

# Pests, Diseases and Treatments

## Ants

Fire ant killer - no water. Apply 2-3 days before and after [7].

## Aphids

These are sucking insects that attack buds, flowers, new growth. They transmit disease from plant to plant. Buds and flowers may fail to open. Leaves may have sticky deposit.

Wash aphids away with water jet. Spray using same instructions as scale.

"Honeydew", excreted by aphids, etc is attractive to ants, and is ideal medium for sooty mole. Also inspect for mealybugs, scale and mites.

## Bacterial brown spot

Acidovorax, aka Pseudomonas.

## Bacterial and fungal rots

### Bacterial soft or brown rot

Also called Erwinia. Small water-soaked spots appear on leaves, often surrounded by yellow halos. Will rapidly rot leaves and roots and spread slowly into rhizomes or pseudobulbs. May have a foul odor.

In Phal, spreads so rapidly that plants may be totally rotted in 2-3 days. Can enter through plant wounds.

Dend. leaves appear yellow and water-soaked, and become black and sunken.

Vand. leaves develop translucent patches which become black and sunken.

Phaliopedilum leaves develop small, round spots that are initially yellow and water-soaked eventually becoming reddish brown and sunken. Spot enlarges in all directions, and may reach growing crown before leaf tip is affected. If untreated, disease quickly spreads throughout plant, leaving it a dark, shriveled mass.

Gramm. leaves have water-soaked, browning spots which become black and sunken.

### Black rot

Also called Pythium [7] or Phytophthora. Can quickly destroy an entire plant if left unchecked. Caused by one or both of the fungi Pythium Ultimum and Phytophthora Cactorum. Affects a wide variety of orchids. Cattleyas seem to be particularly susceptible.

If severe, treat like Erwinia [7].

### Botrytis

Spray for Botrytis using fungicides recommended for Florida, or bicarbonate of soda [16].

1 tsp RD-20 per 3 gal water [7].

## **Caterpillars**

Immature stage of moths and butterflies. Voracious feeders that can do a lot of damage to flowers and leaves in a short period of time.

Physically pick off plant and destroy. Check underside of leaves. Spray BT (bacillus thuringiensis) on growing area.

Keep area clean of leaves and debris where pests and eggs can hide. Keep landscape free of caterpillars.

## **Cold**

## **Crown rot**

Mostly on Phal. Use Physon 20 or RD-20. Re-pot [7].

## **Edema**

## **Fertilizer Burn**

## **Flower spots and blights**

## **Fusarium Wilt**

## **Leaf spots and foliar blights**

## **Mold**

Ex: gray mold, sooty mold.

## **Petal blight**

## **Roaches and grasshoppers**

Cause damage by eating flowers, roots and new growths.

Cockroach baits can be spread in growing area, or a paste of boric acid, sugar and flour mixed with water can be sprayed in nooks and crevices of the environment, but do not get on the plants themselves. Or, water than then flush with a mix of liquid Sevin (1 tsp / gal) through pot.

Crush grasshoppers with a brick, shoe, etc. Partially bury jars filled with molasses and water; remove drowned grasshoppers next day.

Fire ant killer (see below) [7].

## **Root rot**

Also called Rhizoctonia.

## **Salt Toxicity**

### **Scale and mealy bugs**

Sucking insects. They feed on the underside of leaves, pseudobulbs, rhizomes. They often hide under old leaves and sheaths. Can cause leaves to yellow and/or drop.

Use Q-tip dipped in isopropyl alcohol, or toothpaste dipped in pesticide like Malathion, Orthene or Safer Soap to remove scale. For more severe cases, apply pesticide at crawler stage and repeat 2 weeks later. Be sure to spray all surfaces.

Remove old leaf and sheaths to eliminate hiding places. Verify before introducing to growing area.

### **Snails and slugs**

Nocturnal mullusks, which leave holes and notches in the leaves, flowers and roots. May chew off the growing tips. Chewed areas may also appear on buds. They travel on a telltale trail of slime.

Chemical baits may be placed in the growing area. Ash and diatomaceous earth can be spread on horizontal surfaces to create a barrier, though water will deactivate it. Beer in shallow tins can be spread in the growing area; remove drowned pests the next day. Regular applications will have to be used since watering will disperse the control substances.

### **Spider mites**

Members of the arachnid (spider) family; not insects. Red or brown pests, they feed on the underside of leaves. May need magnifying glass to see. Leaves could contain webbing or brown spots on undersides. Upper side may have silvery sheen, which becomes sunken and turns brown. Leaves may be streaked, stippled or spotted due to lack of chlorophyll.

Spray with miticide like Kelthand, on all undersides of leaves. In warm weather, new generations mature every 6 days, so repeat at 3 or 4 day intervals.

Orthene. **Do not** use Malathion [7].

Increasing humidity and/or decreasing temperature may help.

### **Sunburn**

### **Thrips**

These are very tiny, hard to see insects [7].

Can transmit disease from plant to plant. Buds may not open and may be deformed, exhibiting water soaked spots. Leaves may appear pitted, stippled, silvery or bleached.

Taken from "Tropical Orchidist", Issue 8, "Got Bugs? How to Identify"

When you first notice pests on your orchids, you need to promptly and properly identify them so you can be sure to apply the most effective control. In many cases, especially if there are many pests present, you'll have to apply control measures every seven to ten days, at least three times because eggs are resistant to the control and hatch later.

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**Aphids:** These come in all colors — including green, red, pink, black, and yellow — and they're usually found on the new, succulent growth including the flower buds.

**Mealybugs:** The name of this creature pretty much describes what this insect looks like — mealy or cottony masses. It's found in similar areas as aphids — the growing tips, buds, and flower stems. One type is also found on the roots. Getting rid of this pest usually requires multiple insecticide treatments.

**Thrips:** Are miniscule buggers that look something like long gnats and are very difficult to see with

the naked eye. Their damage is easier to detect — it shows up as light streaks on the flowers or stippling

on the leaves. The flower buds are also usually deformed.

**Scale:** This is another creature that comes in various forms, but most have a shell that serves as a type of armor for the soft insect body that is protected by it. This shell must be penetrated by a chemical or by rubbing it off before you can kill the insect.

They're frequently found on the undersides of the leaves near the middle vein of the leaf or on the edges of the leaf. They also commonly hang out on the flower stems.

**Spider mites:** These tiny, fast-moving specks of red "dots" are often found when growing conditions are hot

and dry. In extreme infestations, you'll see fine webbing on the leaves. Before the infestation gets this bad, the foliage will take on a stippling effect, which is a result of their feeding.

**Slugs and snails:** Snails and slugs usually come out at night, so look on the bottom of the flower pots. They love cool, damp spots.

**Roaches:** Another very unpopular beast, cockroaches also feed at night and enjoy munching on flowers and flower buds.

**Mice:** Mice nibble at flower buds.

**Bees and other pollinating insects:** These don't cause any physical damage to orchids, but if they land on

the flowers and pollinate them, the flowers will very soon collapse.

Treat as with scale. Repeat applications will be required because thrips remain hidden or can be reintroduced from other flowers.

Keep hosts such as flowers, citrus, gardenias, eucalyptus, etc away from orchids.

Use sticky blue note cards to attract [7].

## **Viruses**

### **Whiteflies**

Small, moth-like insects that attack buds, flowers, new growth. Telltale sign is cloud of tiny white insects when plant moved or disturbed.

Treat as with scale. Repeat at 4-day intervals until whiteflies no longer present.

Elimination of weeds will help prevent infestation, as will separation of hosts as described for thrips.

# Treatments

## Pesticides

Orthene [7].

Don't use Imidacloprid. Use Bayer instead [but **not** Bayer All Purpose] [7].

Some simple, safe pesticides [7]:

- 70% isopropyl alcohol.
- 1/4 cup isopropyl alcohol, 3 T Formula 409 or Simple Green, 4 cups water. Spray, then brush away with a toothbrush.
- For Mouse Milk, in a 1 gal jug, 1 pint isopropyl alcohol, 2 T antibacterial soap, 2 T light vegetable oil, fill with water.
- Roach/ant bait. Melt 1 lb wax, and 12 oz boric acid, 1 cup sugar. Let it harden and cut into small squares.

Remember, adult insects lay eggs that hatch in 7 to 10 days. Apply pesticide and brush, 3 times, at 7 day intervals [7].

## Fungicides

Cinnamon as a fungicide [7]. [18]

- Dust it on an open plant wound; i.e., a broken leaf or stem, or area where you made a cut on the plant.
- Mix it with cooking oil to form a paste. Pat it on the open plant wound.
- Mix 2 T cinnamon with 1 pint isopropyl alcohol. Shake well, cover, let stand overnight. Filter it through a coffee filter. Use as an all-purpose fungicide spray.
- Combine 1 cup cinnamon/alcohol mix with 1 cup water. Add 2 T of dishwasher detergent. Use as a combination fungicide/insecticide spray.

## Insecticides

Chewing tobacco (not flavored) + alcohol + water (let sit for 2 days) + liquid dish soap. Apply later in the day [6].

Orthane - does not kill flowers [6].

Post-infection. Use systemic fungicide, such as Clerie or RD-20.

## Symptoms

Red leaves => cold [6].

Burn => test in brightest part of day for 10 minutes; if warm, too much sun [6].

Virus [1]:

Virus test strips.

Tri-sodium phosphate (TSP) kills virus.

Vista for scale: \$250 per oz.

Cat - fungus on outside top -- use cinnemon

Cinnemon is a natural fungicide, bacteriacide, viriscide [6].