St. Augustine Orchid Society

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Scale on Orchids

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Orchid Growing Tips

A friend once told me that “crow” did not taste too bad if was just prepared properly. She was, of course, referring to the literal version of “crow”. As a consequence, I have been very cautious in making broad statements about success with respect to orchids. Recently, I was reminded of why that is a good policy. After experiencing just about every disease and bug known to the orchid growing world, it seemed that I had seen it all. Apparently not!

Late this winter, a few ascocenda flowers appeared to dry prematurely around the edges. It was, after all, very dry during that time with heaters running most nights. The problem became more widespread a month or so later and seemed to coincide with water quality problems. By April, cattleya flowers were showing the same problem and finally in May summer blooming phals exhibited the same symptoms. Under a magnifying glass the reason for ruined flower was obvious, a tiny weevillike insect that I have never seen before. The only good that came out of this was a great introduction to a “Tips” column on insects and a good portion of crow humility.

Most new bugs that turn up in orchid collections are easily controlled because they have not been exposed to insecticides before and so have little resistance. This weevil was extremely vulnerable to a simple spray of light (Sunspray) oil. The trick with a new pest is to totally eradicate it before it builds up pesticide resistance as has cattleya scale. Over many years, it has become almost totally resistant to conventional pesticides such as Malathion. Even Orthene and more potent pesticides are not 100% effective.

Most scale insects have life cycles that include pesticide resistant eggs and/or life stages. That is why most treatments for scale require several, usually three treatments 7-10 days apart. Each treatment kills life stages susceptible to the toxin and over three treatments gets every single insect in some vulnerable stage. Timing is important as once the scale matures it can lay pesticide resistant eggs. If temperatures are warm then the life cycle takes less time, because scale insects are cold-blooded creatures.

Most scale insects can also reproduce without sex. They just pop out little copies of themselves and infest your orchid. Besides cattleya or boisduval scale, several other scales can be found on orchids including a soft brown scale that likes to infest phals. Take a look at the latest issue of the AOS book on orchid diseases and pests and it will be clear which scale is on your orchids. All scale insects have a motile or crawling stage so they can go from one plant to the next. They will also fall from hanging plants onto your orchids below. If just one scale survives your treatment, it will eventually multiply and reinfest your collection. This is why all orchid collections include scale.

There is a range of treatments available including the examination and removal of individual scales, if you have just a plant or two, to wholesale spraying for large collections. Attempts to use natural means in greenhouses, such as insect predators, do not work because predatory insects require large numbers of prey to maintain their populations and seldom reproduce as fast as their prey. Pesticides by definition kill. That is what they were designed to do and so they should all be treated with caution. Just because a pesticide is “natural” does not mean it should be treated lightly. Natural pesticides are some of the most toxic to people and their pets, while those made in factories are designed to be toxic to

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insects and less toxic to people. In all cases, carefully read the label that comes with every pesticide.

The simplest pesticide, such as light oils, kill by smothering. Insects get oxygen through small openings in their bodies and oils clog these pores. Some products including those made from ingredients, such as hot peppers, deter feeding by insects. This is less effective on scale as they suck juices from the plant and so do not fully “appreciate” the active ingredient. Unless the pesticide can penetrate the hard external shell of the insect or get inside the plant it will not affect the pest. Insecticidal soaps act by removing the waxy coating on the outside of the insect so that it dries up, while more toxic pesticides enter an insect through the small pores that allow gas exchange.

One of the most effective, and some say the safest, is a product that interferes with an insect hormone that regulates molting. Insects have discrete life stages and discard their exoskeleton after each stage until adulthood. One expensive product, now sold as Enstar II, prevents insects including scale, from molting thus interrupting their life cycle. Making sure that every single scale comes in contact with the spray is the difficult part of insect control unless the pesticide is a systemic.

Systemic pesticides are taken up by the plant so that every pest feeding on the plant gets dosed with the pesticide. Most systemic pesticides have some negative effect on the plant. To be effective, these poisons must be taken up by the orchid. An orchid plant with few roots will take up less that a healthy plant. This makes application difficult because one plant with a good root system may be damaged by the same dosage that has little effect on scale inhabiting another plant with few roots.

Effective scale control can be obtained by orchid hobbyists with small collections. Simply follow these steps. Inspect each plant when repotting. Remove all dead tissues so that all plant surfaces can be observed, especially along the rhizome and under leaves. Scales hide in small places. Use a fine jet of water to remove any scale and dirt from all surface of the plant when you repot. Let the plant dry and then spray all surfaces with Sunspray oil that can be stored pre-mixed in a small spray bottle. Be sure to spray under the rhizome on cattleyas. Let the plant dry again and put in a new pot. Keep all newly repotted orchids away from those that have not been inspected.

Next month the control of some slimy pests will be the topic as well as what was learned from last year’s repotting experiments using coconut husks with paphs.