NOOS Newsletter

MEETING NOTICE
Tuesday, July 19, 2011
City Park Garden Study Center
7:30pm

GUEST SPEAKER
"Growing Cooler Orchids in Warm Climates"
by Geri Powell

NEWCOMER'S PROGRAM
"Easy Mounted Orchids"
by Margaret Bossier

President's Message

Prez Sez,

DID YOU KNOW

Did you know some of the behind the scenes, thoughtful and time consuming things that the NOOS Board members do to make membership in the Society such an enjoyable experience?
For instance, Vice President, Donna, not only finds speakers, but assists with travel arrangements, arranges for entertainment, finds housing, emails other societies to coordinate programs and even participates in teleconferences with other societies to plan for future speakers that will interest and delight you.

Our treasurer of many years, Alice, balances the Society's books, of course. But did you know she and husband Eddie spend numerous hours traveling to and from orchid shows where she offers her judging skills and opinions on hundreds of orchids. And we benefit from her judging "family" and other AOS contacts.

Your Secretary, Larry, has to pay attention through the WHOLE meeting to pick out the important information that goes into the minutes. He also visits the PO box in Metairie checking for mail, new member applications and dues. He makes the membership list and broadcasts emails of last minute information to all members.

Carol Stauder must now be used to members skulking around her back porch bringing or picking up plants for shows. As a Past President, she has the knowledge and experience of past years of orchid meetings and shows in addition to considerable knowledge of orchids. Registering plants and making tags and more often than not setting up exhibits, she is a big giver to the Society.

Our 3 trustees, Carol Molero, Margaret Bossier and Debbie Dinwiddie are really behind the scenes Board members. They may not have a title other than Trustee, but we trust them to offer perspective, support and opinions during the decision making and voting processes. The time an effort they invest is valuable to Board function. Additionally, Debbie runs the raffle at meetings and cares for our website.

Technically, these officers comprise the NOOS Board. Next month - some other folks who offer behind the scenes time and effort to make our Society a great one!
Remember to thank your Board members.

Molly

Minutes of the June 2011 Meeting

by Larry Hennessey

President Molly Prokop called the meeting to order on May 21, 2011. A moment of silence was observed in remembrance of Russel's Mom who passed away recently.

One new member joined at the show, Jolie Bernard.

VP Donna reminded everyone that next month's speaker from the Orchid Gallery in Tennessee will be bringing their special cool pots for growing orchids. Also, our speaker for August, world renowned Vanda grower Bob Fuchs, will be updating the RF Orchids catalog sometime in July so don't pre-order any plants until the catalog gets updated.

Treasurer Alice presented the financial report.

Molly did a recap of the show. She reported all went great. Thank yous went out to everyone who contributed. Lakeside management reported no problems. Debbie reported the raffle raised $501. It was noted that the results in the newsletter had a typo on Ian's name.

The board recommended and the membership approved a donation of $1000 to the ODC (Orchid Digest) for their year end special issue.

Other upcoming shows are

7/8-7/10 Terrebonne

8/5-8/6 Houston Summer Workshop

Carol, Marian and Larry will be putting up a 5x5 (25 sq ft) exhibit at the Terrebonne show in Houma. Groomed, staked and properly labeled plants must be delivered to Carol's house by 8pm on Wednesday, July 6th, or before noon on Thursday, July 7th. Email your plant list to Carol (seestauder@hotmail.com) before dropping off your plants. Remember to include a paper copy of your list with the plants.

The society's library was discussed. Russel has been trying to get someone to take over the library for some time. The usefulness of maintaining the library was questioned. Ideas for disposing of it included donating to the park or selling it off. Alice brought up, some of the volumes in the library may be valuable.

Vienna will be giving up her roll as newsletter editor next year. A volunteer is needed to take over the newsletter for next year.

After a brief refreshment break (cake provided by Max), guest speaker Dr. Joe Abendroth of Lafayette presented a program on Eastern Asian Slippers.

31 members were present at the meeting. Next meeting July 19.

Mites on Cultivated Orchids

Part 1

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Bug Bites

Yellow speckles or browning of leaves on your orchids? Webbing of silk on various plant parts and no spiders to be seen? Consider mites as possible culprits. Mites are tiny creatures related to spiders and ticks, and are not insects. Plant-feeding mites can be thought of as plant parasites and are often amongst the most serious pests of cultivated orchids. Common orchid cultural conditions in homes and hobby greenhouses can favor mites, and the use of pesticides removes natural predators and allows development of resistant populations.

Sources and Identification

Mite species that are pests on cultivated orchids generally fall into two main categories, spider mites, and flat mites. The latter are also called false spider mites, but the name flat mite is preferred as it is accurately descriptive and avoids confusion with spider mites. There are other pest species of mites, but they are generally of less importance.

The most common spider mite recognized as a persistent pest of orchids is the common two-spotted spider mite (*Tetranychus urticae*), but the carmine spider mite (*Tetranychus cinnabarinus*) may be an unrecognized pest species in North America. The spider mites are a yellowish-green and usually with two large dark areas on either side of the body at about midlength. They are active species that is easily seen wandering the plants. Spider mites received their name because of the silk webbing that they produce, not because they may appear like small spiders. The two-spotted is also known by other common names, including the "red spider mite" because of an orange-red over-wintering form. However, it is possible that in some cases the red form of the two-spotted may actually be the carmine spider mite. Both species are global, feed on many kinds of plants (polyphagous), and are easily transported on many kinds of plants.

Flat mites recognized as pests on orchids are the orchid mite (*Tenuipalpus orchidarum*), the phalaenopsis mite (*Tenuipalpus pacificus*) and the oncidium mite (*Brevipalpus oncidii*). *Tenuipalpus orchidofilo* was described recently and was reported as a pest of *Arundina graminifolia* in Brazil, but there are apparently no reports of this species elsewhere. Three other species are recorded from orchids, Brevipalpus phoenicis (red and black mite), B. *californicus* (omnivorous mite), and *B. russulus*, but these reports are not verified and may represent misidentifications. Flat mites are native to tropical and subtropical habitats and hosts, and are moved globally by the plant trade. There are probably more species on orchids, but the taxonomy of tenuipalpid mites is poor as is accurate information about their occurrence on orchids. Flat mites are smaller than two-spotted spider mites, difficult to see without magnification, and move very slowly.

Other mites frequently found associated with orchid culture include predatory mites that feed upon pest mites. There are many innocuous mite species that feed on fungi, bacteria, and decaying organic materials. There are also a number of beneficial mites that are predators on plant-feeding mites, insect pests, and other critters. Oribatid mites that look like tiny round, dark-colored beetles feed on fungi on plant parts and decaying organic materials. A large diversity of yellowish to light brown mites are frequent in potting media and may occasionally be found on plants. These are usually large, >1.0 mm in length and easily seen.

The two-spotted spider mite is probably the most important mite pest of cultivated orchids in all areas, but flat mites are very common and are often not diagnosed properly. Both two-spotted and flat mites can become problems in greenhouses and homes. Because of the small size of these mites, and great similarity among related species, their accurate identification is difficult and often requires the help of an experienced entomologist with a high quality microscope. In general, two-spotted's and flat's are small sized, with two-spotted's reaching a grand 0.5 mm in length and flat's reaching a mere 0.3 mm in length. All of these mites are pale yellowish-green to orange-red color and often with two or more black areas visible through their integument. All bear conspicuous pale hairs. Two-spotted spider mites spin networks of silk webbing that protects their colonies from predators and helps maintain high humidity near the leaf surface. This webbing is also protective against pesticide sprays. Flat mites do not spin this webbing.

Typically, mites are always present in low numbers. This makes managing cultural conditions important for mite control. Mites will readily move between plants, float on air currents, be introduced on new plants or those brought indoors from the garden, and the eggs or resting stages may be in potting media. Colonization of your plants by mites can be done at any time, but severe problems may not show themselves until favorable environmental conditions are present. In the home and hobby greenhouse spider mites will readily move to orchids from other plants.

Damage

All of these mites may be found on a wide variety of orchids. In addition, the two- spotted spider mite is known to feed on hundreds of different plant species. The larvae, nymphs, and the adults all feed by puncturing cell walls and sucking cell contents, particularly chloroplasts. The killing of individual cells or groups of cells produces the transparent, yellow, or tan patchwork of damage that indicates mite infestation. Feeding may be done on many plant tissues, but mostly on leaves and buds and can cause these to drop prematurely.

Heavy feeding produces a patchy chlorotic appearance to leaves, and portions of or the entire leaf may turn dry and brown. This damage generally reduces the vigor of plants and may kill plants. Mites may also transmit certain viruses.

Flat mites often feed on the upper surfaces of leaves and this will create a pock-marked appearance from empty and collapsed leaf cells. This type of damage is particularly easy to see on infested *Phalaenopsis* leaves. Flat mite feeding on thin leaves, especially the underside, is similar to the stippling caused by spider mites, but there is no webbing. Mite damage is permanent, so it is best to manage mites at low populations than to experience heavy infestations. Thin or soft-leaved orchids are more susceptible to mite damage than those with thicker leaves, but no species or variety is immune.

Life Cycle

Both two-spotted spider mites and flat mites have five life stages: egg, larva, protonymph anddeutonymph (or nymphs), and adult. The larva has only six legs, but the nymphs and adults have eight legs. Eggs are laid by females on the surface of plant structures and are often hidden in crevices. Eggs and larvae are very tiny and are nearly impossible to discern without magnification. A good handlens is useful for seeing even the adults.

Developmental rates of mites are dependent upon temperature. In general, the higher the temperature the shorter the life cycle. The egg may take upwards of three weeks to hatch for flat mites, but only 1-2 days for two-spotted spider mites, at standard indoor temperatures. While larval and nymphal stages usually take 5-6 weeks to reach adulthood for flat mites, it may take only 1-3 weeks for two-spotted spider mites. Optimum temperatures for development are 30-32°C (86-90°F). Both kinds of mites will have many generations per year under favorable conditions. While flat mites may take 6-9 weeks to complete a generation, the two-spotted spider mite can complete a generation in as little as 5 days in optimum conditions. Like other orchid pests the overlapping of generations creates a significant mite management problem.

Management and Control

Pesty mites tend to increase in numbers during "rain-less" periods due to the lack of rain, fog-drip or other sources of free water on plants. It is the physical presence and force of impact of water that help keep plant-feeding mite populations low. Spider and flat mites require high relative humidity and occupy a thin static air layer next to plant integument. Under `normal' conditions the mites are widely dispersed on and among plants. In dry conditions, the mites concentrate in the most protected areas in the static air layer next to the plant and between hairs. Further, the silk spun by spider mites acts as a tent to deflect air flow and hold humidity close to the plant. Low humidity and lack of free moisture is also bad for predatory mites and insects, important natural control factors for spider and flat mites. In-doors and in greenhouses, spider and flat mites become serious problems during the winter under the combination of reduced overhead watering and absence of predators, and use of insecticides. In the home, typical gentle misting methods simply are not effective on mites when dry air is circulating from furnaces and heaters. Overall, it is a rather delicate balance between high relative humidity, free moisture, a dry air source, breeziness, temperature, and the presence of predators that keeps mites well managed.

Two-spotted spider mites and flat mites are small and relatively delicate creatures. The easiest method for keeping mites under control is to regularly spray, or syringe, the plants with water. In the home placing your plants in a shower or using a sink sprayer is very effective. Mites are readily washed from the plants or are damaged by a heavy spray. In a greenhouse regular spraying and misting is effective.

Biological control of mites is feasible even in small hobby greenhouses. Numerous predatory insects attack mites, including lacewings, ladybeetles, and wasps. The use of predatory mites is particularly successful in greenhouses. Most of the predator mites that are sold by suppliers are from several genera. *Phytoseiulus persimilis* is a commonly used and readily available species. Of course, the use of insecticides and miticides when biological control agents are active is self-defeating, and mite problems can be exacerbated by use of general insecticides.

End of Part 1

Monthly Winners

Tuesday, June 21, 2011

Award	Plant	Member
BG-1	Ascda. Molly's First	Molly Prokop
BG-1	Z. 'Titanic'	Vienna Mackey
BH-1	Phal. Little Gem Stripes 'Tie Dye'	Ann Roth
BH-2	Ascda. Molly's First	Molly Prokop
BH-2	Z. 'Titanic'	Vienna Mackey
BS-1	Rhy. coelestis	Carol & Arne Stauder
BS-2	Stan. saccata	Larry Hennessy
BS-3	E. tampensis	Ian Hiler

August 5-6

Houston Orchid Society Workshop, St. Thomas University, Crooker Center, 3900 Graustark, Houston, TX. Contact: John Stubbings, 3701 Coral Reef Dr., Seabrook, TX 77586; (832) 693-8140; jdstubbings@comcast.net.