

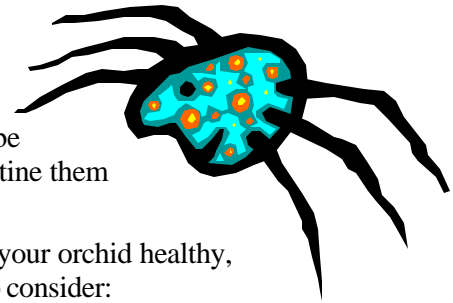


INFORMATION

Orchid Pests and Diseases

The best defense is a healthy plant.

Orchids can grow and flower for many years if their basic needs are met. Healthy plants are less likely to become infected with disease or be attractive to insects. Pests can arrive with new plants so always quarantine them away from your established plants for a few weeks.



Some diseases are a direct result of poor growing conditions. To keep your orchid healthy, learn its identity and then research its basic requirements. You need to consider:

Potting mix and watering – most tropical orchids need well-drained, specialized potting mix. Be careful not to overwater and, when you do water, make sure the water runs through the pot and out the bottom. Don't let the pot sit in water.

Light – grow at the correct level for the orchid species.

Temperature – some like it hot, some like it cool. Know which your orchid prefers.

Humidity – most orchids prefer 40-60% humidity. Humidity in winter is usually lower. Excessive humidity can encourage disease.

Air circulation – all orchids appreciate exposure to moving air.

Fertilizer – For most species, less is better. Fertilize with a weak balanced fertilizer solution.

The following symptoms may indicate that you need to change the care of your orchid:

Symptoms	Cause
Leaves wilted, older leaves turn yellow and drop off, pseudobulb shriveled	Look at the plant's roots. If they are firm, the plant needs to be watered more frequently. If the roots are dark and mushy, the plant has been overwatered. Cut off the blackened roots and repot plant in coarser mix. Water less frequently.
Leaves are dark green, new growth is small, no flowers form	Orchid needs higher light level.
Leaf color is bleached and may have dark spots that are not soft (sunburn)	Orchid is getting too much light.
Leaves are yellow and new growth is small	Plant needs fertilizer, but also check night temperature – it may be too low.
Leaf tips are burned, roots withered, especially tips, there may be a white crusty buildup on potting mix or pots	Too much fertilization or water used is too salty. Rinse potting mix thoroughly several times with deionized water. Never use water softened by sodium exchange on orchids.
Flowers suddenly wilt or buds drop off before flower opens	Ethylene in the air can cause wilting (improve ventilation, remove wilted flowers and any fruit), as can excessive temperature fluctuation.
Poor growth, leaves fall prematurely	Night temperatures may be too high.

Orchid diseases – fungal, bacterial, viral

Symptoms of disease are blackened areas on leaves or stems, brownish spots turning black or brown and black streaking on leaves. Often the area will be soft and increase in size. Light brown or pinkish spots may also appear on flowers. Roots will appear dark and may smell rotten. If disease is suspected:

1. Cut off the part of the plant showing symptoms and discard. Cut at least ½” into healthy tissue. It is imperative that the cutting tool be sterile and that it be resterilized after each cut. This can be done by passing the tool through a flame or soaking in a 1:9 dilution of bleach (rinse thoroughly before use). Dust cut areas with a fungicide. Consider spraying plant with fungicide to prevent reinfection.
2. If the base of the plant or roots are affected, repot using new potting mix after cutting off affected part and dust the cut areas with a fungicide. Consider using a fungicide as a soil drench.
3. Increase air flow around the plant and decrease humidity, at least temporarily. Check humidity requirements for your species and make sure humidity is not too high. Allow humidity to fluctuate during the day so the plant can dry out.
4. Modify watering and misting schedule so the foliage stays wet for only a short period.
5. Isolate the plant from your other orchids until you are sure it is free of disease. For all your plants, always clean up leaf debris and cut off wilted flowers.

Sanitation may stop a minor infection. If fungicide treatment is necessary, make sure you follow label instructions for dilutions, safety, and treatment schedule. Fungicides which might be used on orchids are Truban, benomyl and Banrot. For best results, consult additional references before deciding on a fungicide treatment. It is best to confirm the identity of the fungus infecting your orchids. Your county extension agent can help you send samples for analysis and provide recommendations. If you have a viral infection, there is no treatment. Isolate the plant immediately and discard if viral infection is confirmed.

Orchid pests

Several small invertebrates attack orchids. Most damage the orchid by attaching to it and sucking out water and nutrients. Only slugs and snails will eat holes in the leaves. Before purchase, check plants for insects. Look not only at the leaves but also at the nooks and crannies between leaf and pseudobulb and under any papery coverings on the flower stalks or stems.

Some insects you may find on your orchids are:

Small insects that may be hard to see

Mites	You will see stippling or irregular pits on undersides of leaves, sometimes with fine webbing. Foliage may have silvery areas that turn brown and sunken. If you rub a white cloth on the underside of the leaf, it may come away streaked with brown.
Aphids	You may see punctures on leaves and sometimes flowers, new growth is stunted. Aphids secrete a sugary liquid and sooty mold, a black fungus, may grow on it.

Insects you will see easily

Mealybugs	Soft-bodied insects that are covered with a waxy, cottony secretion which looks like white fuzz. They may hide under papery coverings of pseudobulbs and in other sheltered spaces.
Scale	Hard-shelled insects which look like bumps on leaves and pseudobulbs.

If the infection is minor and you can see the insects, you may be able to physically remove them with a cotton swab dipped in alcohol. Hard-shelled scale may need to be scrapped off. Aphids can sometimes be removed with a stream of water. Monitor the plants closely. Unhatched eggs may result in a new insect infestation.

Insecticides will also be effective. Make sure you test the insecticide on one plant before spraying all your orchids. Several sprayings may be necessary, as eggs hatch over a series of weeks. For best results,

consult references and make sure you follow insecticide label instructions for dilutions and safety. Your county extension agent can help you identify insect pests. Insecticides which might be used on orchids are insecticidal soap, Orthene, carbaryl (Sevin), malathion and Neem.

References:

All About Orchids, Ortho books, 1999.

All About Orchids, Charles Marden Fitch, 1981. Doubleday & Company, Inc.

Home Orchid Growing, Rebecca Tyson Northen, 4th Edition, 1990. Prentice Hall Press.

<http://www.theaos.org/orchids/index.shtml> and <http://www.orchidlady.com/>



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