MOS ORCHID newsletter
A newsletter for the members of the Maryland Orchid Society June 2007

president's message

This month's meeting will be our last MOS meeting until September - so bring your blooming plants for the Show Table, join the Education Corner discussions and learn about orchid pollination from Tom Mirenda. We will be starting our "new" year of Orchid Society activities in September and our membership chairman, Marilyn Lauffer, will be sending out membership renewal notices in August. If you would like to be more active in the Society be sure to let me, Gary Smith or one of the Committee Chairs know - we are already starting to plan activities for 2007-2008!

Ann Lundy

Tom Mirenda to Speak about Orchid Pollination

Our speaker this month, Tom Mirenda, will talk about the "Mysteries of Orchid Pollination".

Ever wonder why orchids are so diverse? Why they often look like other types of plants? Why the flowers have so many strange and different shapes, colors and structures? Are orchids trying to be something they're not? And if so, why? It's estimated that close to one third of all orchid species use some form of deception to get their pollinators to do the job. Here we'll explore the various ways our highly evolved orchids manipulate myriad creatures into doing their bidding...and what creature would you guess is the most manipulated of all?

An orchid grower since his childhood, Tom is a very enthusiastic orchid grower and promoter of "the Orchid Lifestyle" (i.e. lots of plants, old worn-out clothes and furniture and a diet with no protein). Even though he studied Marine Biology in college on the West Coast, he always returned to Horticulture as a hobby and eventually a career, working at some of the East Coast's most cherished Botanic Gardens and private estates.

Tom's interest in Orchids has influenced him to travel extensively through Latin America and he is an expert on the Orchids of Costa Rica and Panama.

Tom is in his 5th year as the Museum Specialist for the Orchid Collection at the Smithsonian Institution in Washington DC. The collection is an extremely diverse assemblage of species and hybrids from all over the world, collected for their educational, conservation and ornamental value. He is also responsible for supplying blooming plants year round for the Smithsonian's many horticultural displays, including its annual (5 month!) Orchid Exhibition.

<< From this year's Smithsonian orchid exhibition, "Take a Walk on the Wild Side."

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Novice
1. Phrag. Madeline Rose – Don Forester
2. Onc. Mendenhall – Mary Chiu
3. Phal. Baldan's Kaleidoscope 'Golden Treasure' AM/AOS – Antonella Garbetta Cascella

***Phal.* Baldan's Kaleidoscope 'Golden Treasure' AM/AOS – Antonella Garbetta Cascella**

Home Grown
1. Lept. *bicolor* – Bill Scharf
2. Slc. Jewel Box 'Dark Waters' AM/AOS – The Lundys
3. Tie Ctsm. *tenebrosum* – Val Lowe
   Paph. *rothschildianum* – Mark Robbins

***Slc.* Jewel Box 'Dark Waters' AM/AOS – The Lundys**

Greenhouse Under 200 Square Feet
1. Den. *pierardii* – Les Kirkegaard
2. Paph. Lady Isabel – Lou Vadorsky
3. C. Culminant X Lc. Rolf Altenburg – Barbara Buck

Greenhouse Over 200 Square Feet
1. Ascda. Ashley Lowe – Barry Woolf
2. Brsdm. Fly Away 'Miami' – Cy Swett
3. Blc. Greenwich 'Elmhurst' AM/AOS – The Adamses

Cattleya Alliance
1. Lc. Gold Digger 'Fuchs Mandarin' – Gary Smith
2. Lc. Michael Gefand – Cy Swett
3. Tie Lc. Pink Spice 'Carmela' – John Dunning
   Eplc. Don Herman 'H&R' – Dr. Eric Wiles

Phalaenopsis Alliance
1. Phal. Nob Hill – Mark Robbins
2. Phal. Mystic Golden Leopard 'Cheetah' – The Adamses
3. Tie Dtps. Newberry Parfait 'Picotee' AM/AOS – The Lundys
   Phal. (Taipei Gold X Goldberry) – Les Kirkegaard

Oncidium Alliance
1. Onc. *maculatum* – Barry Woolf
2. Colm. Wild Willie 'Pacific Bingo' – Cy Swett
3. Brsdm. Fly Away 'Miami' – Chris Zajac

***Onc. maculatum* – Barry Woolf**

Paphiopedilum and Phragmipedum
1. Paph. *niveum* – Mark Robbins
2. Tie Phrag. Cape Sunset – John Dunning
   Phrag. Mini Grande – Bill Soyke
3. Paph. *lowii* – David Smith

Miscellaneous Hybrids
1. V. Hybrid – Les Kirkegaard
2. Den. Spider Lily – Barry Woolf
3. Masd. Snow Cone – Marilyn Lauffer

Photo courtesy of Beng Light.

Species
1. Max. *tenuifolia* – Barry Woolf
2. Cadetia *taylori* – Bill Scharf
3. Tie Den. aggregatum – The Lundys
   Ble. *striata* 'Murasaki Shikibu' – Clark Riley

Miniature
1. Den. *laevifolium* – Bill Scharf
2. Pths. *grobyii* – Barry Woolf
3. Den. *lichenastrum* 'Harford' – David Smith

First Bloom Seedling
1. Lc. Sagarik Wax – Clark Riley
2. Paph. (Pulsar X Macabre) – Barry Woolf
3. Paph. *lowii* – John Dunning

Fragrance
1. Max. *tenuifolia* – Cy Swett
2. Phal. Ember 'Carmela' – The Lundys
3. Max. *tenuifolia* – Barry Woolf

The Judges Choice of the Evening was Phal. Nob Hill, exhibited by Mark Robbins. The judges were Anne Minkowski, Aaron Webb and Gary Smith. There were 122 plants on the show table!

***Phal.* Nob Hill- Mark Robbins**

More show table photos on page 10!

education corner

David Smith instructs members about grooming and staking an out-of-control *Phragmipedium*. Most of these techniques can be applied to other plants as well.

David Smith demonstrates as Bill Ellis watches. This photo courtesy of Beng Light.

"Thank you Plants" for September meeting

It has become an MOS tradition for Tom McBride, our Show Table Committee Chairman, to give out "Thank You Plants" at our September meeting. The free plants are provided by the Maryland Orchid Society, and are the Society's way of thanking members for participating in our home and away shows as well as in our monthly show table.

We are trying to update and verify our records for our last home show, the 2007 MOS Spring Show and Sale. If you had one or more plants in the show, please let us know. This would include those of you who:

- Put in a display;
- Loaned a plant to someone for their display; and/or
- Entered a plant into any of the "Grower's Choice" categories.

Please note that it is participation that counts, not whether you won or lost.

If you did have one or more plants in the show, please email Barry Woolf at the email address below so that we can verify that your name is on the list. If you are not sure that you qualify, please reply with the particulars so that Tom can help you decide.

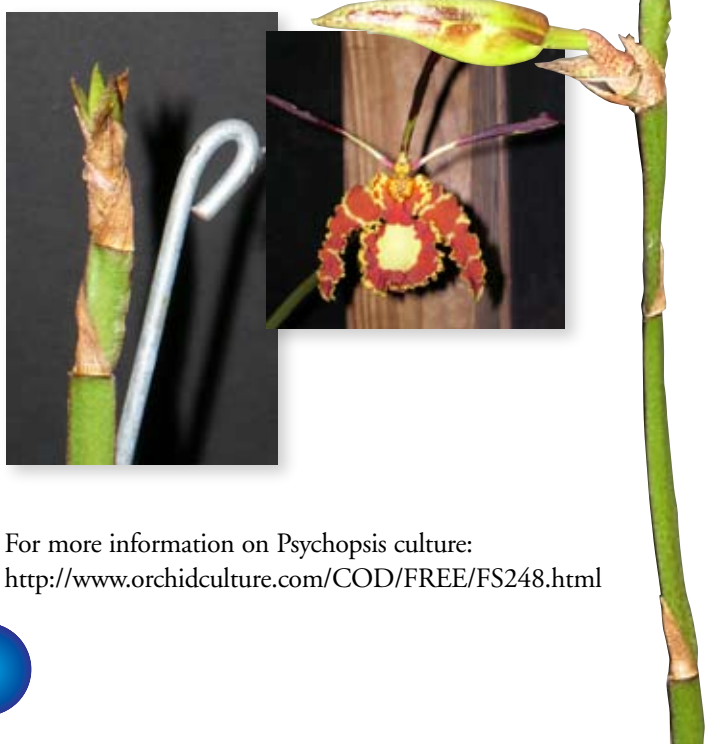
Q&A

The *MOS Newsletter* team offers a column including answers to any questions you might have about orchids. If you have questions regarding orchid care, culture or just general questions please email Laura Sobelman and she will forward it to our "experts" who will give you suggestions. Even better if you have a photo illustrating the question.

Psychopsis Psychosis

Q. My Psychopsis has flowered for the second time on the same spike. Now that the flower is finished, should I cut the spike or see if it will form even another flower? It has another spike that is doing the same thing. I also remember hearing that they hate to be repotted. Unfortunately it is probably way over due. I bought it last June at the MOS meeting. Should I wait until the new flower is done to repot it? Thanks for your help. ~ Laura Sobelman

A. Don't cut the spike! It will produce flowers sequentially — sometimes for years. When the spike turns brown and dry it is finished but as long as there is a little nubbin of green coming out the end of the spike you'll get flowers. If you have another spike coming it will flower as well and if you are lucky you'll have two flowers at once! I would not repot it right now— it's all too easy to knock off the bloom... ~ Ann Lundy



For more information on Psychopsis culture:
http://www.orchidculture.com/COD/FREE/FS248.html

member spotlight

Occasionally the MOS newsletter folks feature members who have graciously agreed to answer some questions about their orchid collections and growing habits. This month's contributor is Cyrus Swett who was kind enough to write this delightful article and has been growing orchids successfully for more than 20 years.

It all began in 1985, when my son was working in the greenhouses at the University of Maryland. He brought home a *Cattleya* that they had separated. Then while on a six month work study program in Florida he gathered a dozen more plants. By 1987 I had about 45 plants growing in every window in the house and had joined the MOS, NCOS and the AOS. In 1988 I moved to Ellicott City and put in my first greenhouse, an 8' x 12' lean-to from JANCO in Laurel. In 1998 I replaced it with a home-made 12' x 20' lean-to. In 2003 I moved to Pennsylvania and put up an 18' x 36' free-standing greenhouse from International Greenhouse Company. I now have about 1,000 orchids. I have propane heat, two large exhaust fans for cooling, and four circulating fans to move air around. The temperature ranges from a low of 50°F (the heat comes on at 55°f), to a high of 95°F, and the exhaust fans come on at 85°F. I water every 2 or 3 days with well water and fertilize once a month with 30-10-10 orchid fertilizer. The next big greenhouse project is to put in a misting system. This will help with the watering as well as the cooling of the greenhouse.

I prefer species, especially the unusual, although I probably have as many hybrids as species. If I have trouble growing a particular species or genera I don't try, as there are so many others that will grow under my conditions. For example, I have difficulty growing *Phals* because of the way I water and I don't grow *Miltoniopsis* because it gets too hot in the summer.

I think growing orchids or gardening in general is more than a hobby, it is a way of life. While in Maryland, I was an active Master Gardener as well as active in the MOS. In the MOS I was the House Committee Chair for several years, the Auction Committee Chair for 8 years as well as Treasurer, Vice President and President. Because I was Auction Chairman and have room in my greenhouse I have collected, cleaned up, debugged and repotted MOS plants for the last 10 years. My advice to new growers is to get involved in a local orchid society. Orchidists are a friendly group that love to talk about their accomplishments and disasters. They will gladly give advice, information and sometimes even plants. My advice to someone putting in a greenhouse is to put in the largest one you can afford because you will never have enough room.

Cyrus and Barbara in their newest greenhouse.

Cy

Photos courtesy of Cyrus Swett

Third Annual Merritt Huntington Memorial Symposium

Presented by an alliance of his orchid friends in Virginia

November 9 & 10, 2007

Ramada 1776, 725 Bypass Road, Williamsburg, Va. 23185

Preview Party: Friday, November 9, 6:00 PM – 9:00 PM

Linda Thorne: "A Tribute to Merritt"
Jeff Bradley: "The Early Orchid Legends of America"

Symposium: Saturday, November 10, 9:00 AM – 4:30 PM
Plants to be entered for AOS Judging by 8:30 AM

8:50 AM	Welcome: Rob Griesbach, Moderator
9:00 – 10:45 AM	Carrie Raven-Riemann: "Mini – but Mighty – Multi-floral Phalaenopsis"
10:45 AM - 12:15 PM	Yin-Tung Wang, Ph.D.: "The Nobile Dendrobiums, from Hawaii to the East Coast"
12:15-1:45 PM & 4:30-5:30 PM	Buffet Lunch (included in registration) and plant sales. Speakers and additional vendors featuring various genera will participate in the sales area.*
1:45 – 3:15 PM	National Capital Judging Presentation
3:15 – 4:30 PM	Dr. Norito Hasegawa: "What's in the Future of Paphs?"

Symposium Registration (includes buffet lunch): $35.00
Preview Party (heavy hors d'oeuvres): $25.00

Ramada Hotel: $69.00 room rate for Huntington Symposium

Early Registration suggested Due to Limited Space

First Name _____ **Last Name**_____

Additional Registrant(s)_____

Address_____

Phone_____ ****Email**_____

❑ **Preview Party Only** ❑ **Symposium Only** ❑ **Combination**

** **We prefer to forward confirmation and additional symposium information by Email**

Check enclosed for $ _____ **Visa or Mastercard#**_____ **Exp:**_____

Please make checks payable to Huntington Memorial Symposium

Return to: Dot Pierce, 917 Beryl Avenue, Virginia Beach, Va. 23464

Symposium: pierce.db@verizon.net

Ramada Hotel – For $69.00 room rate ask for Huntington Symposium. Phone: 800-446-2848 or 757-220-1776

***For additional information go to: www.mycommunityis.com/tos/**

Scale Insects on Orchids

Paul J. Johnson, Ph.D. Insect Research Collection, Box 2207A, South Dakota State University, Brookings, SD 57007
Reprinted with permission from author. For more information: http://nathist.sdstate.edu/orchids/pests/scales.htm

This note is written for the orchid keeper or grower in northern states of the U.S., and Canada, that generally has a small to medium sized indoor collection. Commercial growers or those with relatively large collections may have environmental conditions and access to chemicals not available to us with smaller plant collections. The keeper or grower in southern states enjoys the potential of many more scale problems because of outdoor growing, but also benefits from natural environmental population management by the weather, and predatory and parasitic enemies of scales!

Coccus hesperidium on *Phalaenopsis*

Sources and Identification

Scales are probably the most important insect pests of cultivated orchids in northern climates. Mealybugs and aphids may tie for second in importance and are controllable with the same methods. According to a 1976 publication from the Florida Department of Agriculture and Consumer Services, there are no fewer than 27 species of scale identified from cultivated orchids. Fortunately, few of the hard or armored scales common on woody plants are also pests on orchids or other non-woody indoor ornamentals. Rather most are the soft scales, usually referred to as brown soft scales or hemispherical scales, and will survive indoor or greenhouse plants. Especially common is the brown soft scale (Coccus hesperidium) shown above, and possibly the similar elongate soft scale (Coccus longulus). Boisduval's scale (Diaspis boisduvali), also called Boisduval scale, the scurge of the southern orchidists, is rarely encountered in northern home collections and apparently does not survive well here, except in the larger collections. This may probably be due to the relatively higher level of personal attention given to individual plants in smaller collections. However, when introduced on infected plants it can spread quickly to a variety of orchids and be extremely difficult to control. Boisduval's scale will also seriously debilitate or kill orchids.

Boisduval's scale, female

Coccus hesperidium on *Dendrobium Phalaenopsis* x

The more common species of these odd insects that infest orchids are immediately recognized in the adult stage by the light yellowish to greenish-brown, tan, or dark brown, oval to circular, objects that show-up on leaves, petals, sepals, petioles, pseudobulbs, and sometimes rhizomes and roots. Mature females of Boisduval's scale are a rather typical rounded and light-colored scale type, while males are easily recognized by the cottony appearance of aggregated males, and these may be confused with mealybugs if not examined closely. The immatures, or crawlers, of all scale species are tiny and yellowish to pinkish, and not easily seen without a magnifier.

In the home orchid collection scales are acquired by plants in some combination of three sources. The most common way of acquiring scales is by purchasing an infested plant. Scales are also easily transmitted from infested to clean plants when your plants touch each other and the crawlers to move from plant to plant. The final source is colonization of your plants by windblown crawlers. Colonization is usually done during the summer when your plants are outdoors, but it can also occur indoors in greenhouses and sunrooms by floating on currents produced by circulating and heater fans. This occurrence appears to produce the odd effect of having pockets of infestation when the crawlers settle on plants where the air currents are the weakest and early during a spreading infestation. Similar effects are found with aphids, mealybugs, whiteflies, and spider mites.

Life Cycle

Scale insects have a three-stage life history: egg, larva (or nymph), and adult. Eggs are laid by females, with the eggs usually retained in the body and under the outer "scale" covering when the female dies. These hatch into the mobile nymphs, called crawlers. The crawlers are the active stage that can move between plants. After finding a suitable place for feeding, the crawler will settle and begin feeding, and transform into the next nymphal stage. At this point the female begins to form the hard protective "scale" covering. The covering enlarges as the insect grows. Nymphs often have a light yellowish scale, which darkens to tan or brown as the insect matures. Males of soft scales do not form the hard coating or scale, but are small winged creatures whose primary, if not sole, role is to mate and die.

Scales have short life cycles, but may have many generations per year. In a warm greenhouse or indoors the life cycle may be accelerated, though typically a month or more is required for completion of a generation. It is the overlapping of generations that creates the biggest scale management problem. All control methods are at their greatest effectiveness against the the crawlers. By the time the scales have formed the hardened cover (the scale), it is too late to easily kill those adults with chemicals. Also, the large dry brown scales are already dead and the "shells" may be full of eggs which will spill when the shell is ruptured.

Management

Scale management is usually a protracted and serious effort, and never much fun. Light infestations restricted to one or a few plants can usually be treated with household products rather than concentrated insecticides. When possible, immediately isolate infested plants from others to prevent the crawlers from moving amongst them.

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Because the life cycle of scales can be so short combined with the overlapping of generations, in order to bring a serious problem under control you will need to do a treatment every 2-5 weeks, depending on the life cycle period of your particular problem scale species. Consequently, the key to scale control is persistence and regular scheduling of control methods.

Management methods that are the least toxic to people, pets, and plants, are the most time consuming and laborious. Insecticidal methods, including horticultural oils, soaps, and synthetic insecticides are progressively more toxic (to both the insects and humans!) and more expensive, but less work. Regardless of method or chemical used, you must remain vigilant and expect to make at least 2-3 applications 10-16 days apart.

Because of plant costs, personal attachment to orchids by owners, and the over-riding desire to avoid insecticides whenever possible a number of effective "home remedies" for scale control are available. Be aware that non-insecticidal treatments may not be highly effective for elimination of scales. Thus, they should be viewed as controls, not eradicators. Also, many common home chemicals are extremely toxic to humans, pets, and plants even in diluted forms, often being proportionately more toxic than the feared insecticides.

Rubbing Alcohol

Probably the most popular home remedy is to swab and daub plants with a Q-tip or ball of cotton dipped in isopropyl (rubbing) alcohol. Do not use other alcohols, such as ethanol or methanol, that can penetrate the plant tissues rapidly and cause considerable damage! The concentration of the isopropyl seems to make little difference; the common 70% available in hardware and drug stores is satisfactory. On hard-leaved plants, gentle rubbing with the fingers or a soft toothbrush is effective, with or without the alcohol. Remove all scales, large and small. Afterwards, you will still need to repeat the alcohol treatment to remove the tiny yellowish spots which are the recently hatched crawlers. Pay particular attention to the midrib, other veins, and leaf edge areas. Closely monitor your plants to get an idea of the life cycle of the particular species of scale that is your problem, but expect to repeat treatment against the immatures every 1-2 weeks.

A common alternative to the swab and daub method is to spray alcohol with a misting bottle or small pump sprayer. Many home growers will also mix-in a small amount of mild liquid dish detergent, and sometimes mineral oil, neem oil, or horticultural oil. One recipe for a 1.5 liter spray bottle is to mix a 50:50 solution of isopropyl and water, with a few drops of liquid soap to act as a spreader, and 1/2 to one teaspoon of one of the oils. But, it seems that every grower has their own proportions of these ingredients, none of which seem to work significantly better than another. Caution is urged, however, as excessive amounts or too strong of a detergent, or use of an ammonia-based chemical cleaner may damage your plants, especially buds and flowers. This is particularly true of dish-soaps and household detergents that could remove natural protective waxes from plant tissues. Also, alcohol sprays are not effective against eggs protected by the scale covering, hence the physical removal of the scales by hand is more effective and provides more rapid control.

A potential rare problem with alcohol treatment is chilling of the plant. The rapid evaporation of alcohol cools the plant tissues, especially with air movement that increases evaporative cooling. This chilling is suspected of over-cooling tissues and creating zones of dead cells that may become necrotic from bacteria or fungi. On warm or breezy days consider wiping any residual alcohol with a tissue instead of permitting it to evaporate off the plant. Such problems and tissue drying are found particularly on soft or thin-leafed orchids (e.g. Oncidiinae).

Repotting

Given an extreme infestation you may see scale developing on the roots and rhizomes. At this time, or anytime you observe a heavy infestation, then you may need to consider replacing the potting medium. The potting medium can harbor eggs and crawlers, so dispose of it in a compost pile or in the garbage. When repotting, a close inspection and if necessary a very gentle cleaning of scale and spraying of the roots before repotting is essential. Use care with the cleaning of roots because of their fragility.

Oils, Soaps, and Sterilants

Horticultural oil, neem oil, mineral oil, insecticidal soaps, and sterilants form the next stage of chemical control of scale insects. The oils and soaps are often regarded as "organic" or non-chemical methods, but this is a misconception or an extremely broad concept of "organic." Indeed, neem oil is extracted from the neem tree, but horticultural oils and mineral oil are petroleum distillates. Likewise, insecticidal soaps are a solution of synthetic pyrethroids mixed with a detergent (soap) that is made from petroleum products. Sterilants are anti-bacterial and anti-fungal chemicals that are also often effective on algae. However, all of these solutions are generally considered safer for humans, pets, and plants than usual insecticides. None provide absolute control over pests, but frequent use during the presence of pests frequently reduce insect populations to below self-sustainable levels in small orchid collections.

Horticultural, mineral, or neem oil solutions smother the insects, so complete coverage of all sprayed plants is essential. These oils are mixed with water and usually a plant-safe detergent for enhancing the spreading and sticking of the oil. The main caution with these oil solutions is that they should never be applied to plants on hot days (>80 degrees F) or in direct sunlight, as to prevent burning of tissues. Leave the plant in shade until the application has dried. Usually mineral or horticultural oils are best as plant derived oils may spoil rapidly in heat and create gummy blobs or decay malodorously.

Insecticidal soaps are usually solutions of a synthetic pyrethrin, piperonyl butoxide as a synergist (to enhace the effectivenss of the pyrethrin), and sometimes a plant-safe detergent. As with oils the detergent acts as a surfactant and spreader for dispersing the pyrethrin evenly, and as a mild caustic against the insects. Also, to prevent sunburn apply the chemical and allow it to dry in shade. Pyrethroids are synthetic analogs of pyrethrum, the natural extract from certain Asteraceae. Caution should be urged with so-called "safe" insecticidal soaps as some plants are sensitive, particularly tender new tissues, and when mixed with hard water. Some non-orchid ornamentals will drop leaves and abort flowers when sprayed with insecticidal soaps, so caution is urged with prized orchids. Though piperonyl butoxide is usually regarded as safe for plants, it can cause allergies and respiratory problems for users and may contribute to phytotoxicity problems.

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Sterilants are usually Physan 20, RD20, or Consan 20, and these are used as anti-bacterial, anti-algal, and anti-fungal agents. These solutions are all composed of isomer cocktails of quaternary ammonium chloride and all have the same antibiotic activity. Quaternary ammonium chloride solutions are common cleaners used by commercial kitchens, janitorial services, and bathing pool maintenance, and are commonly available in concentrated forms at hardware and home repair stores. These chemicals can be used in diluted form, according to label directions, usually for controlling bacterial and fungal diseases on orchids. However, at these same dilutions there is some limited effectiveness on scale crawlers and other delicate insects. Frequent use of sterilants for insect control is not recommended, due particularly to potential damage on new growth, buds, and flowers, and should be done under shade to prevent sunburn.

Insecticides

Persistent populations of scale or infestation in many plants often demand the need for use of synthetic insecticides. There are few insecticides specifically registered for use on orchids, but there are several common, inexpensive, home-and-garden chemicals labeled for ornamental plants. Insecticide formulations not labeled for ornamental plants are often mixed with solvents that aide in the application of the active ingredient for specific purposes. These solvents, not necessarily the insecticide itself, often produce phytotoxicity and may seriously damage or kill plants. Thus, never use any insecticide that is not specifically labeled for ornamental plants.

There are many insecticides available for ornamental plants, but some are not tested on orchids, and others are generally too expensive or otherwise readily available for the small keeper or grower. Some of the more available and effective insecticides that come in various brand names are acephate (e.g., orthene [wettable powder or liquid]), imidacloprid (liquid), malathion (liquid), and carbaryl (water-based emusifiable concentrate). Other chemicals are available, but in some states you may need a commercial license to purchase them. A current garden center insecticide mixture of acephate and the miticide fenbutatin-oxide is effective for many common orchid pests. Fertilizer/systemic combinations for roses and other ornamentals, usually with disyston/disulfoton, may be effective but are not widely tested on orchids. Also, caution should be given to the fertilizer effect on your plants in combination with other nutrients. Of course, always follow label directions and never, never, never exceed the minimum recommended concentration given in mixing directions! Recommended solutions are based on extensive testing for selected pests and plants. Orchids are tough plants, but many are sensitive to various chemicals, particularly under direct sunlight or high heat, and while certain species may not react to a given formulation others may, so testing is justifiable.

Some insecticides are occasionally discontinued for use because of some discovered hazard. For example, Cygon used to be available, but it no longer recommended and labeled for orchids because it will damage many plants, especially the buds and flowers, and is extremely hazardous to use. As of late 31 December 2004 Diazinon is also no longer available for use, even for non-commercial outdoor use. Although most insecticides with discontinued labels are legally allowed to be "used up", it may be best to dispose of such chemicals rather than continue their use and risk damage or loss of plants, or increase your own health hazard.

Most home orchid keepers and growers in northern states that need to apply insecticides during inclement weather need special care for applications. If you cannot spray out of doors, place your plant(s) inside a large plastic bag (remove the bag after the spray has settled!) and let the plant ventilate where the fumes will not be wafted around the house or work area. Again, you may have to consider removing the potting medium, spraying the plant, and repotting it with new media in a clean pot when the spray has dried.

Growth Regulators and Chitin Inhibitors

Research on the use of insect growth regulators, botanical insecticides, and their application to ornamental plants is increasing, but incomplete. Insect growth regulators, such as kinoprene (tradename = Enstar II), are synthetic forms of juvenile hormone which is highly important in insects at critical stages of their metamorphosis. The use of growth regulators interrupts the normal development of the insects, including orchid pests such as scales, mealybugs, aphids, and whiteflies. Apparently, there is little good and reliable information on their use on orchids, but an increasing number of growers are reporting satisfactory results with Enstar II and there does not seem to be any plant health problems noted thus far. Also, they are regarded as safe for humans and pets. Kinoprene does not work on adult insects and so should never be used to eradicate a pest population, but is best used on incipient infestations and maintenance sprays.

Azadirachtin (tradenames = Azatin and Neemazad) is a plant derived (neem tree) chemical, or botanical insecticide, that is a chitin inhibitor. Chitin is a primary component of the insect integument, or exoskeleton. Azadirachtin reduces the insects' ability to properly develop its integument and causes mortality through incomplete development. There is little information available on this chemical for use on orchids, but it is available on a wide variety of ornamentals and is labeled for greenhouse applications.

Final Considerations

Heavy infestations of scale, especially on many plants may require severe control methods. In such situations, you may need to consider the use of a synthetic insecticide. On the extreme side if you have a plant showing signs of decline from scale you may have to seriously consider destroying that plant, as the low likelihood of rejuvenating that plant may not justify the expense and effort of continued treatments. After all, the destruction of a sick plant can be used to justify the purchase of a new and healthier plant!

If you are battling scale for long periods of time (e.g., >9 months) and have been using the same insecticidal control method then you may have built a bigger problem that you started with. Depending on the length of time of your problem and the intensity of chemical use you could have selected a population of resistant scales. The best resolution to this is to change methods and chemicals occasionally; that is, do not use the same chemical mix more than 3-4 times sequentially. After isolating infested plants give them a thorough application of something different from what you have been using. For example, if you used insecticide then switch to an oil, soap, or different insecticide.

Generally, never use an insecticide not labeled for ornamental plants. Whenever using oils, soaps, and insecticides, be thorough, change formulations frequently,

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and do not use less than the minimum concentration of mixture. Too little of a chemical enhances resistance, while too high of a concentration may damage the plant. Never use hard chemicals prophylactically, that is do not routinely use chemicals as a preventative as it is a waste of chemical (and money!) and such use allows resistant scales to develop. Finally, keep up the manual removal of all scales, if possible. Removing the egg laying adults is as important as killing the nymphs. And, remove the dead scales because eggs protected under the shell of the dead female may hatch and re-infest the plant.

The single greatest problem leading to unsuccessful scale management is lack of patience and lack of attention to scheduling. It takes time to eliminate a scale population. It also requires intensive and regular control methods over a minimum of 2-4 month period, and there still may be no guarantee of eradication.

"Save Costa Rican Orchids" Brochures Available

At the next meeting, copies of the "Save Costa Rican Orchids" brochure will be available on the membership table. Anyone interested in making a donation can fill out the pledge form and send it in or go to www.sacro.org.

calendar

Next General Meeting

June 21, 2007

7:00 p.m. Show table set up
7:15 p.m. Education Corner
7:30 p.m. Judging begins
8:00 p.m. Meeting begins
8:15 p.m. Program begins

The Maryland Orchid Society meets at the First Christian Church, 5802 Roland Avenue, Baltimore MD. Please bring in your flowering orchids for the show table!

Woodstream Open House

June 23-24, 2007

National Capitol Judging Center

July 7, 2007 and August 4, 2007 1:00 pm National Arboretum, 24th and R St., NE Washington, DC. Sue Burgess, Program Director

Next Board Meeting

The next Board meeting is scheduled for July 11, 2007 at David and Margaret Smith's house at 7 pm. Food will be served at 6:30 pm. Everyone is encouraged to attend.

Summer Orchid Fest Parkside Orchids

July 28-29, 2007
2503 Mountain View Drive
Ottsville, PA 18942
610.847.8039
www.parksideorchids.com

Central PA Orchid Symposium

August 12, 2007
West Hanover Recreation Center in Harrisburg, PA

Third Annual Merritt Huntington Memorial Symposium

November 9-10, 2007
Ramada 1776, 725 Bypass Road Williamsburg, VA. 23185

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Paph. niveum – Mark Robbins

Eplc. Don Herman 'H&R' – Dr. Eric Wiles

Den. laevifolium – Bill Scharf

Lc. Sagarik Wax – Clark Riley

from the editor

I am an orchid grower with limited space and treasure each precious plant I bring home. Recently I discovered one of my favorite *Phals* — a gift from a friend — had a virus, an incurable malady that can infect the rest of one's orchid family and ultimately sends the plant to the big green house in the sky. It was a diagnosis I did not accept stoicly. Much like me she was a fairly common cross and we had practically grown up together; she was one of my first plants and weathered all my fumblings at trying to figure out her likes and needs. She survived spider mites, white flies, aphids, slugs, mice, children and many more unimaginable menaces.

I remember bringing her home and introducing her to my other three plants who stuck their noses up like a bad smell. She stood by me when I forgot to water her, frequently rewarded me with new spikes and was tolerant when I lavished my affections on a newer plant.

Heartbroken and doing everything I could to save her because I couldn't bear to see her go, I subjected her to root analyses and repotting, water flushes and droughts, intravenous fungicides and antiviral drugs, alcohol mists and Malathion. I excised the infected tissue and applied salves. She held on for a few months then finally succumbed, I'm sure more from my ministrations than the disease. As the death knell tolled, I tenderly pulled out her flower stakes and clipped off spikes. Last rites involved a sprinkling of RO water. With heartwrenching sobs I retired her plant label, adding it to my stash of past casualties. The other *Phals* and a few close *Oncidiums* attended her funeral from a distance for fear of contagion. I wrapped her in a newspaper shroud and gently and ceremoniously tossed her into the compost heap. We sat shiva for 3 days and to this day I can't walk by her clay pot without choking up. Oh well ... now a visit to The Little Greenhouse.

Laura

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