

Resources for Orchid Growers

Orchid history, information, and resources accumulated by the [Carmel Orchid Society](#)

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A Little History

In 1794 there were 15 different orchids in the Royal Botanic Gardens of Kew near London, England. By 1830, they had become a prized collectible even outdistancing the frenzied tulip obsession. Explorers delved into the forests and jungles of the world to dig up and bring back ever more exotic orchids to England and Europe in general. At auctions, the new, the rare, the must have orchid could sell for over \$500 a plant.

Whole populations indiscriminately collected. Most died before they got to England and many more died in the hot, wet glasshouses of the day. "Orchidmania" and the importation of plants peaked in the late 1800's. After World War I, imports from the wild decreased markedly.

Nurseries were established in countries of origin and hybridization began. After World War II, imports from nurseries to the U.S. took hold and led to the development of the commercial orchid growers in the United States.

Today, hybridization and meristem culture (cloning) have become a science as well as an opportunity for the hobbyist. An endless array of plants is available. At the same time many orchids in the wild are endangered and the number of species available to collectors diminishes.

Orchid Family Relations

Orchids, family [Orchidaceae \(Wikipedia\)](#), are one of the two largest families of flowering plants (the other is the aster-daisy-sunflower). They are found almost everywhere and are very diverse. Orchids are monocots, one of 2 classes of flowering plants (the other is the dicots). Monocots share several common characteristics, including petals are in multiples of 3 and leaves have parallel venation. Orchids have 3 sepals and 3 petals, one of which is the lip (labellum). A column which holds the pollinia (waxy clumps of pollen) and the stigma (where a pollinium ends up).

The biological classification system is hierarchical, from kingdom (Plantae, plants) down to family (Orchidaceae), genus (for example: *Cattleya*) and species (intermedia). The Orchid family has over 800 genera, some large like *Bulbophyllum* (2,000) and *Epidendrum* (1,500) some with only a single species. Most species orchids will have a tag that identifies the genus and species (or "sp." if unknown). you may also hear the term alliance (example: *Cattleya* alliance) which is a group of closely allied genera. Originally plants were classified by the structure of their flowers, flowers with similar structure are the same species or genus. in the past decade DNA has superseded morphology, leading to many species or genera being reclassified (*Sophranitis* is now in the genus *Cattleya*). Tags may show the new or more likely the old name, old habits die hard. Resources like the [Kew monocot list](#) allow you to determine the correct name.

Keeping up can be a problem. But now with over 800 genera and over 28,000 species, don't feel badly about not being able to recognize all those plants you see at shows or on the plant tables. And that does not even take into account the 100,000+ orchid hybrids.

What is in a Name?

Correct plant identification is important to understanding what kind of environment needs to be provided for a plant to flourish. Hopefully, every plant you get will have the correct name of the plant on a tag on it (even better, not just the right name but the dates of blooming and repotting). There are formal rules for naming plants. An individual plant originally grown in the wild (species

may have variations and can hybridize in the wild) is named according to the International Code of Botanical Nomenclature. Next time you look at a plant identification tab on one of your orchids look for the following and understand the place of your plant in the plant world better.

Species Naming

1. Genus comes first and starts with a capital letter and is written in italics. Most tags will not have anything printed in italics though.
2. The Species name comes second (also known as the specific epithet) and starts with a lower case letter and is written in italics
3. A varietal epithet may come 3rd (a name for a distinctive population within a species) is preceded by var., is italicized or underlined and does not begin with a capital letter.
4. A cultivar epithet (clonal name) may come 4th, This is a name for a particular plant and its divisions. The name is not in Latin, is not in italics the first letter is capitalized and it is in quotation marks.
5. Awards if any.

So, for example, a plant might be named *Dendrobium speciosum* var. *hillii* where the genus is *Dendrobium*, the species or specific epithet is *speciosum* and the variety or varietal epithet is *hillii*. If there were a cultivar it might be "Jane Doe" but this name is not maintained if two plants of the same cultivar are crossed.

Sources for Identifying Species

- [Orchid Species Photo Encyclopedia](#), arranged alphabetically, the "go to" source for species information and photos.
- [Kew Gardens monocot list](#). The AOS considers this the definitive list of species and their proper names.
- A lot of orchid growers who sell commercially and retail have websites with a lot of information on them, including lists of species and many pictures. One of the best is [Andy's Orchids](#). Others are: [Camp Lot A Noise Tropicals](#), [Santa Barbara Orchid Estate \(SBOE\)](#)

Hybrid Naming

1. The first name is the genus name which is italicized and the first letter is capitalized. However in many cases plants from two or more genera are crossed, in which case a new name will have been given for that kind of cross. For example *Blc.* For *Brassolaeliocattleya*
2. The second name is the Grex name, Grex indicating registered hybrid name. It is not Latin, starts with a capital and is not italicized.
3. The 3rd name is the cultivar epithet which is in quotation marks, is not italicized and the first letter is capitalized. These are generally not given to superior clones of horticultural significance.

4. Finally, the lineage delineation can be given, especially if the cross is not registered.
5. Awards if any.

So, for example you might have Blc. Acapana 'Miles' (LC. Grande X Greenheart)

Sources for Identifying Hybrids

In the early part of the 20th century, Sanders and Sons of St. Albans, England saw a need to develop a registry of known hybridized orchids. In the 1960s the Royal Horticultural Society took over the registry role from Sanders, becoming the international registration authority. You can search [RHS Orchid Registry](#) by parentage or by Grex. The list is updated quarterly with about 3,000 new hybrids added each year. There are more than 100,000 hybrids listed. Some of the hybrids involve more than 20 distinct species and up to 9 genera.

Awards

Orchid societies around the world have judging programs to help promote better flowers, also people are competitive and everyone wants to be recognized as having the "best" plant. The American Orchid Society [AOS](#) runs the largest awards program around, but there are others you may see awards from the Cymbidium Society of America, or the orchid societies in Japan, Australia, etc. awards are usually written as award/awarder like AM/AOS for Award of Merit/American Orchid Society.

The AOS awards are:

- **FCC** (First Class Certificate) The highest flower-quality award, awarded to orchid species or hybrids scoring 90 points or more on a 100-point scale.
- **AM** (Award of Merit) Awarded to orchid species or hybrids scoring 80 to 89 points inclusive on a 100-point scale.
- **HCC** (Highly Commended Certificate) Awarded to orchid species or hybrids scoring 75 to 79 points inclusive on a 100-point scale.
- **CCE** (Certificate of Cultural Excellence) Awarded to the exhibitor of a well-flowered specimen plant of robust health. The plant must score more than 90 points on a 100-point scale. Plants receiving this award represent the highest level of orchid culture.
- **CCM** (Certificate of Cultural Merit) Awarded to the exhibitor of a well-flowered specimen plant of robust health. The plant must score more between 80 and 89 points inclusive on a 100-point scale
- There are others, but you can find them all at [AOS awards](#)

Orchid Reproduction, Propagation/Replication (in other words, sex)

In the wild, each species of orchid is pollinated by a specific bee, fly, moth, bird, etc. that is attracted to it. After the pollination has occurred, seeds develop and are distributed by the wind. Some land in a propitious environment to develop. Mycorrhizal fungus (symbiotic with the roots) is necessary for germination and growth of orchid seeds in the wild.

For humans to replicate the process is easier said than done. It has taken a lot of experimental trial and error work to get to a point of reliable, efficient plant production. You cannot just harvest some seeds and plop them in some dirt, bark, fungus or other plant medium.

You know you have an orchid if you find at its center a column with both male and female reproduction organs fused to the column. Typically an orchid has three outermost parts called the sepals. In most orchids the sepals are plainer and thinner than the innermost parts called the petals. The three innermost part of the orchid are called petals. The petals tend to be showier, ruffled and bigger than the sepals, particularly so the central bottom petal which is generally known as the lip or labellum. The lip is the most elaborate and colorful part of most orchids. The lip sepals and petals are attached to the base of the column. The lip in particular appears to radiate from the column. At the tip of the column is a cap. The clumps of pollen are in that cap. There is a depression that contains a sticky mass below the cap, the stigma which is the female organ receptor. The stem of the flower is where the seed pod develops after pollination with the anther contained in the cap.

Reproduction au Naturel

Any grower, including you, can take the place of a natural pollinator by putting pollen on a stigma. If you place the pollen of an orchid on its own stigma, odds are you will get a plant that looks very much like the parent. If you put the pollen of one plant into the stigma of another plant, you are on your way to hybridizing a new flower.

Typically, you will have to wait for a seed pod to develop and ripen, perhaps 6 months or more. You will then pluck the seed from the pod and store it in a cool dry place in a flask containing agar jelly. The seeds germinate in the flasks for about a year before they are transferred to pots. Then you will have to nurture the plant for about 3 to 5 years before you can expect to see if it will flower and what the flower will look like.

Most hobbyists grow from seedlings only when the hybridization bug has bitten them. There are a lot of books and other sources of information on hybridization. Particularly useful to the 'would be' hybridizer is information on the compatibility of different genera and inheritance characteristics.

Generally, hybridizers have a goal in mind, they don't just cross two plants for the fun of it. A hybridizer's goals might include creating a smaller more compact plant or a pendulous type flower spike, or a specific colored flower.

Reproduction Through Cloning

Orchids were first cloned using meristem culture in the 1960s. The apical meristem is removed from young new growth in an orchid. The very tiny shoot is dissected, put into a liquid in a sterile flask and then agitated. The agitation keeps the apical meristem from developing a root.

Instead, the apical meristem multiplies into many embryo plants that are then divided. The subsequent plants are exact replicas of the parent. Clearly, this cloning process has been a boon to the commercial orchid growing business.

Division

For most of us, replicating one of our existing plants will be done by division. As a plant matures we have a choice of letting it continue grow bigger to become a specimen plant or dividing it into

two or more plants. Dividing a plant is easy even if intimidating the first time you do it and you do not have to wait 5 to 7 years to see your plants flower.

Local Orchid Growers

The Monterey Bay area is a hot bed of commercial orchid growing, all of these companies sell wholesale only.

- **Matsui Nursery**, Salinas. Matsui was founded in 1967 and shifted to orchid production in 1998. They have 2.8 million square feet in greenhouses and shade houses. They mericlone, hybridize, and raise seedlings as well as purchase cloned plants from around the world. Mr. Matsui brought Dr. Yin-Tang Wang into the company a few years ago to work on developing more efficient ways of producing potted orchids for the mass market. Dr. Wang has given of his time to speak to our society on a few occasions. Mr. Matsui negotiated with the major hybridizer/pollinator in the world, Floriclutura, to locate some of its work in Salinas so that the two companies could coordinate their market efforts.
- **Floricultura**, Salinas. is a Dutch Company, specializing in state of the art orchid hybridizing and pollination.
- **Rocket Farms**, Salinas & Watsonville. Rocket Farms specializes in Phalaenopsis production and distribution. They do grow other plants as well. They do open their greenhouses for public viewing occasionally. They sell at Monterey Alvarado Street Farmers Markets on Tuesdays and at MPC Farmers Markets on Fridays.
- **McClellan Botanicals & Tiasuco-America**, Aromas. McClellan sells at the Flower Mart in San Francisco as well as other through other outlets.
- **Bay Breeze** Greenhouse, Salinas. Bay Breeze specializing in cymbidiums, cattleyas, dendrobiums, and phalaenopsis. When we can reach their minimum order they will allow us to buy "retail" from them.
- **Orchid Zone /OZ**, Moss Landing. Orchid Zone specializes in Paphiopedilums (Terry and Samantha Ka-Root) and Sobralias (Bruce Rogers).

Orchid Growers Further Afield

While Monterey has many wholesale growers, Santa Barbara, and the Bay area have many retail greenhouses. Many of these vendors also do Internet and mail-order sales.

- **Santa Barbara Orchid Estate**, 1250 Orchid Dr., Santa Barbara, CA 93111, 805-967-1284, [website](#), email. SBOE has a large selection of species and hybrids. They have perhaps the largest collection of specimen plants for sale (for a price of course).
- **Cal-Orchid**, 1251 Orchid Dr. Santa Barbara, CA 93111, 805-967-1312, [website](#), email. Another great, diverse greenhouse. Right across the street from SBOE.
- **Hatfield Orchids**, Santa Barbara Cymbidiums [website](#) 805-901-0340
- **Asuka Orchids**, San Bruno, [website](#), email. Specializes in cool growing orchids.
- **Brookside Orchids**, 2720 Alpine Road, Menlo Park, CA 94028
- **Gold Country Orchids**, 390 Big Ben Road, Lincoln, CA 95648, 916-645-8600 email. Alan Koch primarily grows cattleyas. By appointment only.

- **Golden Gate Orchids**, 225 Velasco Ave., San Francisco, 94134, 415-566-8636, [website](#), email. Tom Perlite's operation.
- **Hanging Gardens**, 2000 Highway 1, Pacifica, email, 415-305-8355, Dan Newman grows many interesting cool to intermediate orchids.
- **Hawk Hill Orchids**, 1919 41st Ave, San Francisco, 94116 email, www.hawkhillorchids.com, John Lethers and Gary Meyer grow Masdevalias, Draculas, and various Pleurothalids. Gary also imports orchids from Columbia
- **Marni Turkel Orchids**, [website](#), email, 2080 Llana Rd. 1B, Santa Rosa, 95407, small grower who sells orchids and hand thrown clay pots
- **Robert-Bedard Horticulture**, 475 Blair Ranch Road, Scotts Valley 831-439-9484, email, [website](#)
- **White Oak Orchids**, 1204 Linda Mar Blvd, Unit A, Pacifica 94044, 650-355-8767, [website](#)

Mail Order Growers

- **Andy's Orchids**, 734 Oceanview Ave. Encinitas, CA 92024, 888-514-2639, email, [website](#). Maybe the largest collection of species anywhere. Andy and Harry Phillips sell orchid shows, online, and on site by appointment. Lots of good information on the website.
- **Carter and Holmes**, [website](#), email, 803-276-0579 Known for their Cattleya hybrids, they also carry a variety of other interesting hybrids and species.
- **H & R Nurseries**, 41-240 Hihimanu St. Waimanalo, HI 96795 [website](#), 808-259-9626
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Orchid Shows

- **Orchids Under The Oaks**, Livermore. Early January
- **Sonoma County Orchid Society Spring Plant Show and Sale**. Early February
- **Malihini Orchid Society Annual Show and Sale**, at Cupertino Square 10123 N. Wolf Rd, Cupertino, Mid February
- **Pacific Orchid Exposition (POE)** at Fort Mason, San Francisco [website](#) Late February 23-26 2012. A very large show sponsored by the San Francisco Orchid Society.
- **Santa Barbara International Orchid Show** [website](#) Mid March.
- **Santa Clara Valley Orchid Society (SCVO) Show** at Westgate Mall in San Jose. Late March.
- **Sacramento Orchid Society Show**, Scottish Rite Temple, 6151 H Street, Sacramento. April 21-22
- **San Jose Orchid Exposition**, at Miraido Club House 550 N. 6th St, Japan Town, San Jose, Early June [website](#) for details. A smaller show than POE but provides access to good vendors.
- The AOS [show calendar](#)

Sources for Orchid Culture

Our Society has culture sheets on how to take care of many orchids. They come from the American Orchid Society and can be accessed on line at [website](#). Almost every grower listed above has good information on the care of the orchids they sell.

- For species that they carry, [Andy's Orchids](#) provides fairly detailed requirements
- [Camp Lot A Noise Tropicals](#) has long list of orchids by genus and species for which they specify temperature, water, food, and light etc.
- [Robert Bedard](#) has plans for do it yourself greenhouse “for chicken scratch”
- [Orchid Culture Sheets](#) Provides culture sheets for many orchid species. You can get a few for free, the rest you need to pay for.
- [First Rays](#) is the place for instructions and supplies for "semi-hydro" growing. There is lots of other free info too.
- It's worth joining the AOS for the cultural information on their [website](#), much of which is for members only.
- The [IOSPE](#) has general cultural information about many species.
- [YouTube](#) has many orchid care related videos.

Sources for Orchid Supplies

Orchid supplies can be found at many orchid shows, a good reason to go, supplies tend to be expensive to ship.

- [Asuka Orchids](#) carries an array of pumice types designed to drain (retain) water fast, slow or medium
- [US Orchid Supplies](#) A comprehensive selection of orchid supplies. Retail store in Oxnard CA.
- [Greenhouse Megastore](#) Everything for the greenhouse, hobby to mega commercial.
- includes shade cloth and other greenhouse supplies
- [Orchid Supply .com](#)
- [Repotme](#) which has a very large array of types of potting medium for sale – (Aliflor, Orcheata Monterey Bark, Pumice, Pea Gravel, Spagnam Moss, Tree Fiber Fern, Volcanic Rock etc.). They carry watering tools, fertilizer, lights, pots, pest control, baskets, cork etc.
- [ACF Greenhouses](#) A broad selection of hobby greenhouses.
- [Charlie's Greenhouse and Garden](#) Greenhouses, greenhouse supplies, and some orchid and general garden supplies.
- Locally, Home Depot and Harbor Freight carry greenhouses. Home Depot and OSH carry some bark and pots.

Magazines and Books

- The [American Orchid Society](#) publishes a magazine, **Orchids**. It is a benefit of joining the American Orchid Society. It is published monthly. The cost for an individual to join the society is \$65/year. The AOS website provides information on: Orchid Basics, Plant Culture, Pests and Diseases, Judging, Show Schedule and Affiliated Orchid Societies.
- The **Orchid Digest** is published quarterly at a cost of \$36/year. [website](#) or P.O. Box 6966, Laguna Niguel, CA 92607. Full of beautiful pictures and good information.
- The American Orchid Society has published two books that may be of interest which are: **Growing Orchids** and **Orchid Pests and Diseases Guide**.
- A book on orchids that is receiving some advance buzz (available May 9,2012, [Amazon](#)) is **The Orchid Whisperer** by Bruce Rogers email or 415-235-4819
- **The Orchid Thief** by Susan Orlean, A True story about truly orchid obsessed people. Turned into the movie **Adaptation** [the book at Amazon](#), [the movie at Amazon](#).
- **Orchid Fever** by Eric Hansen. Another book about crazy orchid people. Also a commentary about the CITES treaty. [Amazon](#)
- **Orchid Territory** by Mary Motes. A story (fiction supposedly) about orchid show rivalries and shenanigans in South Florida. [Amazon](#)

Blogs

These blogs are in order of update frequency.

- [Backbulbs](#) Developing an orchid collection with backbulbs by Richard Lindburg. Richard has a couple of greenhouses in Sonoma and Napa and loves to play with dividing orchids and sprouting backbulbs.
- [Orchid Karma](#) by Karma Forester. She lives in Sweden and grows incredible cool growing orchids in a large vivarium. Great pictures, interesting growing environment.
- [Cattleyaphilia](#)
- [Miniature Orchids](#)