grown on slabs will benefit from the regular application of a balanced fertilizer (20-20-20 or 10-10-10). Fertilizer specifically formulated for orchids can also be used. An organic fertilizer, such as fish emulsion, can also be applied and is generally a much weaker concentration. Orchids perform best with water-soluble fertilizers that should be applied to an already moist planting medium.



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REPOTTING

Repotting is necessary when bark planting mixes have decomposed or a plant has outgrown its pot. Decomposed bark results in poor drainage and air circulation around the roots. The top layer of bark may appear intact but on close inspection, the bottom medium may be soggy and decomposed. Bark decomposition is not as easily recognized as a plant that has outgrown its pot.

A plant that has outgrown its pot will often exhibit rhizomes and roots that begin to spill over the rim of the pot, although it is quite normal for some aerial roots to be present. Repotting into a larger container is recommended; however, avoid using a container more than one or two inches larger than the current pot.

1. Water the plant thoroughly the day before repotting. The roots will be easier to work with.
2. Use a clean kitchen knife, screwdriver, or any other long, firm tool and run it along the inside rim of the pot to loosen the planting medium and pry off any roots that may be clinging to the inside of the pot.
3. Carefully remove the plant from its original container.
4. Shake off potting medium from the roots.
5. Inspect the roots carefully and prune off any dead or excessively long roots.
6. Prune off all dried pseudobulbs, provided there are at least four others.
7. Place plant into a pot of fresh bark so that the rhizome sits on top of the potting medium and is ½ inch below the rim of the pot. Add new potting mixture around top roots as needed.
8. A rhizome clip, stake, or support will keep the newly repotted plant in place until its roots can become anchored.
9. Mark the bottom of the pot with the repotting date.
10. Water and drain thoroughly, then return the plant to its normal growing location.

PROPAGATION

The propagation of orchids can be done sexually (by seeds) or asexually (vegetatively). Propagation by seed is difficult and not practical for the home orchid grower. Common methods of asexual propagation include division, cuttings, and *keikis*.

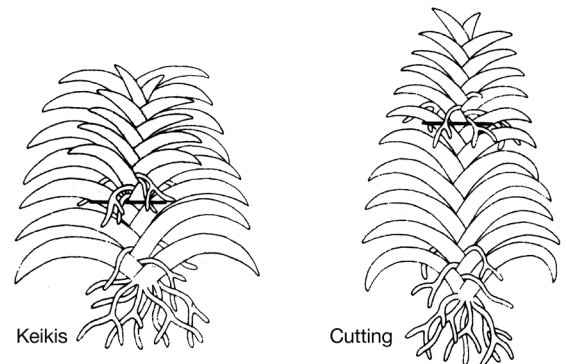
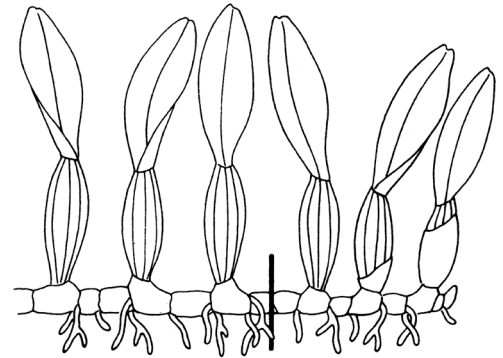
Sympodial growth may have more than one growing point. Instead of one eye, two eyes form, and growth splits in two directions. When this split growth continues, and each direction of growth has four or five pseudobulbs, they can be divided. The division cut should be made with a sharp knife and each division repotted.

Division by backbulbs is another method. Backbulbs are old pseudobulbs behind the main growth. These backbulbs have dormant buds that are stimulated to flower after being cut away from the active lead. Cut backbulbs that are at least three stages behind the lead.

Monopodial orchids that grow in clumps can also be divided. Simply cut or break apart clumps and repot.

When aerial roots form along a monopodial orchid, a cutting can be made. The tip growth, including aerial roots, can be cut off and potted in its own container.

Some orchids produce offsets or plantlets that are called *keikis*. (*Keiki* means “baby” in Hawaiian). *Keikis*, complete with roots and part of the parent pseudobulb or bloom stem, can be removed and planted in their own containers.





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PESTS AND DISEASES

Pests that may infest orchids include scales, mites, mealybugs, aphids, snails, and slugs. Diseases that infect orchids may be caused by various fungi and bacteria. These diseases show up in the form of spots on the leaves and flower petals, blotches, or rotted plant parts. Viral diseases also infect orchids and can appear as mottled foliage, streaks, or color breaks on the leaves. Orchids with a viral disease should be discarded and replaced.

For information on specific orchids, disease diagnosis, and recommended treatment options, contact Plant Information Service.



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One of the treasures of the Forest Preserve District of Cook County