

Pests of Orchids

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Photo: S. Wainwright

Recognizing the Good Guys

Predators

- Kills and consumes more than one prey
- Beetles, bugs, mantids, flies, mites, spiders



Parasites

- Kills and consumes less than or equal to one host and lives in or on the body of its host
- Wasps, flies



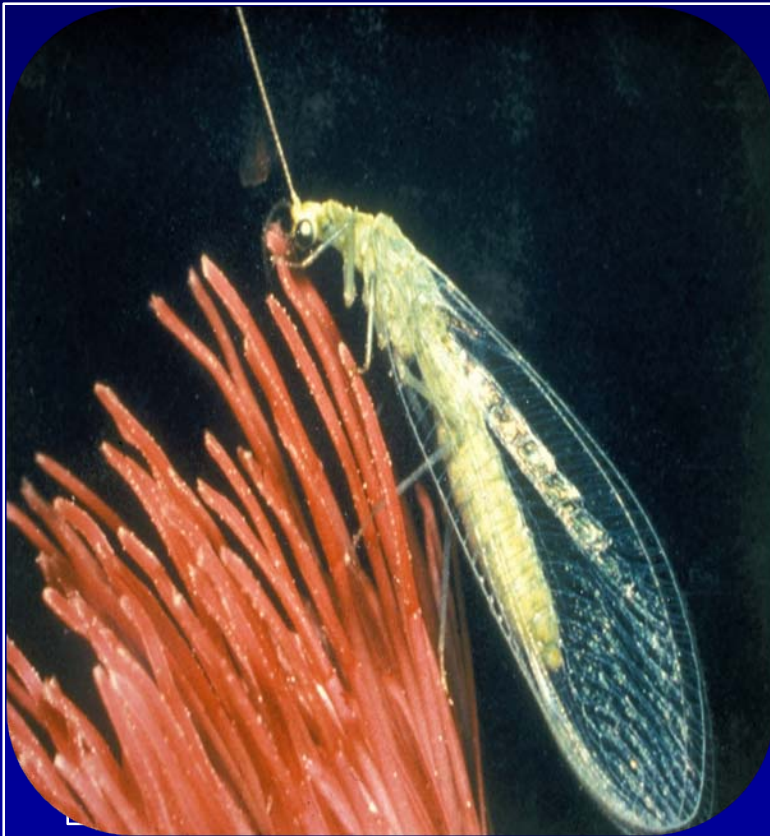
Pathogens

- Grow in or on the host
- Viruses, Fungi, Bacteria



Key Factors of Pest Management

Is the organism you see a pest?



Is the damage caused by an insect or related pest?





Key Factors of Pest Management

- Environments favorable to orchid culture are also favorable to the development of pests
- Always new insects showing up
- Problems occur when new plants infested with pests are placed in proximity to the general collection

Insect Feeding

Two Common Insect Mouthparts



Piercing / Sucking

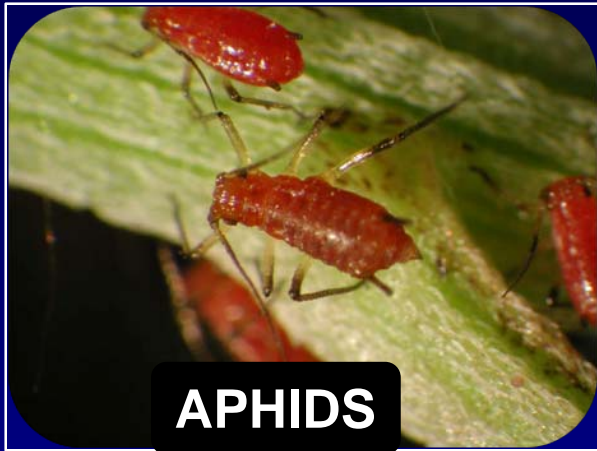
Insert their mouthparts into plant tissue and suck out the juices, sometimes transmitting diseases



Chewing

Chew on plant tissue and may damage all or parts of the plant including roots, stems, leaves, buds and open flowers

Insects with Piercing/Sucking Mouthparts



APHIDS



THRIPS



TRUE BUGS



SCALES



WHITEFLY



MEALYBUGS

Insects with Piercing/Sucking Mouthparts

- Production of “honeydew” (some groups)
- Growth of sooty mold
 - Fungus which grows in the honeydew which makes the leaves look dirty and black
- Attract ants
 - Protect insects producing the honeydew
 - Move insects from one plant to another



Insects with Chewing Mouthparts

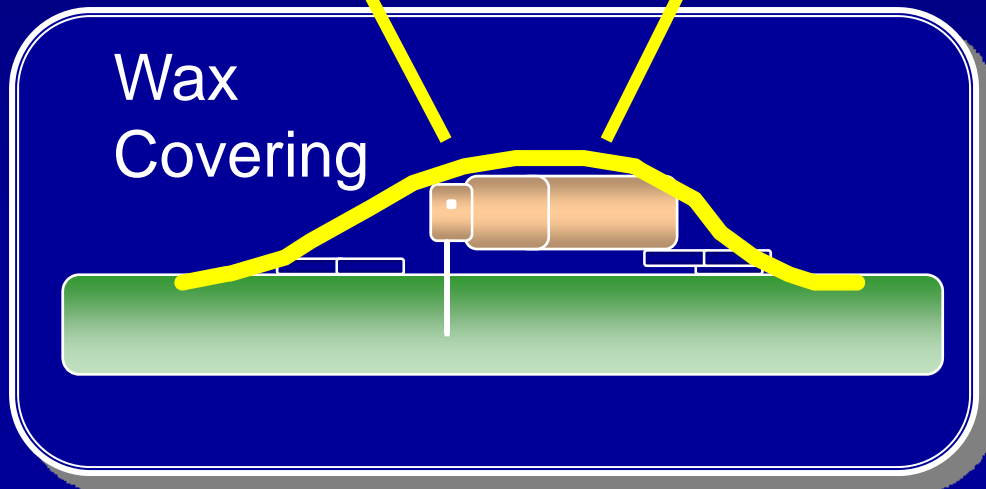


Scales and Mealybugs

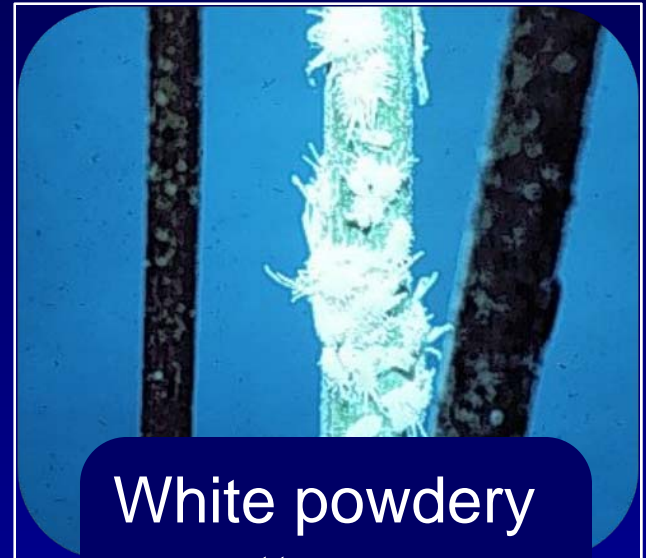
Armored Scale



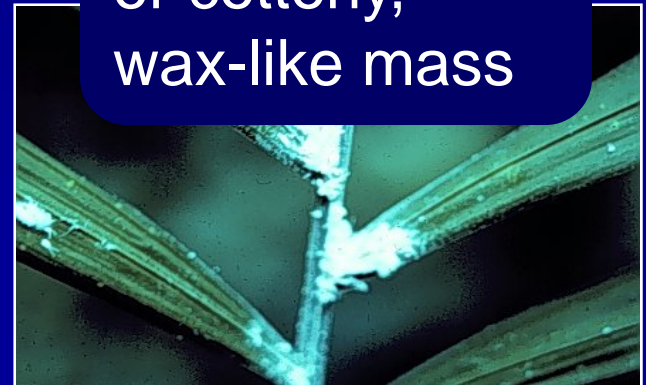
Soft Scale



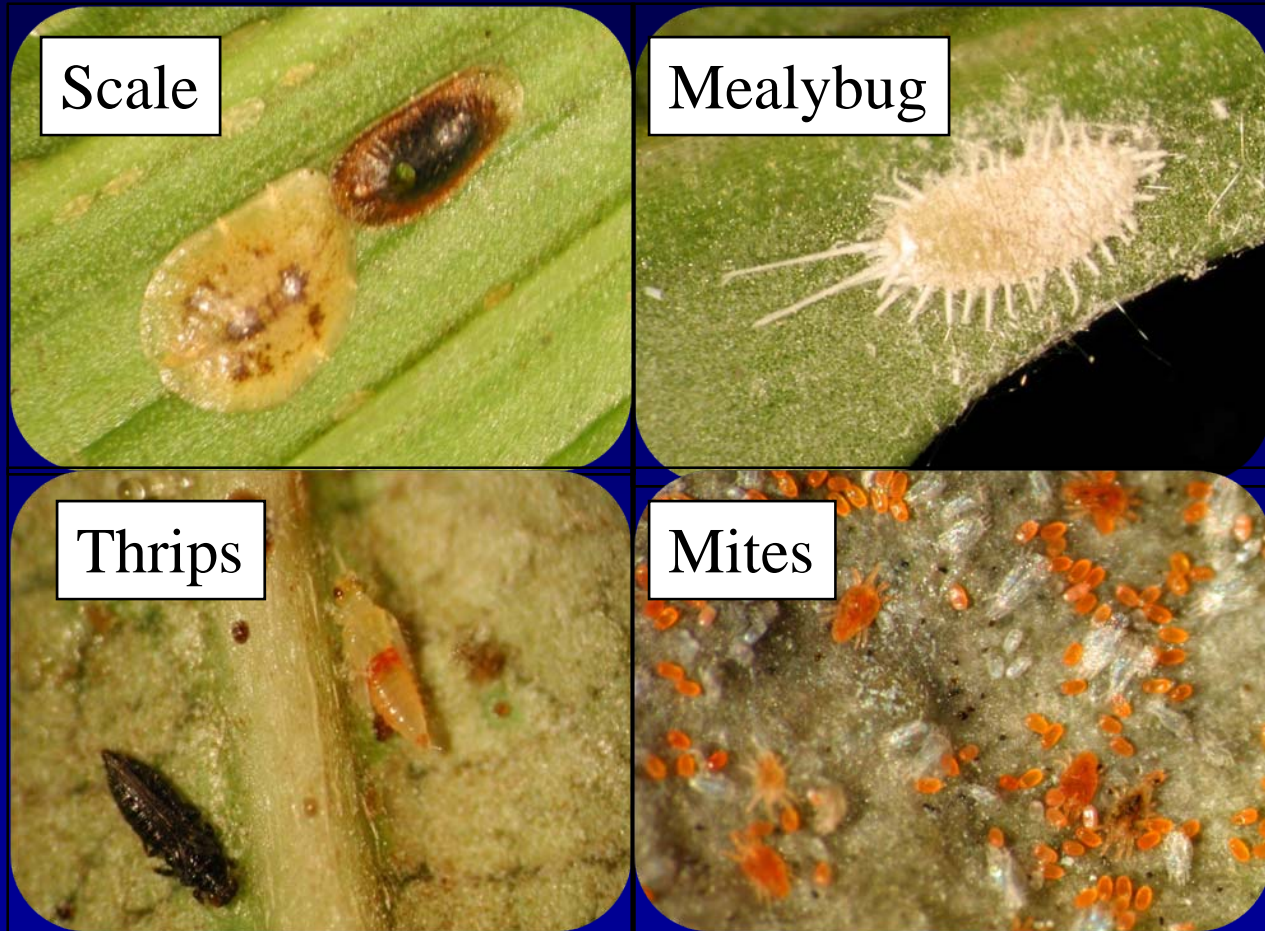
Mealybugs



White powdery
or cottony,
wax-like mass



Common Pests of Orchids



- Can be very small to tiny
- Feed by inserting mouthpart into the plant

Scale Insects of Orchids

- Serious pests
- Difficult to control
- Sometimes mistaken for fungal growths
- Chlorotic areas
- General decline; presence of the scales
- Can attract ants and growth of sooty mold



Armored Scale

Boisduval Scale (*Diaspis boisduvalii*)

- Hosts: orchids and palms; distributed throughout Florida



Proteus Scale

- Hosts: Sago palms, orchids and greenhouse plants
- Throughout Florida



Vanda Orchid Scale

- Hosts: Mango and orchids
- Less widely distributed in Florida



Florida Red Scale

- Hosts: citrus and ornamentals
- Throughout Florida



Red Orchid Scale

- Hosts: cattleya, oncidium and vanda
- Not common in Florida



Soft Scale

Brown Soft Scale

- Hosts: Many ornamental and fruit plants
- Throughout Florida



Orchid mealybug



Longtailed mealybug

Mealybugs

Striped mealybug



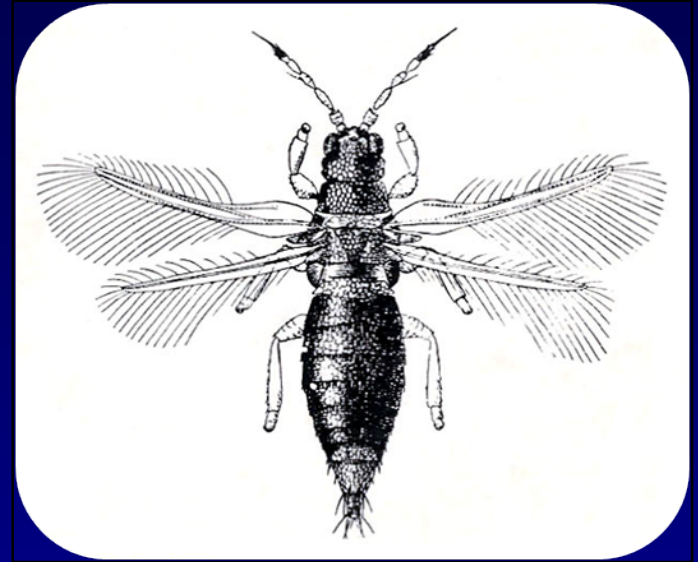
What looks like a mealybug may not be a mealybug!

Mealybug destroyer
(*Cryptolaemus montrouzieri*)



Thrips on Orchids

- Many species of thrips feed on orchids
- Normally feed in flower buds and open flowers
- Deformity, failure to open, or discoloration (browning, streaking, silvery appearance)



Thrips Damage



Scales, Mealybugs, Thrips and Mites

What to Do

- When possible, isolate infested plants
- Washing plants off with water
- Home Remedies
 - Lack of evidence on their universal value
- Rubbing alcohol (swabbing or light misting; diluted)
 - Good for small collections; low infestations
 - Can potentially damage plant cells (particularly on soft or thin-leaved orchids)

Scales, Mealybugs, Thrips and Mites

What to Do

- Oils and soaps
 - Generally considered safe to use
 - Potential plant damage under high temperatures and humidity
 - Some dish soaps will remove the natural protective waxes of the cuticle
 - It is important to get good spray coverage
 - None provide absolute control, but frequent use can reduce pests to acceptable levels

Scales, Mealybugs, Thrips and Mites

What to Do

- Insecticides
 - Persistent populations may demand the need for an insecticide
 - Active Ingredients: acephate, bifenthrin, cyfluthrin, imidacloprid, malathion, pyrethrin
 - Contact versus systemic
 - Always follow label directions
 - Do not use routinely as a preventative; use only when needed

Other Potential Pests on Orchids

Aphids



- Aphids feed on young growth, flower spikes and developing flower buds.
- Plant growth can be stunted or distorted
- Produce large amounts of honeydew
- Vector pathogens that cause disease

Other Potential Pests on Orchids

Blossom Midge

- Attacks buds of many plants, including hibiscus and *Dendrobium* spp.
- Causes flower buds to abort



Larvae in buds



Pupae in soil



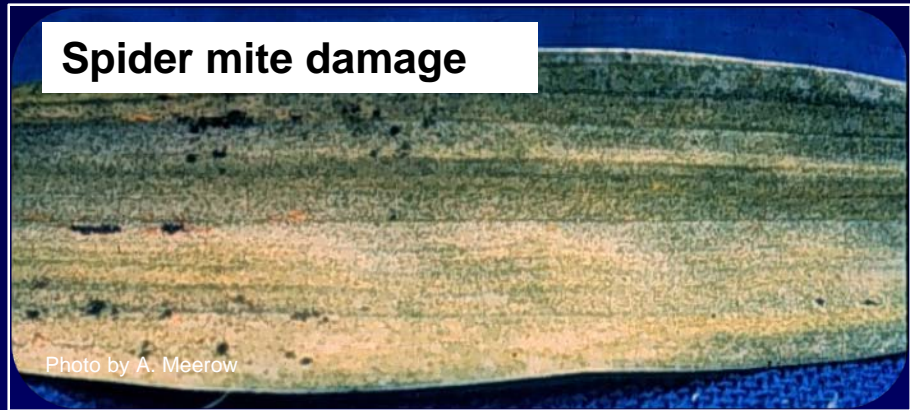
Adult **UF/IFAS**

Mites

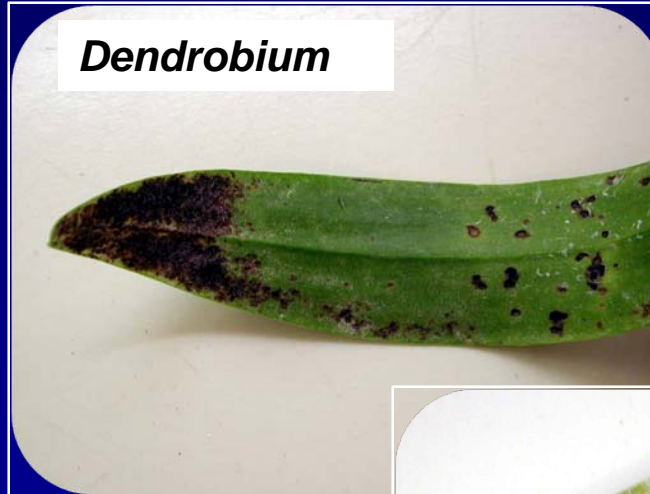
Two-spotted spider mite



Spider mite damage



Dendrobium

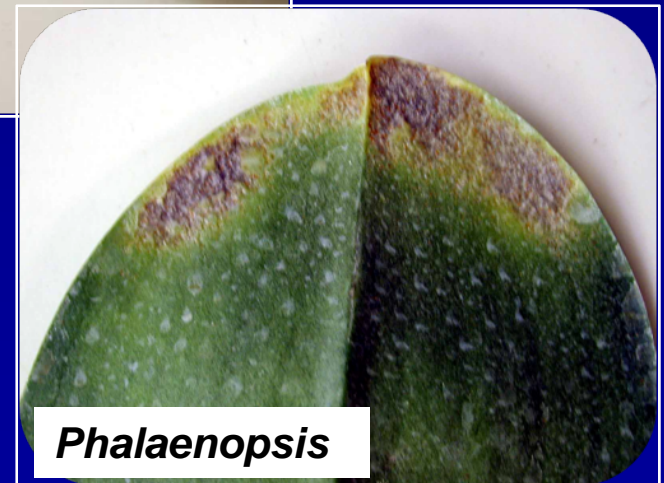


Mite damage

**Damage caused by
phalaenopsis mites**



Phalaenopsis



Slugs and Snails

- They prefer habitats with shelter, adequate moisture and abundant food
- Among the most serious orchid pests and feed on the buds and flowers and sometimes the leaves
- Snail baits
- Homemade traps



Photo from Orchid Pests and Diseases, AOS 1995

Pest Management on Orchids

- Maintain healthy plants
- Monitor plants for potential problems
- Identify the problem
 - Is it a pest?
 - Is control of the pest necessary?
- Identify potential control methods
- Apply methods of control
- Monitor for subsequent control or success

Orchid Pest Management

- Biological control
 - Suppliers of Beneficial Organisms in North America (www.cdpr.ca.gov/docs/dprdocs/goodbug/benefic.htm)
 - Important to know pest species, what are the most effective biocontrol agents, the best time to release, how many should be released and how often, handling procedures, and what does the biocontrol agent and the attacked pest look like
 - Conserve the natural enemies in the environment by reducing your use of pesticides

Chemical Control

Biological Control

versus



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