



The Golden Book of Orchids

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Part 1: The Majestic World of Orchids

Oncidium Orchids

Oncidium orchids are *the* most popular indoor orchids around due to the fact that they produce dozens of beautiful flowers during their peak growth season.

There are also dozens of different species to choose from. The proliferation of the plant across the continents has allowed it to cross-pollinate efficiently.

Because of the sheer number of oncidium species, even botanists have a hard time classifying the plants. There is often some confusion when it comes to naming the various specimens of oncidium species.

One of the things that separate this species from other plant species and other orchid species is that they freely cross-pollinate and create hybrids with other orchids. This allows orchid keepers and enthusiasts to create beautiful hybrids if they wish.

While these plants can be grown outside of your home, the most common oncidium specimens can be grown quite well inside your home as well.

Pseudo bulbs can be seen growing from the complex network of roots. The roots of the oncidium variety, as opposed to other popular orchids, are thin and can break easily if not handled properly.

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The leaves of the common oncidium species can grow massive leaves (up to two feet). The flowers usually start emerging during the fall season in temperate zones. In the tropical zones, oncidium orchids tend to grow after the rainy season.

Light Requirement

Oncidiums are generally tolerant of heavy sunlight (direct light) – even more so than other popular variants, like the phalaenopsis orchid.

Unlike other orchids, you do not have to place the orchids in the shade to protect them from the morning rays – they can handle the heat and light quite well.

Also, they actually *bloom better* if they are exposed to heavy sunlight quite often. If you want to compare the light requirement of oncidiums, you can look at the basic light requirement of *dendrobium* plants.

Water Requirement

Like other sun-loving orchid species, oncidiums enjoy a lot of moisture. So if you plan to keep some oncidiums at home, be ready to water your oncidiums at least once every other day, *especially* during the heavy growing season.

Again, the growing season in temperate zones is usually during the fall season, so once you see the leaves of the plant browning, give your oncidiums plenty of water to facilitate the growth of the flowers.

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Well tended oncidiums can produce a lot of flower. So much so, that often, the stems of the oncidium are pulled down by the weight of the newly grown flowers.

Since you will be giving your oncidiums plenty of water, make sure that the drainage system works well to prevent water from accumulating in the plants.

Also, the media that you will be using should also be prepared well in advance so it will serve its purpose of storing and conveying the much needed moisture to the fragile root network of the oncidiums.

For oncidiums, you can use either:

- ✓ Slabs
- ✓ Orchid baskets

One of the most important things that you have to remember about oncidium orchids is that the pseudo bulbs that grow from the complex root network is *prone to rotting*. Because of this tendency, you should always observe whether any of the pseudo bulbs are undergoing rot. If you *do* see some signs of rotting, here is what you should do:

1. Obtain a pair of clean nippers (sterile nippers, if possible).
2. Isolate the pseudo bulbs that are rotting.
3. Snip off the rotting pseudo bulbs.

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4. Reduce the amount of water the oncidium orchid receives. Also check if the plant media is draining excess water properly. If not, you have the option of adding more plant media *or* replacing the plant media altogether with a more suitable variant.

When winter rolls in, the watering should be reduced to once or twice a month only. The orchid's metabolism and growth slows down considerably during the winter season, so the only thing that you have to watch out for during this time is *frost*.

If your plants are kept indoors and enjoy year-round temperature regulation, then the chances of your oncidium orchids developing plant frost is minimal. If your oncidiums are kept outdoors, then you have to take specific measures to ensure that the plants are protected from frost.

The pseudo bulbs of oncidium orchids are fairly large, compared to other orchids. Because of this, these plants can withstand long periods of drought (at least, in the wild).

If you see some *wrinkling* in the pseudo bulbs, then that means it is time to increase the watering of the orchids (because wrinkling usually means that an oncidium plant is not getting enough water).

Other Requirements of the Oncidium Orchid

1. Fertilizers should be applied only once or twice a month during the growing season – do not apply any more, as the plant fares well with bi-monthly applications. Weak

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or mild fertilizers are recommended for oncidium plants.

You can use powders (that are then mixed with water to create fertilizer solutions), *or* you can opt for slowly releasing fertilizer pellets.

These pellets should be placed at the beginning of the growing season and allowed to slowly release the plant nutrients throughout the weeks.

How can you determine the right amount of fertilizer? Simple - the larger the oncidium plant, the more nutrients it will require during the growth season. So if you have a 3-year old oncidium at home, you probably need to add more fertilizer to support the heavy flowering during the fall season.

2. While it is true that oncidium species are found throughout the world *regardless* of the temperate zone (except maybe places like Antarctica), these species generally love warm regions with plenty of sunlight.

The most common species (the one that produces small, delicate yellow flowers) is one of the prime examples of heat-loving oncidiums. When exposed to cold temperatures (below fifty degrees Fahrenheit), the growth rate of oncidiums will generally slow down.

As the environmental temperature approaches the fifty degree-mark, the plant will respond to the drastic change in temperature.

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If you live in a very cold region of the country with little sunlight, you may want to invest in a small greenhouse or warm-house if you wish to keep your oncidiums blooming all year round.

3. As we have mentioned in an earlier section of this book, oncidium orchids go wild during growing/flowering season. A well tended oncidium can actually produce up to seven large sprays of flowers (by "spray" we refer to long stems loaded with fresh blooms).

The appearance created by these large sprays of flowers has been compared to the flight of hundreds of young butterflies in the spring. Species like *O. longipes* and even *O. sarcodes* are quite popular when it comes to heavy blooms during the flowering season.

Another oncidium species called the *chocolate orchid* is named so because its flowers produce a scent that is very similar to freshly ground cocoa beans.

The appearance (brown flowers) plus the sweet scent is the reason why many orchid enthusiasts keep the *O. sharry baby* variant.

Remember, you are not limited to oncidium plants that produce yellow flowers – there are many variants available. You just have to ask your local orchid supplier about these other variants.

If your local grower/supplier does not have any other variant (which is highly unlikely) you can go online and look for online suppliers.

4. Oncidium orchids generally prefer underpotting. When buying plant media for the first time, ask for a *bark-based media* as oncidiums fare well with bark-based potting materials. One of the advantages of using bark-based potting material is that the excess water drains fairly easily.

When your oncidium orchids have proper drainage, the chances of rotting are reduced significantly. Oncidium orchids, once they have adapted to your climate, soil quality and air moisture content, can become fairly large plants. Once you have a large enough oncidium sitting in your garden, you can begin exploring *repotting*.

Phalaenopsis Orchids

People usually enter the world of orchids by taking care of phalaenopsis orchids. This might be your first time hearing about *phalaenopsis orchids* specifically, but you have probably met hundreds of varieties throughout your life.

Phalaenopsis orchids are everywhere – in fancy restaurants, posh cafés, magazine covers, book covers, etc. If you have seen a delicate, single-stemmed orchid being photographed for its fragile beauty, then you have met a phalaenopsis orchid.

So far, there are *sixty* phalaenopsis orchid species identified – and more species are being discovered every year. The phalaenopsis orchid's native region is Asia, specifically in the tropical archipelagic formations such as Java, in Indonesia.

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Because of their innate beauty and the ease at which they can be hybridized, growers and enthusiasts have created literally thousands of hybrid variants from the original sixty species. Remember those beautiful pure-white orchids? Those orchids are called moth orchids – and yes, the moth orchid is a hybrid species.

Why do people create orchid hybrids? They do it mainly to improve the color selection and morphology of the species. For example, experienced orchid growers can create hybrids with miniature flowers in a variety of colors – not just one or two colors. That is the power of cross-pollination and careful selection for hybridization.

Light Requirement

Phalaenopsis orchids, unlike oncidium species *do not fare well* if exposed to direct sunlight. While oncidium orchids tend to bloom beautifully when there is ample heat, phalaenopsis species usually wither when placed in a location that has a constant source of direct sunlight with no shade.

Because of this peculiar requirement, orchid growers generally recommend that phalaenopsis orchids be placed near eastern windows, or anywhere that the sun does not directly reach. If you have to place the orchids in the direct path of the sun's rays, make sure that you place some shading to prevent the orchids from being scorched.

If you have grow lights installed in an improvised green house or warm house, they can be used instead of sunlight.

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The phalaenopsis orchids will fare well. Just make sure that the lights are no closer than a *foot* from the plant itself. If they are too close, the grow lights can also cause problems.

How do you know that your phalaenopsis orchids are doing well under your care? Look at the leaves. Healthy phalaenopsis orchids have very dark green leaves. The underside of the leaves usually have reddish streaks, as well.

Water Requirement

Phalaenopsis orchids, unlike oncidium orchids, *do not* like dry periods. If there is not enough water, phalaenopsis orchids will die. This group of orchids is even more parched for water during the growing season, so make sure that you water the orchids at least once a week.

You will know when the orchids are not getting enough water because the roots begin turning white! While some people find white roots quite pretty, white roots are a sign that the plant needs more water.

In addition to checking the color of the roots every now and then, make sure that you touch the orchid media every now and then too to make sure that it is moist.

Damp orchid media is good news, because it means that the plant is getting a constant stream of moisture. Dry orchid media means you have forgotten to water the orchids for more than a week already or the humidity of your locality has changed.

On Using Fertilizers

During the most active growing phase, phalaenopsis orchids require mild fertilizer applications on a weakly basis. Again, make sure that you get a high-quality, water-soluble fertilizer for your phalaenopsis orchids.

Do not overfeed your phalaenopsis orchids during the winter season. During the winter season, phalaenopsis orchids would only need fertilizer maybe once (or not at all) every month. Wait for signs of “waking up” or biological activity before using the weekly fertilizer routine again.

Other Requirements of Phalaenopsis Orchid

Take note of the following when tending to phalaenopsis orchids:

1. The ideal temperature for phalaenopsis orchids is between seventy-five degrees to eighty-five degrees Fahrenheit.
2. If you plan to keep your orchids *indoors*, make sure that the immediate temperature in the environment does not dip below sixty degrees, as this can cause plant growth problems.
3. As the phalaenopsis orchid’s environmental temperature climbs, the plant’s need for humidity also increases. If the temperature climbs and the environment becomes dry as well, that could cause problems.

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4. The growth season for phalaenopsis orchids is during early spring or sometimes, even during the late months of the winter season (as the snow begins to melt). During this time, a well-tended phalaenopsis orchid can produce up to twenty flowers in a single long spray!
5. If you want to produce singular blooms (and not multiple flowers in long sprays), you need to reduce the environmental temperature to fifty-five degrees Fahrenheit during the evenings. The change in temperature will most certainly affect the growth rate of the flowers during the blooming season.
6. Phalaenopsis orchids are not choosy when it comes to what type of potting media is used. You can use charcoal, bark-based media or even pellets for phalaenopsis orchids.

To prevent fertilizer toxicity problems and stale water deposits, use pots that *freely drain excess water*. Repotting of phalaenopsis orchids can be done every two years.

7. Keep the leaves and stem tips dry, as excess moisture in these parts of the plants can cause black rot.

The Golden List of Popular Orchids in the United States

Cattleya Orchids

- ✓ Produce fragrant blooms.
- ✓ Classified as "corsage orchids".

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- ✓ Prefer alternating dry and wet periods.
- ✓ Need to be completely dry before the next watering.
- ✓ Cattleyas are available in a rainbow of colors, including pink, white and orange.
- ✓ These plants can be placed in the direct heat of the sun.
- ✓ Watering can be scheduled once or twice a week. More water is needed if the weather is relatively hot.
- ✓ Healthy cattleya orchids have light green to dark green leaves. Leaves should also be firm and plump – a sure sign that the orchid is being hydrated by the root system adequately.
- ✓ Will fare well if given regular, weak fertilizer solutions (misting is a great way to apply fertilizer to cattleya orchids).
- ✓ When the weather begins to cool, place cattleya orchids in a temperature-controlled environment to prevent frost and growth stoppage.
- ✓ Repotting can be performed every two to three years.

The most popular cattleya hybrids are as follows:

- ✓ *Brassocattleya*
- ✓ *Sophrolaeliocattleya*
- ✓ *Sophrolaelia*

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- ✓ *Brassolaelia*
- ✓ *Soprocattleya*
- ✓ *Brassolaeliocattleya*
- ✓ *Potinara*
- ✓ *Iawanagaara*
- ✓ *Laeliocattleya*

Cymbidium Orchids

- ✓ Originally from the Himalayan mountain region.
- ✓ Will bloom and grow well in cool locales such as those in the Pacific coast.
- ✓ Smaller cymbidium variants may require a warmer environment than regular cymbidiums.
- ✓ Cymbidiums are available in brown, pink and yellow. There are also green and white hybrids as well.
- ✓ May be placed in the direct heat of the sun.
- ✓ At night, cymbidiums can tolerate temperatures below 25 degrees Fahrenheit.
- ✓ During spring and the hottest months of the year, cymbidium orchids should be watered more. Fertilizer applications should also be increased.
- ✓ Like other orchids, watering should be reduced during the fall season and during the winter months.
- ✓ Cymbidiums need little or no fertilizers during winter. Watering should be in the form of regular misting.

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- ✓ Repotting should be avoided, unless the root complex of the cymbidium orchid is becoming too large for the pot.
- ✓ The beautiful flowers by the cymbidium plant can actually live for many months, making this orchid an ideal choice for outdoor and indoor gardens.
- ✓ Cymbidiums are not picky orchids; you can plant them in slatted baskets and place them near windows and get good results, as long as you are watering and feeding the orchids adequately.

Dendrobium Orchids

- ✓ Available in reddish tones, including pink and oranges. There are also purple dendrobiums and white dendrobiums, which are perfect for indoor gardens and warm-houses.
- ✓ The most common variants of dendrobiums require much heat and light. Therefore, they can be placed in the direct heat of the sun without posing any danger to the plant.
- ✓ Requires much watering and fertilizer applications. Little or no water should be given during the winter months. No fertilizers during winter, too.

Repotting can be performed every two years.
Epidendrum Orchids

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- ✓ Considered one of the least fickle of all orchids in terms of regular care and maintenance.
- ✓ Can produce beautiful sprays of full blooms for years at a time.
- ✓ Available in most colors, including white, green and purple.
- ✓ Epidendrum orchids require the full light and heat of the sun.
- ✓ Can bloom in tropical or temperate regions of the world.
- ✓ The growth season of epidendrum orchids is from spring to summer. Provide plenty of water and fertilizer during these months to ensure proper growth of blooms.
- ✓ Repotting can be performed every three years.

Masdevilla Orchids

- ✓ Masdevilla orchids are well known for their triangular-shaped blooms that grow on singular stems (not sprays).
- ✓ Originally from the Andes mountain range.
- ✓ Unlike other orchids, Masdevilla orchids require daily maintenance and care.

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- ✓ The most common colors available are yellow, pink and white.
- ✓ Does not fare well in spots with the direct heat of the sun. Instead of the direct sun, you may want to place them in shaded areas with grow lights instead.
- ✓ Daily watering is needed. The humidity of the environment should also be kept constant, especially when the weather is hot. A tray filled with some water and clear pebbles can regulate the immediate environment's humidity.
- ✓ The ideal temperature range for this orchid is between fifty-degrees to seventy five-degrees Fahrenheit.
- ✓ Roots should be exposed to regular air flow to prevent rotting.
- ✓ Repotting can be done in a year after initial purchase of a Masdevilla orchid. After the first repotting, the orchid can be repotted every two years or so, depending on the need for repotting.
- ✓ Unlike other orchids, Masdevilla orchids do not enter a period of stasis or dormancy during the winter months. These plants can continue to grow, albeit at a slower pace (the original strain came from the Andes mountain range, where it is cold all year round). Watering can be halved during winter time.
- ✓ During winter, watering is reduced to three times every seven days, instead of once daily.

Miltonia Orchids

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- ✓ Yellow, red and pink miltonia orchids are widely available in the United States.
- ✓ These orchids bear a resemblance to regular pansy flowers.
- ✓ Should be placed in a partial shade with some amount of light and heat. Do *not* place in the direct heat of the sun.
- ✓ Direct sun is fine for Miltonia orchids during the *morning hours*. Not during the afternoon.
- ✓ Miltonia orchids are warmth-loving plants. *Miltionopsis*, on the other hand, are *cold-loving* plants.
- ✓ Repotting can be performed once every year, or once every two years.

Available hybrids:

- ✓ *Miltonidium*
- ✓ *Beallara*
- ✓ *Miltonioda*
- ✓ *Colmanara*
- ✓ *Degarmoara*
- ✓ *Miltassia*

Odontoglossum Orchids

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- ✓ Odontoglossum orchids originate from the Andes mountain range.
- ✓ Produce ruffled, symmetrical blooms, usually with four or five petals.
- ✓ Prefer constant air flow around the roots and a cool environment.
- ✓ Require a regular light source (growth bulbs or natural sunlight).
- ✓ Should be watered three to four times every week (not once a week).
- ✓ Reduce fertilizer application and watering during the winter months. Odontoglossum orchids undergo dormancy but still require a fair amount of water compared to other orchids during winter.
- ✓ Temperature of the immediate environment should not exceed eighty-degrees Fahrenheit.
- ✓ Repotting should be done every two years. Use small orchid pots only.

Hybrids of odontoglossum orchids include:

- ✓ *Wilsonara*
- ✓ *Vuylstekeara*
- ✓ *Odontonia*
- ✓ *Odontocidium*
- ✓ *Odontioda*
- ✓ *Maclellanara*

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- ✓ *Degarmoara*
- ✓ *Colmanara*
- ✓ *Beallara*
- ✓ *Bakerara*

Paphiopedilum Orchids

- ✓ Commonly known as “Paph orchids” in the US.
- ✓ Produce elongated flowers with three petals and a small ‘jar’ formation.
- ✓ Thrive in shaded locations.
- ✓ Blooms are known for their long life.
- ✓ Unlike other orchids, Paph orchids can grow and bloom with just fluorescent lights.
- ✓ Available in green, pink and orange, as well as white and yellow.
- ✓ Require frequent watering during the week,
- ✓ Misting is the preferred method of watering, as these plants do not like being soaked in water. Excess water may cause fungal problems.
- ✓ Paph variants with mottled-looking leaves are warm-loving plants and can be placed in the direct heat of the sun.

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- ✓ Paph variants with smooth, firm leaves are cold-loving plants. These are the ones that should be kept in shades and away from the direct heat of the sun.
- ✓ Paph orchids do not enter a state of winter dormancy. During this time of the year, watering and application of fertilizers should be halved.
- ✓ Paph orchids should be repotted after the growth or blooming season.
- ✓ Paph orchids are known to bloom beautiful spikes of flowers *several times* every year, during the most intense phases of the growth season.

Vanda Orchids

- ✓ Vanda orchids are among the largest orchids around. This orchid's growth rate is the primary reason why it requires plenty of sun to survive in a home garden.
- ✓ Requires high humidity and a warm temperature.
- ✓ Also requires frequent watering and fertilizer applications to bloom well during the growth season. If you can, water your Vanda orchids once a day.
- ✓ Enters a state of dormancy or inactivity during the winter months. During this time, the water and fertilizer can be reduced to one third or one half.

Common Vanda hybrids include:

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- ✓ *Ascocenda*
- ✓ *Vascostylis*
- ✓ *Rhynchovanda*
- ✓ *Mokara*
- ✓ *Rhynchocentrum*

Part 2: Selection & Care of Orchids

Using Fertilizers for the First Time?

Fertilizers can make your orchids bloom beautifully during the growing season – or kill your plants. It is important to *know* what exactly you are applying to your orchids to ensure that your orchids will *benefit* from the fertilizer application. Here are some general guidelines on the use of fertilizers:

1. *Fertilizer quality* – never sacrifice the quality of the fertilizer that you will be using for your orchids. Low-quality fertilizers may not sufficiently contribute to the growth of your plants and can even produce negative side effects to the plant, too.

If you are unsure as to what *brand* you should be buying, consult with your local orchid supplier. You can ask for a few tips from your local supplier when buying orchids.

As a general rule of thumb, a good orchid fertilizer should contain phosphorous as well as nitrogen, plus potassium. Fertilizers that have been packed with minerals like sulfur and iron are good, too. Avoid fertilizers with high urea content as orchids in general are not able to utilize urea.

2. *Weekly applications* – if you can create a weak fertilizer solution for your orchids, you can apply the fertilizers on a *weekly basis* without posing any harm to the plant. However, orchids like the ones from the oncidium group require fertilizers only once or twice a

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month. Many growers and enthusiasts use 20-20-20 and 10-10-10 for their orchids. Always buy fertilizers that are water soluble.

3. *Avoid over-application* – excessive use of fertilizers can actually harm your orchids. How? Well, over a long period of time, commercially prepared fertilizers tend to deposit minerals and other chemicals in the orchid pot.

These chemical deposits can cause a lot of problems later on. It would be best if the excess minerals and nutrients are carried away by the regular watering and *not* deposited in the orchid's pot.

What happens when there is a toxic chemical deposit in the orchid's pot? The growth of the plant can be affected negatively, resulting in poor growth and weak blooms. That is right – excessive use of fertilizers can actually *reduce* the growth rate and blooming capacity of an orchid.

Some gardeners might be perplexed at the fact that orchids do not seem to require the *same amount* of fertilizers that regular terrestrial plants do.

This is a common beginner's problem, and here is the explanation: orchids are *not* terrestrial plants. They are *aerial plants* and in the wild, orchids obtain water and nutrients directly from the environment, without the intermediary role of soil.

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Another common problem that many beginning orchid keepers experience is the *typical response* of an orchid to fertilizers.

Orchids generally do not grow extremely fast when you apply fertilizer. But if you *are* applying fertilizer properly, rest assured that your plant is in good health and it *will* yield plenty of blossoms during the growth season.

Contrary to common belief, the act of over-feeding fertilizers to orchids really does not produce any positive effects.

The most common after-effect of such an activity is root burning (different from *leaf burning* which is caused by extreme exposure to the sun), which is caused by toxic build up of nitrites.

4. *Apply fertilizers in the right season* – orchids do not need fertilizers during the winter; this is just one example of how *not* to use fertilizers. Always apply such chemical preparations during the right time of the year – during the flowering or heavy growing season.

When do you know that an orchid is ready for fertilizers and regular watering again? Look for *any* sign of new growth (such as new pseudo bulbs or new flower buds).

If you see such signs, then you know that the plant is revving up once again from the slow winter months.

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This is when you should start applying weak fertilizer solutions once again.

5. *Leave the bloom-boosters to the experts* – you may be tempted to find ‘bloom-boosting’ preparations. What are bloom-boosters? Bloom boosters are actually just fertilizers that have a slightly different nutrient combination.

The problem with these products is that they do not account for the different blooming seasons of different genera of orchids.

So if you have five different orchid genera in your garden, you may have trouble getting them to bloom *all at the same time* by just applying bloom-boosters. Expert growers can use these preparations with ease though, because they are aware of the different blooming seasons of the different genera.

6. *Always use any fertilizer at reduced strength.* If the manufacturer’s instructions state that you should add 1 tablespoon of water-soluble fertilizer to a liter of water, use *half* a tablespoon. Orchids only need *weak fertilizers*, as opposed to terrestrial plants that can handle the full strength of ordinary fertilizers.
7. *As much as possible, purchase and use fertilizers that were manufactured specifically for orchids* and not for terrestrial plants/regular plants. Aerial plants have different needs from terrestrial plants.

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8. There are two types of orchids when it comes to the *amount* of fertilizer that the plants need. Orchids like cymbidiums are considered *heavy-feeder orchids* because such orchids are usually watered and fertilized at least once a week. Light-feeding orchids on the other hand, can fare well on monthly or bi-monthly applications of fertilizer.
9. If you have phrgmipedium orchids at home, make sure that you use *pure water* (not tap water) and fertilizer that is low in mineral and salt content. Reduce the total amount of fertilizer and use more water during applications.
10. If you plan to use tap water *purely* during watering and fertilizer applications (feedings), it would be best if you *flush* the whole orchid with pure water (or well water) at least once a month. This flushing will remove excess minerals and salts and will prevent the toxic build up of fertilizer on the plant.
11. *Should you apply fertilizers during winter?* It largely depends on whether the orchid enters a state of dormancy or not. Many orchids enter a stage of dormancy. If it *does* you don't have to apply fertilizer and watering is usually reduced to once a month. Orchids that *do not* enter a stage of dormancy still require fertilizers (once every month is sufficient).

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12. *The purer the water that you use for feeding your orchids, the more fertilizers you can add.* Inversely, the higher the mineral content of the water, the *less* fertilizer you can use.

13. *Rotating different types of fertilizers* is considered an ideal practice – it allows you to check the performance of different types of formulations (especially if you have more than one type of orchid at home).

Again, avoid fertilizers that have been loaded with urea, since urea will only build up to toxic levels. Orchids are unable to properly utilize and absorb urea, unlike terrestrial plants.

14. *Nitrogen-laden fertilizers* are manufactured to enhance the *general growth rate* of orchids. Fertilizers that have been loaded with *phosphorous* on the other hand were created to enhance the bloom rate of orchids during the growth season.

15. There are generally three types of fertilizers used for orchids: regular fertilizers for terrestrial/potted plants, orchid fertilizer and premium orchid food.

Premium orchid food brands are loaded with *micronutrients* that were designed to enhance the overall health of the orchids. While orchids can still survive without premium orchid food, your orchids will fare better if they get such fertilizers at least once a month *especially* during the growth season.

Orchids & Humidity

Humidity is essentially the moisture content of the air. When the air is hot and dry, the humidity level goes *down*. Inversely, when the weather is cooler and the air is loaded with moisture, the humidity level is *high*. Orchids generally prefer *high humidity levels* and many orchids can actually die from low humidity and high temperatures.

While many orchid enthusiasts will endorse a high humidity level for all greenhouses and outdoor gardens, regulating the humidity of *any* location is a difficult task, especially if you are keeping your orchids *indoors*.

By habit, people keep the humidity level in houses as low as possible because a humid home is a stuffy, uncomfortable home. Stuffy for humans, but perfect for orchids.

If you will have problems with the humidity level, you may opt for orchids like dendrobiums and cattleyas, which can survive lower environmental humidity. Other orchids that will also tolerate lower levels of humidity include cymbidians and phalaenopsis orchids.

Humidity is such a big factor in the development and survival of orchids. In many tropical forests around the world, the humidity level is usually no lower than *seventy percent*. An awe-inspiring percentage for modern homes, but it is regular fare for tropical forests, where hundreds of wild orchid species thrive as air plants.

If you want to create an ideal environment in a greenhouse setting, for instance, the constant humidity level should be kept at the fifty percent range and no lower.

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You can also use specialized equipment to produce the ideal humidity level. For example, you can utilize fogging equipment or even an automatic humidifier to increase the humidity level of the greenhouse.

Here are some more tips so you can improve the humidity of your orchids' environment:

1. Placing several orchids in a semi-tight cluster or bunch can increase the humidity of the plants. The cluster of plants will create a micro-climate and will increase the humidity level of the immediate environment of the orchids.
2. Invest in specialized humidity trays that were designed specifically to increase the humidity of orchids. Humidity trays are thick, elevated plastic trays where extra moisture is stored and allowed to evaporate, immediately improving the moisture content of the air.
3. Use a humidifier when everything seems dry and hot – as even terrestrial plants can die from lack of sufficient moisture from the air.
4. Regular misting with a spray bottle will help the orchids by reducing the temperature of the plants. However, misting does not directly improve the humidity level of the orchid's immediate environment.
5. Avoid growing indoor orchids in bathrooms, as the humidity level in bathrooms is only occasionally high (usually, when someone is taking a shower).

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6. If you have orchids like masdevillas, make sure that you do *not cluster them together* if air circulation is poor. Such orchids are less tolerant of poor air circulation and may succumb to the heat during the summer.

Orchids & Air Movement

Why do orchids need sufficient air movement or air circulation? Simple: orchids are *air plants* and need to breathe in order to stay cool and regulate internal moisture content. If an orchid has plenty of air movement, it can withstand increased temperatures from the direct exposure to the sun.

If you have more than twelve orchids clustered together, it would be a good idea to place an electric fan nearby to improve the air circulation around the plants. The more plants you have in one place, the lesser the air circulation. And the lesser the air circulation, the more prone the orchid is to dehydration.

Guidelines for Orchid Shopping

So you have decided that you want to take care of orchids – congratulations! You are that much closer to having a paradise-like garden at home, with different orchids in full bloom.

But before you go shopping for new orchids, take some time to read our guidelines to ensure that what you will be

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getting will be a healthy orchid that is capable of blooming beautifully during the growing season.

Buying an orchid is a bit like buying wine – you can pick up any old orchid along the way, or you can take some time to find the really good specimens from quality orchid suppliers.

Orchids are generally beautiful – but if you want something with longevity that will survive for years, you really must take some time in choosing the *supplier*. Ask your friends for any good referrals – this usually works best in the preliminary effort of finding good orchid suppliers.

Should you purchase orchids that are already in full bloom? The majority of first-time orchid buyers like the idea of a fully-bloomed orchid because it provides instant beauty to any garden – the flowers are already there!

But take note of the possible consequence of buying an orchid that has already bloomed: variants like the phalaenopsis often produce flowers to the point that they are unable to recover the next blooming season. Yes – orchids can actually grow flowers to death.

So from the perspective of seasoned orchid growers and enthusiasts, an orchid that is in *full bloom* may actually be an orchid that is about to expire. So be cautious when being offered such specimens – there may be a reason why the supplier is so eager to sell the specimen for a discounted price.

If you want to buy an orchid that is already in full bloom, ask the supplier *how old* the plant is. If the supplier says “Oh, maybe 3 or 4 years old,” *do not buy* the orchid.

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Because usually, orchids produce beautiful sprays of flowers for *years at a time* then suddenly go into sudden growth arrest and expire. If the orchid is only a year old or less, then there might be a chance that the orchid will bloom again the next growing season.

You can also approach this issue using your basic intentions for buying new orchids. Do you want something to decorate your garden for a few months? If so, you can buy any orchid in full bloom, regardless of the age of the plant.

Do you want something that would live for years at a time? Then *do not* buy orchids that are already in full bloom, because there is a risk that the orchid will not be able to survive for many years.

Ready to pick your new orchids? Follow our tips:

1. To check if the orchid has attached itself firmly to the available plant media, use the "wiggle test". The wiggle test is simply holding the plant near the roots (not the roots itself) and *shaking* it gently.

If the orchid has been able to send out its root network firmly *into* the potting material/potting base, the base will be firmly attached to the roots. Be careful not to separate attached roots from the base material, though.

Orchids like cattleya and brassavola, as well as dendrobium can be inspected easily using the wiggle test. What if you find some roots sticking out from near the *top* of the potting material?

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This is okay *as long as* the entire plant appears to be healthy and actively growing. If the potting seems inappropriate or inadequate, you can still buy the orchid *as long as* you repot it once you get home.

2. The most important part of an orchid is its root network. The complex root network is responsible for anchoring the orchid to the potting material and transmitting the moisture, minerals and other nutrient from the potting material, too. If the roots are damaged, the plant suffers, plain and simple.

Healthy roots usually look *light green* when relatively dry. When wet, roots can become dark green. If the roots of the orchid appear tan (or light brown) or white, then the orchid can be approaching expiration/death.

Do not buy the orchid. More so if the roots of the orchid appear disheveled and very dry. This means that the roots are no longer drawing water from the base material. If you see such roots, you can be sure that the orchid will not be able to survive for a very long time.

3. Next to the roots, the leaves of the orchid are also of paramount importance to the survival of the orchid. Take note of the following when inspecting the leaves of orchid plants:

- ✓ Slightly yellow-green leaves are fine – as long as the yellowing does not extend to the whole plant, including the stems. If you want a good color guide, just look at green apples. The color of the common green apple is ideal for orchids.

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- ✓ Glossy leaves may be a sign that the orchid has been given too much fertilizer. You can still buy the orchid, but the blooming capacity of the orchid may have already been affected.
 - ✓ As for the physical appearance and feel of the leaves, look for orchids with leaves that are firm and hard – sure signs that the orchid is in active state and is healthy.
 - ✓ Check the leaves to make sure there are no blemishes. Discolorations and small holes usually point to pest problems. If the structural damage to the orchid is significant, then the plant is definitely a no-no.
 - ✓ Check other orchids from the same supplier to see if the same blemishes are present. If so, then do not buy from the supplier at all. Look for another supplier who knows how to control orchid pests.
 - ✓ Inspect the orchid's leaves to ensure that there are no soft, mushy or rotting parts.
4. After inspecting the health of the leaves, it's time to check the growth bulbs of the orchid. The growth bulbs are the points where new stems and flowers can grow.

Some orchids (*e.g.* phalaenopsis) have just one growth point. Others, like the cattleya plant utilize elongated rhizomes for growth. When buying new orchids, always check to see if the bulbs (the newest bulbs are called "pseudo bulbs") are healthy-looking and plump.

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5. What about the number of unopened blooms? If you want to enjoy your orchids longer, avoid orchids that have already bloomed completely. Orchids with some opened buds and some closed buds are a good choice – because you would be able to enjoy the orchid's blooming in the coming weeks.
6. It would be best if you can find a supplier that actually marks the orchids with their scientific names (or at least, their popular common name *e.g.* chocolate orchid, bumblebee orchid, etc.).

Some suppliers simply write "blooming orchids" on the tags of the orchids – these tags are *least helpful* because they do not actually identify the genera or species of the orchids.

Bringing Home an Orchid

So you have already made your purchase. It is time to bring home your new orchid! But wait – before you do, you have to be aware of the following:

1. An orchid that is already in its blooming state does not like being transported from its original location.
2. A new orchid can be kept indoors, without any special maintenance for a maximum of one week only. After that, there is a big chance that the orchid will begin to wither.

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3. Mild transport shock is common with orchids, so expect a few buds to fall off during the trip home. This is to be expected. As long as you transported the orchid in its proper packaging, there is no need to worry about losing a few buds and sometimes, even leaves.
4. During the first few days in its new environment, shield your new orchid from the elements (direct sunlight and rain). Wind and cold drafts are also a bad idea – so make sure that the orchid is placed in a proper location when brought home.
5. A humid environment is fine, but being constantly wet is not. If your orchids are placed in a location that is constantly being bombarded by an automatic sprayer, your new orchid may succumb to a common problem called *black rot*. As the name implies, black rot happens when plant tissue begins to disintegrate in the presence of unfavorable environmental conditions.

Guidelines for Growing Indoor Orchids

Many people gain an interest in taking care of orchids because orchids can survive indoors. While the basic principles of good gardening still apply to indoor orchid maintenance, there are a few differences in the method. Here are some basic guidelines to help you get started with indoor gardening:

- ✓ The closer the temperature and humidity of your home is to the temperature and humidity of the orchids in the wild, the better off the plant is.

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Of course, not everything can be replicated (especially not indoors) so it would be best if you just kept the temperature constant so your orchids will bloom unabated during the growth season.

- ✓ Dendrobium orchids and other single-stemmed orchid varieties prefer the following conditions:
 - *No direct sunlight*
 - *Ample heat*
 - *Constant light source (e.g. grow lights)*
 - *High level of humidity*
 - *Constant air flow*
 - *Alternating dry periods and wet periods*
 - *Ideal temperature range between fifty degrees to eighty-five degrees Fahrenheit*

The closer the plant's environment is to the aforementioned conditions, the better the dendrobium orchids are. If not, just make sure that the orchids get plenty of light, warmth, and of course, regular watering.

If you live in a place where the temperature is usually *below* fifty-five degrees Fahrenheit, you might run into some trouble getting the orchids to bloom properly during the fall season or during early spring. If this is

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the problem, then simply place the orchids in a room with plenty of insulation and light.

- ✓ Usually, store-bought orchids are placed in cheap pots (usually made of plastic). The roots are scrunched in moist moss. Is this an ideal practice? Of course not. First, the scrunching that the root network of an orchid experiences can cause physical damage to the rhizomes.

Second, moist moss might provide some moisture but it also *completely removes* airflow around the root area. Roots need airflow too. Natural airflow also provides some moisture to the plant and ensures that the roots are dry. Roots that are constantly wet can actually rot.

This happens because the roots of orchids were not designed to be submerged in wet media for the entire length of the plant's natural life. Orchid roots were designed to absorb moisture rapidly and *breathe* using the natural airflow. If it cannot breathe and dry itself, it will rot. It's as simple as that.

- ✓ During the hottest months of the year, *do not* neglect your orchids. Most orchids like a good hot day with lots of light, but they will *be scorched* if you do not water your orchids.
- ✓ Place your orchid pots on an aluminum tray filled with some gravel and pebbles. During the hottest months of the year, let the water overflow a bit and allow the water to drench the pebbles. The excess moisture in

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the tray will improve the humidity level. This will benefit the plant greatly.

- ✓ If the summer days are really dry (and even you feel like you are drying up) it won't hurt your orchids if you place them under a hose or faucet for a few seconds at a time. Just make sure that the stems do not stock too much water; excess water in this part of the orchid can cause rotting.
- ✓ During the winter months, the *most important* thing is that you keep your orchids in a temperature-controlled environment. Do not let your orchids freeze!
- ✓ Instead of using your regular watering can (or bucket) during winter, use a regular sprayer to lightly mist your orchids (especially the roots and orchid media).

Misting is a more efficient watering method during the colder months of the year, and it also saves you from the regular clean-ups associated with watering orchids that are kept indoors. Fertilizer is barely needed during winter, so keep your 20-20-20 in the meantime. You can begin applying weak fertilizer solutions once again in spring.

- ✓ Often, orchid keepers are faced with *distressed orchids* when the plants are kept indoors. This is normal – no need to panic. Simply move your orchid pots to a warmer spot in the house and slightly change your routine. You can halve the water the orchid receives once a month, etc.

Repotting Orchids Properly

Repotting should be limited to active orchids that are *entering* the growth phase and *not* plants that have already bloomed.

After the blooming has been completed, remove the spike or spray stems of the orchid using a sterile nipper. After removing the spent stem(s), you can safely repot the orchid. As for the pots used, do not use any old pot – use pots that were made especially for orchids.

The size and drain system of orchid pots are different from the size and drain system of regular clay pots for soil-anchored plants. Your orchid media should also be of prime quality and should be present during the repotting.

Many orchid enthusiasts make use of inorganic materials such as Styrofoam when repotting – this is perfectly fine, as long as you have a *mixture* of organic and inorganic materials in the orchid media.

Some people also prefer using *plain charcoal* for repotting. This is fine, as long as the orchid is being transplanted from an old pot that has already been installed with charcoal. This will ensure that the orchid will adapt quickly to the new potting.

How can you repot your own orchids? Follow these steps:

1. Hold the orchid near the roots and firmly lift the entire plant, taking care not to knock out any leaves or unopened blooms.

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2. Note the color of the roots of the orchid. If you see a white root, that's fine *as long as* the majority of the length of the roots are light green or dark green in color. Pure white roots are a bad sign. Also, roots that have a green tip mean that the orchid is actively growing new roots.
3. Try to inspect the entire root network for any signs of rotting. If you find mushy, broken or rotting parts, simply remove these roots with a sterile nipper. This is unavoidable, especially with store-bought orchids. Wet moss is ideal for newly hatched geckos, not orchid roots. Excessive moisture and the absence of freely flowing air results in rotting roots.
4. Carefully place the orchid in a new pot. Add the orchid media *around* the roots of the orchid – just enough to give the plant instant stability once you let go of the plant. In time, the orchid's root system will seek for stable anchorage and will find the orchid media that you have placed in the pot.

Quick Tip: Some orchids, like Vanda orchids, do not require orchid media to survive. Such plants are classified as *advanced orchids*. Many keepers use orchid baskets to house these great specimens.

How to Water Orchids Properly

Improper watering is probably the reason why many beginning enthusiasts find themselves with shriveled, rotting or dying orchids. This is the reason why we have decided to

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devote a special section on proper watering to ensure that your own orchids will not succumb to improper watering.

Now, before we proceed to the method, you have to understand the theory behind it first. For this section we will focus on native orchid species that grow in the tropical regions of the world.

Here's what you need to know about tropical orchid roots: the roots are surrounded by a membrane called *velamen*. This membrane is responsible for absorbing moisture from the environment and attaching or anchoring the orchid to the orchid media or any other available stable surface.

The aforementioned membrane is also responsible for absorbing *plant nutrients* such as calcium and iron. In addition to *absorbing* nutrients and moisture from the environment, the orchid's root system is also a *water indicator*.

If the roots are silvery white (or something similar) then the plant is probably suffering from dehydration. If the orchid is receiving ample water on a regular basis, then the roots are either dark green or light green.

Many orchid enthusiasts will agree that the color and general appearance of an orchid's root system is the best indicator of its current state. Just learning how to appreciate the roots' appearance can save you from future frustration.

Common Mistakes in Watering Orchids

- ✓ Orchids are drenched with water on a daily basis – with no dry periods in between.
- ✓ Orchids are watered heavily *at night* when the owner has time to tend to his/her plants. Watering at night is not recommended because it encourages the *build-up of moisture* rather than moisture absorption, which can then result in root rot. Fungal diseases are quite common in orchid roots that have been submerged in water.
- ✓ Not paying attention to the signs given off by the orchid. Orchids have a great way of showing what they need. If the roots appear silvery white, they need more water.

If the roots and some parts of the stem are mushy, that means there is *too much water*. If the orchid is parched and drying up, then it's too hot. Learn all you can about the species that you are tending to – that is the most useful tip for any orchid keeper.

Best Practices in Watering Orchids

- ✓ If you have an automatic sprinkling system at home, you may want to turn it on for five to eight minutes whenever you are watering your orchids. Many orchid keepers use this setting for their own orchid gardens.

How do you know that the orchid has had its fill of water? Look at the velamen. The velamen, or papery

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- membrane of the roots, will be full to near-bursting (at least, its appearance). This is a sign that the orchid has been completely replenished and is free once again to grow and bloom unabated.
- ✓ Check the mineral content of the water you are using. Sometimes, tap water can have high levels of salt – which is *bad* for plants in general. The same applies to tap water that is 'hard' or high in elemental calcium. To avoid this conundrum, many orchid keepers have given up on tap water altogether and just use rain water. However, you are *not* required to collect rain water. Even *more* orchid enthusiasts use tap water with good results.
 - ✓ If in doubt of whether you should water your tropical orchid *again* during the week, don't water your orchids. Tropical orchids are fine with dry spells; they were made for such situations! And dry spells (at least a week's worth) is actually *ideal* for epiphytic orchids.

Factors to Consider Before Watering

Like other hobbies, taking care of orchids require patience and lots of work. But everything will pay off nicely in the end. In the case of orchids, proper care will result in dazzling blooms during the growth season – you will be amazed.

Now before you proceed with watering your plants, there are several factors that you should take into consideration:

- 1. Orchid media** – the orchid media that you will use for your orchids also has a bearing on the amount of

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watering your orchids should receive. Why? Because different orchid media provide different levels of moisture retention.

Generally, orchid media that have been created with tree barks hold more water than those made from harder, denser material like wooden pellets or even plain charcoal. Orchids that are simply mounted (advanced orchids) need more water than their potted counterparts.

- 2. Orchid species** – while many people like to believe that all orchids have the same requirements, this is sadly not the case. Different species have different requirements, so before you buy a whole bunch of new orchids for your indoor garden, make sure that you have researched thoroughly about the species, so you will be prepared as to what kind of care and maintenance you will be giving your new orchids.
- 3. Environmental temperature** – the hotter your location, the more water an orchid requires. Check the roots of the orchid and its general appearance so you can make an educated estimate as to how much watering it will need in the coming months.
- 4. Available air** – air flow is *necessary* for orchid health, so make sure that the roots are a bit exposed to air. Roots need to breathe, too.

Basic Care for All Orchids

Orchids are among the most interesting specimens of plants in the world because these plants have evolved in such a way that allows them to survive in highly competitive habitats.

Many wild orchids are found in highly dense forests (usually termed "virgin forests"). Because of the high density of plant life and animal life in forests, there is a high level of competition for space and food.

Orchids have been successful in such environments because they anchor themselves in elevated places (usually trees).

Orchids are called epiphytes and they survive by literally 'standing out' from the rest of the forest life. Orchids receive plenty of warmth and sunlight because they are not hindered by taller plants at the forest floor.

If orchids do not evolve the same way they have been they will probably be smaller and less colorful – because they will not be getting enough sunlight.

If you have been in a dense forest before, you know what it is like – there is barely any sunlight at the bottom of the forest because the plants are all reaching out to it.

The shade might be nice for people, but it prevents smaller plants from getting enough sunlight. Orchids are generally smaller than the smallest bushes, so it would be very difficult for them to grow and bloom if they did not anchor themselves to the tops of trees.

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If you have orchids at home but you are not sure what type of orchids they are, you can start with the basic care of your plants with the following 'safe care' guidelines:

1. Some orchids are warmth-loving and sun-loving plants; however, if you are not sure what kind of orchid you have, it would be best to place the orchid in the shade, away from the direct heat of the sun.
2. Orchids need sufficient moisture in a foreign environment, so schedule regular waterings – once or twice a week is sufficient for most common orchids. If you see signs of distress such as white or silvery roots, then increase the misting/watering until the roots become light green or dark green again.

It is also important that the drain system of the orchids are efficient, to avoid any bacterial and fungal problems later on. The highly permeable roots of many orchids can develop rot in a very short period of time.

3. Give the roots of the orchid sufficient access to free flowing air. This will ensure that the root system will be able to breathe properly.

Remember, the roots of orchids are not the same as the roots of terrestrial plants. Some functions might be similar, but the physical structure and the way it interacts with environmental factors are not.

4. Fertilizers (20-20-20 or 10-10-10) should be given regularly during the growing season. Otherwise, limit the applications to twice a month.

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Prepare a weak fertilizer solution and use a spray bottle to mist the root area and orchid media. Again, over-feeding of fertilizers can cause toxicity problems or even tissue burns, so avoid over-feeding your orchids even during the growth season.

5. Many orchids thrive with a constant temperature no lower than sixty-five degrees Fahrenheit. Temperatures exceeding seventy-five degrees Fahrenheit are usually not recommended for any orchid. Some orchids will thrive better with a nighttime drop in temperature no lower than fifty degrees Fahrenheit.
6. The humidity or moisture content of the air in the immediate environment is also of paramount importance to orchids.

Nearly all popular orchids cannot tolerate very dry environments. Keeping a tray with pebbles and water can fix humidity problems. The water evaporates, keeping the moisture content of the air constant.

As a closing note to this section, make sure that you tweak the care being given to your orchids to see whether the plants respond.

Blooming, for one, is highly dependent on the amount of light an orchid receives on a regular basis. If sunlight is insufficient, you may want to install regular fluorescent lights or grow lights nearby.

Direct Sunlight or Not?

Here are a few things to remember about direct sunlight and orchids:

1. Orchids that *prefer* direct sunlight are called “high light” orchids. Other than these variants, an orchid can experience fatal *leaf burn* if exposed to direct sunlight.

Leaf burn occurs when the excessive heat of the sun causes the leaves of the orchid to shrivel up and fall off. Note that leaves that experience leaf burn *but do not fall off* will remain in its burnt state. The condition is considered irreversible.

2. Curiously, leaf burn can suddenly occur in an *indoor orchid* that has suddenly been transferred to an outdoor garden after the cold winter months.

To avoid such a scenario, it is highly recommended that you *gradually* re-introduce the orchid to the outside world by taking it out for a few hours in the morning and bringing it in once again before noon. This will ensure that the plant will not suffer from sunlight-induced shock.

3. If you live in a place that has brilliant sunlight all year round, there *is* a way that you can protect your orchids from leaf burn and other similar damage from excessive sunlight.

You see, an orchid *can* survive direct sunlight *if* it is given at last *some shade* from the sun *and* adequate air circulation. So if you can find that perfect spot in your

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outdoor garden for your orchids with enough wind flow to prevent leaf burn, then that would be perfect.

4. For ideal growth, high-light orchids should only be exposed to dappled light (not really the bare *and direct* heat of the sun).

Common Orchid Pests & Plant Diseases

Every now and then, you have to deal with nature's way of doing checks and balances – in the form of pests and diseases. Your goal as the orchid's owner is to prevent your orchids from being weakened or destroyed completely by any of the following problems:

1. **Orchid scaling** – scaling is by far the most common orchid malady and appears as brown lumps on the surface of the leaves and stems.
2. **Aphid infestation** – aphids are tiny insects that can punch holes through an orchid, if given enough time. These critters are commonly attracted to newly blooming buds, leaves, and sometimes even flowers. You can easily spot the pest by looking for green or black insects on the orchid.
3. **Mealybug infestation** – in contrast with aphids, these plant-borers are white in color.
4. **Spider mite infestation** – look for webs on the underside of the orchid's leaves. If you see fine webs, you have spider mites present. Too small to see with the naked eye, spider mites can still be a big threat to an orchid patch.

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Bronzing of formerly light green or dark green leaves also announces the presence of spider mites. To prevent spider mites from latching themselves to your orchids, keep the humidity or moisture content of the air high.

5. **Orchid viruses** – yes, viruses can still affect orchids. The sad thing about plant viruses is that it's almost impossible to treat the virus problem once the virus has established itself in the plant tissues.
6. **Bothersome pets** – keep your orchids in places where dogs, cats and ferrets cannot reach them! Many an orchid has been mercilessly chewed upon by curious animals because of their appearance.

Keeping Your Orchids Free of Pests & Diseases

We highly recommend that you use a natural approach to treating pest and disease problems; as with anything else connected with nature, a natural approach is always preferred over an artificial one. So for the time being, avoid using pesticides or biocides.

Try the following as preventive/curative measures:

1. Purchase beneficial insects like praying mantises in your garden. These natural insect predators can take care of most insect problems if kept in sufficient numbers in your garden. Ask your local gardening supplier if he has a store of lady bugs and other beneficial insects for your garden.

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2. Prepare an insecticidal soap solution and use a spray bottle to mist your orchids. Insecticidal soaps and solutions can also be purchased from local gardening supply stores.

These mild solutions are capable of dealing with mild infestations of aphids and other plant borers. However, these solutions will only deal with insects that it comes into direct contact with.

3. Having troubles with orchid scaling? A bit of *rubbing alcohol* might do the trick. Alcohol is also a great solution for mealybug infestations.
4. Want something commercially bought but *still* environment-friendly? Try pyrethrin-based insecticides. Such insecticides decompose fairly quickly and pose little harm to the environment if used properly.
5. You can also try *horticultural oils* to take care of your orchids. Horticultural oils can be purchased from many gardening stores. Before using these oils, *always* read the manufacturer's instructions carefully. Use the proper dosing as well, to avoid any problems.
6. Many gardens have a healthy population of snails and slugs. These critters might be useful for other plants but they may become a serious threat to orchid patches. Install orchid protectors like copper strips to prevent them from climbing onto your orchids.

Frequently Asked Questions About Orchids (FAQ)

General Care & Concerns

Q: It's the growth season for my orchids, but there aren't any flowers – I've been waiting for months! What's wrong with my orchids?

A: The process of flowering for orchids requires a large amount of energy. Often, the most important conditions needed for producing flowers is absent from the orchid's immediate environment.

If this is the problem, then you may want to adjust the amount of light that the orchid receives, the frequency of watering, night-time temperature and the type of fertilizer you are using.

Your orchid may also be entering a dormancy phase – check if it is really your orchid's growth season or not. Many orchids bloom during the summer and spring months but enter their dormancy phases during the fall and winter months.

Q: I've heard that the amount of light that an orchid receives has a large bearing on the amount of flowers it will produce every year. How do I know that my orchid is getting enough light?

A: The best indicator is the appearance and color of the leaves. Check the leaves of your orchids. If the leaves are light green or dark green, then your orchids are probably receiving an adequate amount of light. Yellowing and

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thinning of leaves might mean otherwise. Adjust the frequency of watering and the volume of water being given to the orchids.

Q: Do I really need to repot the orchids that I buy from my local supplier? The orchids seem to be fine in their potting media and all...

A: Repotting is done for the following reasons:

- ✓ The pot/orchid media is beginning to rot.
- ✓ The roots of the orchid are unable to 'breathe' because it has been scrunched into a tight bag filled with wet moss.
- ✓ The orchid has grown so much the past year that its roots are beginning to poke through the top of the orchid media.

So depending on your circumstances, you may or may not need to repot your orchids.

Generally, orchid enthusiasts repot their store-bought orchids immediately. Others wait for up to a year before repotting. If you see the orchid media rotting or decomposing already, you *have* to repot. Otherwise, the whole orchid will suffer from the rotting orchid media.

How do you know that your orchid media is not yet decomposing? Hold the media in between your hands and give it a firm squeeze. If it does not break down or crumble after your squeeze it, then it is not decomposing yet. If the

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media suddenly crumbles with the slight pressure, then you have to replace it.

Another thing: look at the pots you have at home. Do your pots allow water to drain immediately? If not, then more frequent repotting might be necessary to preserve your orchid's roots.

Q: Should I use time-released fertilizer pellets instead of water-soluble fertilizers?

A: While we have advocated the use of water-soluble fertilizers in an earlier section of this book, we leave this decision entirely up to you.

Many orchid keepers use time-released fertilizer pellets because it reduces the amount of time needed to regularly fertilize the orchids.

If you are generally forgetful about such things (like fertilizing plants on a weekly basis) or simply do not have the time for such activities, then time-released fertilizer pellets are a very good choice.

As with anything, read the instructions of the fertilizer manufacturer carefully before using the pellets. Many fertilizer pellets last for at least 3 months. Some last for up to four months. Still other more advanced fertilizer pellets can last for up to 2 complete seasons.

If you have orchids that bloom during the end of winter to the summer months, the first applications should be made on the first week of spring, followed up with a boosting dosage in the first month of summer.

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Q: Should pruning be a part of the regular maintenance of orchids?

A: Unlike bushes and other similar plants, orchids *do not* need to be pruned.

If you see rotten or shriveled leaves and roots, then that is the only time that you would need to use your sterile nippers to cut off the rotting parts of the plants. Other than these rare times, avoid shaping or pruning your orchids as this can affect the plants' ability to bloom and rehydrate itself.

You can easily sterilize a pair of nippers with a bleach solution or even with some water mixed with rubbing alcohol.

This is important, because orchids can suffer from bacterial infections too, and essentially, you will be creating 'wounds' or points of entry when you remove leaves and parts of the roots.

Q: I have several orchids at home, but I have no clue as to what kind of orchids they are. Where do I start?

A: You can look at appearance of the leaves and the flowers first – then go on from there. Usually, horticultural clubs in every city (or state) can help you identify your orchids.

Q: Help! I still do not know what my orchids really are! What do I do?

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A: If you still cannot identify your orchids, then just stick with our basic care guidelines that we have listed in an earlier section of the book.

Q: I want to have my own orchids at home, what's the best way to source orchids?

A: Your best bet would be a reputable supplier (referred by a local orchid/horticultural club). If not, you can visit online trading boards. *Never* take wild orchids from forests and take them home. There are enough commercially produced orchids to meet the demand – no need to reduce the wild population of orchids.

You may be tempted to buy rare orchids from some suppliers – but be careful when buying such orchids.

The term “rare” in the world of orchids usually means the plant can produce exquisite blooms but is also extremely difficult to tend. You may be successful in getting the orchid to bloom in the first growth season but you may have problems the succeeding years.

Q: I often forget to turn off the sprinklers at home. Is there an orchid that is fit for an over-watering fellow like me?

A: Some orchids thrive with plenty of water, given on a regular basis. Orchids like Masdevillas are a good choice. You might want to try orchids like Odontoglossums as well.

Q: I want orchids but my town rarely experiences a full day with the sun in full form. What orchids can I buy for my garden?

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A: You can consider orchids like those from the Paph group and those in the miltoniopsis group. Generally, orchids from these two groups prefer cool climates with little or no direct heat of the sun.

Q: Orchid flowers are odorless. Right?

A: Not necessarily. Many orchids have scents, such as those from the cattleya group of orchids. Dendrobiums also produce fragrant flowers during the growth season.

Q: Can I just plant my orchids on loose soil, like sand, for example?

A: This is a definite no. The roots of orchids are different from the roots of regular terrestrial plants. Orchids are classified as *air plants* because the roots require a lot of free air.

This is the reason why orchid media like tree barks and charcoal are used for orchids. The looseness of the media allows the roots to move about freely during growth and also allows air to circulate in the orchid pot.

Soil on the other hand, is far too dense to allow for this type of air circulation. Sure, some types of soil can be plowed to allow for some level of air circulation. But when the rains come, the air flow stops completely because of the general structure of soil particles.

Q: Is there any type of orchid at all that can be planted using soil and not orchid media like pine bark?

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A: For every rule, there are some exceptions, of course. Orchids like Bletillas can be planted using regular gardening soil.

Usually, such orchids can be found in marshes and similar environments, where tall trees are few and the soil is loose, moist and does not lack the vital nutrients needed by the orchids for optimum growth.

Q: I'm curious – how do orchids grow in the wild?

A: Wild orchids grow from seeds. But take note – orchid seeds are so tiny that the wind easily transports it from one place to another.

Once orchid seeds find a suitable place to latch on to, the roots of the newly growing orchids are responsible for firmly anchoring the new plant to the tree or whatever surface is available (sometimes, even rocks have orchids).

Q: I don't understand – if orchids like wet seasons, why do orchids run the risk of rotting if they are not completely dry before the next watering?

A: Orchids are prone to fungal and bacterial problems. This is the reason why they have to stay dry in between watering, because otherwise, fungus can easily destroy plant tissue if given the chance. In the wild, orchids are anchored high above the forest floor, which allows the plants to dry easily with the natural wind flow.

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Every once in a while, you will encounter problems when tending to your orchids. This section covers the most common problems (or perceived problems) when taking care of orchids:

Q: I woke up one day and all the flowers from my orchids have fallen off. Are my orchids all dead?

A: Not really. Most likely your orchids have already reached the end of their blooming period. At the end of each blooming period, orchids shed off the flowers in preparation for the next heavy growth season. It is perfectly normal for flowers to fall off after the growth season, so don't worry.

Q: I am afraid of being caught off guard by pests and diseases. What should I look for whenever I am tending to my orchids?

A: Look at the leaves of your orchids often – this is where the problems usually manifest themselves.

Spotting on the leaves, as well as discolorations and physical distortion of the leaves are a clear sign that something is wrong.

If you can establish a network of other orchid enthusiasts in your area that would be helpful, too, because they have probably encountered the same problems that you will be encountering later on with your own plants.

If there is physical deformity of the leaves, that usually means that there is a fungal, viral or bacterial infection.

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Q: Can you tell me why my orchids are growing sideways?

A: Contrary to common belief, orchids do not necessarily grow *straight up*. The direction that an orchid grows is directly dependent on the *source of light*. Orchids that are kept in warm-houses or greenhouses grow straight up because the *sun* is the direct source of heat and light.

When orchids are kept indoors, the plants usually become curved and grow *toward the nearest source of sunlight*. So do not be surprised if your plants seem to be curved – because the plant is simply seeking to create the perfect structure to catch all the available light during daytime.

If you want your orchids to grow a bit straighter, you may turn the plant a few times per week so it will reconfigure its position. However, *do not turn your plants* during the growth season! If you do, any flower bulbs that are already on the orchid might fall off.

Q: My orchids' roots seem to be sticking out at odd angles from the orchid media. What's wrong with my orchids?

A: Nothing is wrong with your orchids – the roots sticking out at odd angles are perfectly fine. You see, orchids are a type of plant that evolved to absorb moisture and nutrients directly from the environment.

What does this mean? It anchors itself to elevated surfaces to ensure that it gets enough light, heat and moisture. The roots are perfect for this job – but orchids are by no means *parasitic entities*. They do not take away nutrients or organic matter from the trees that they attach to.

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Roots that are sticking out from the orchid media *might* become a problem if the humidity of the immediate environment is insufficient for the orchid. If this is the case, then you may want to consider repotting the orchid because it has already outgrown its current orchid pot.

Q: I think the leaves of my orchids are turning bluish-green. What does this mean?

A: Bluish-green leaves usually point to insufficient light. If there is not enough light and if nothing is done to remedy the problem, there is a big chance that the orchid will not be able to bloom properly during the growth season. This problem (bluish-green leaves) is more common in indoor orchids than outdoor orchids.

Q: Is there any way that I can determine how much light my orchids need by just *looking* at them?

A: While regular observation is still the best resort for such cases, there are some general physical traits that you can watch out for:

- ✓ If the leaves of the orchid are papery and thin, then it probably does not need a lot of light (or direct sunlight, for that matter). Floppy leaves are also a sign that the orchid will not be able to tolerate direct sunlight.

If the leaves are thick, firm and even fleshy, then chances are, the orchid requires plenty of light or even direct sunlight. If you are not sure, keeping your orchids in a partial shade would probably be the best resort.

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