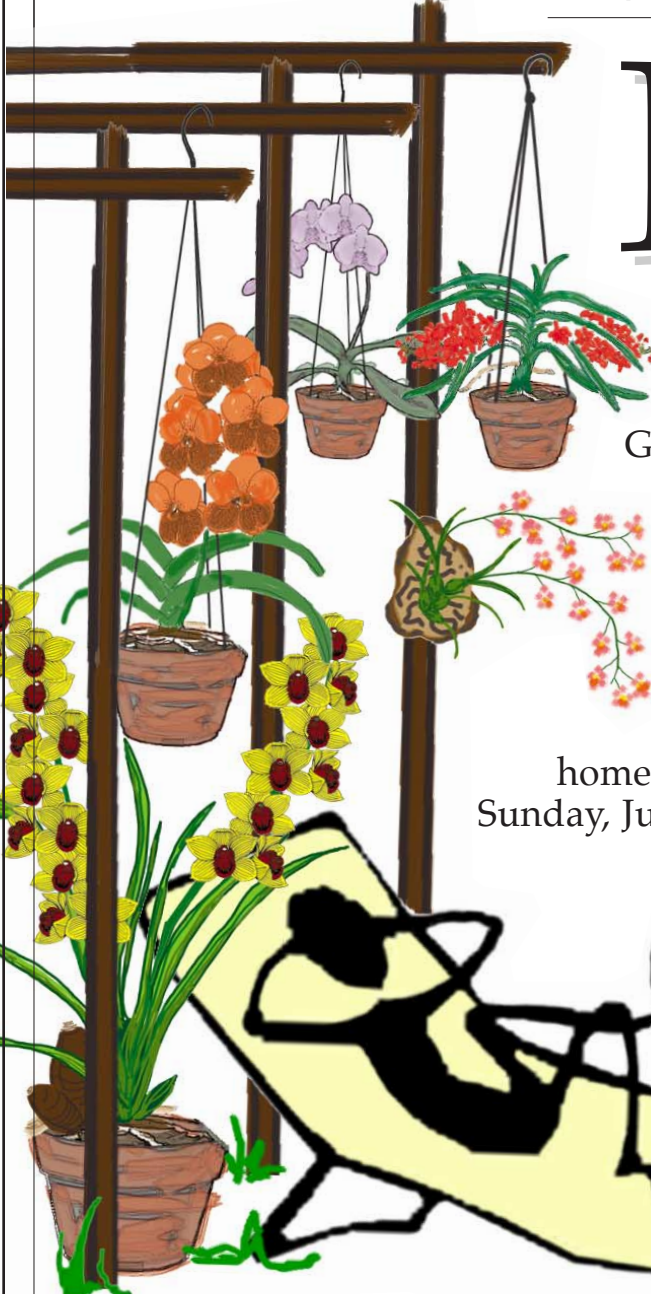


IT'S TIME TO RELAX!!!



Hard to believe, but another CNYOS season has nearly come to a close! And it's been pretty busy, with a very successful fall show, trips to two local greenhouses, three invited speakers, a pair of culture clinics, the holiday dinner, the CNY Flower & Garden Show, the mounting clinic, and finally, last month's very successful auction! CNYOS members certainly know how to keep themselves occupied! But now it's time to round out the CNYOS 2001-2002 season with our annual summer picnic, to be held this year at the home of Ken and Judy Renno. **Date:** This Sunday, June 2ND. **Time:** 3:00^{PM}. Bring a chair to sit in and a dish to pass. **Please RSVP (652-6495) by Saturday, June 1, and give Ken an idea on what you're planning to bring.** Directions to the Renno's home are given on **Page 11**. Non-alcoholic beverages will be provided. There will be a short meeting before we eat—on the agenda will be the club's participation in the Great NY State Fair this August, as well as our quickly approaching show in September. And don't forget to bring your summer blooming orchids for the show table!

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MAY MEETING: ANNUAL ORCHID AUCTION

This year's auction was a resounding success, netting a total of well over \$1000! This money will go a long way toward our club's future activities, everything from invited speakers and innovative meeting programs, to our fall show. Most members were able to go home with at least one or two new plants to add to their collections. Thanks are due to the following vendors for sending donations, all of whom were very generous: *AnTec Orchids, Bedford Orchids, Bloomfield Orchids, Carter & Holmes Orchids, Everglades Orchids, H & R Nurseries, Hoosier Orchids, Marlow Orchids, Mountain Orchids, Oak Hill Gardens, Piping Rock Orchids, & Zuma Canyon Orchids.* Our annual auction would not be possible were it not for the generosity of these vendors, who **really outdid themselves this year. So please return the favor and remember them when purchasing orchids in the future.** All are linked from the CNYOS web page. Thanks go out to CNYOS Co-VP Ken Renno for keeping track of the money.



CNYOS DOES WELL AT THE SOUTHERN TIER SHOW

Members Judi Witkin and Judi Daly made the drive down to outside of Binghamton to set up the club's display in the Southern Tier Orchid Society Show, held April 26-28. They set up an impressive display, and CNYOS members did well. CNYOS awards are listed below by member.

Member	Plant	Award
Dianne Bordoni		
	<i>Phal. Brother Glory 'Long Fong'</i>	2 ND
	<i>Dvra. Hawaiian Delight 'The Clown'</i>	2 ND
	<i>Vuyl. Melissa Brianne 'Shady Lady'</i>	3 RD
Donna Coleman		
	<i>Phal. Timothy Christopher</i>	1 ST
Dave Ditz		
	<i>Bulb. picturatum</i>	1 ST
	<i>Paph. hirsutissimum</i>	2 ND
	<i>Paph. Delophyllum</i>	3 RD
	<i>Phal. (Pomeroy x Terradyne)</i>	3 RD
Jeff Stuart		
	<i>Cym. tigrinum</i>	1 ST , Best Cymbidium Alliance

GROS Show Awards

The following CNYOS members received awards for their plants entered in the GROS Show, April 19-21.

Member	Plant	Award
Dianne Bordoni		
	<i>Phal. Taipei Gold</i>	2 ND

1. CNYOS did well at both the GROS and STOS Spring Shows.
2. Our picnic is scheduled for 6/2/02 at Ken Renno's house.
3. We are scheduled to be at the Great New York Sate Fair August 24-25, with set-up the 24TH and take down the 25TH. This event is for informational purposes only.
4. May Refreshments—thanks to Dave Ditz, Jennifer Wilson, and Dolores Capella for the great food.
5. Regarding the Fall Show—Iris Cohen stated that Elihu will be able to set up the computers for the Show, but will not be able to stay to help with registration. Pre-registration is strongly encouraged. Also, people will be needed to volunteer for a variety of show-related tasks. We are also looking for people to provide entries in more varied subjects, such as paintings, crafts, photographs, and educational displays related to orchids.

**Respectfully Submitted,
Barbara Weller, CNYOS Secretary**

<i>Phal. Brother Glory 'Long Fong'</i>	3 RD
<i>Dvra. Hawaiian Delight 'The Clown'</i>	3 RD

Dolores Capella	
<i>C. Marie Riopelle 'Charlie'</i>	1 ST

Iris Cohen	
<i>Paph. spicerianum</i>	2 ND

Donna Coleman	
<i>Paph. (Mem. Maurice Powers x fairrieatum)</i>	3 RD

Dave Ditz	
<i>Pths. racemiflora</i>	1 ST
<i>Paph. Delophyllum</i>	2 ND
<i>Paph. Delrosi</i>	3 RD
<i>Paph. hirsutissimum</i>	3 RD

Jeff Stuart	
<i>Cym. tigrinum</i>	1 ST , Best Cymbidium Alliance
<i>Paph. Meda Ballard</i>	1 ST
Photo: <i>Lths. calodictyon</i>	1 ST
Photo: <i>Amesiella philippinensis</i>	1 ST
<i>Paph. adductum</i>	3 RD
Photo: <i>Den. sulcatum</i>	3 RD

Judi Witkin	
<i>V. testacea</i>	1 ST
<i>Phal. Sogo Grape</i>	2 ND
<i>Asctm. miniatum</i>	2 ND

CNYOS*	Exhibit Class B; Orchid Societies	2 ND
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*Exhibit set up by Judi Witkin, Barbara Weller, & Jeff Stuart

Thanks to all members who donated their time and / or plants for the Spring Shows!



June 2**Annual CNYOS Summer Picnic!** Tentative date; details to be announced.**July 27-28****Parkside Orchid Fest 2002:** A two day educational and sales event hosted at Parkside Orchid Nursery in beautiful Bucks County, PA. 22 Vendors will display and sell the finest in orchids for the beginner to the serious hobbyist. On Saturday, there will be a series of three lecture/workshops and on Sunday you can attend a diagnostic clinic in which you can get all your orchid questions answered. See the Parkside Orchids web page for more information: <http://www.parkside-orchids.com>**August 24-25****CNYOS Booth at the Great New York State Fair!** CNYOS will have a display and information table in the Horticultural Building at the State Fairgrounds.**September 27-29****2002 CNYOS Annual Fall Orchid Show & Sale:** Shoppingtown Mall. Details to be announced.

Mini-Auction at Picnic!!!

A pair of donations arrived too late for our May auction!

Bedford Orchids (AOS Judge Howard Ginsberg) sent a large seedling of *Phal.* Little Emperor 'Lee' AM/AOS, a beautiful multifloral yellow. And Carter & Holmes sent a \$40 gift certificate. Both of these items will be auctioned off at this Sunday's picnic. So if you missed the opportunity to get something special last month, here's a (small) second chance!

GROS NEWS: NEWS FROM THE GENESSEE REGION ORCHID SOCIETY

The Genessee Region Orchid Society marks the end of its season with its annual Summer Picnic, Sat., June 22, Ellison Park "Pavilion" shelter, Noon to whenever. Everyone should bring a dish to pass, and GROS will provide beverages and grilled meats.

Taken with permission from *The Orchid Collection*, Newsletter of the Genessee Region Orchid Society, Vol. 24, No. 8, June 2002, Phil Matt, Newsletter Editor (716) 288-7025.

STOS NEWS: NEWS FROM THE SOUTHERN TIER ORCHID SOCIETY

In June, STOS is tentatively planning on having its annual covered dish dinner/picnic. No details are available at this time.

Monthly meetings begin at 2:00^{PM} in the Vestal Public Library. For directions, etc. call STOS president Kenneth Lattimore at 570-553-2753 or e-mail him at <klatt@epix.net>.

Cypripedium Alliance

Phrag. Sedenii (schlimii x longifolium) Stuart
Paph. barbigerum Cohen

Cattleya Alliance

Rhyncholaelia digbyana Stuart
 Sc. Mini Collins (*C. Michael Collins x Soph. Arizona*) Ditz
Prosthechea cochleata (syn. *Anacheilium cochleatum*)* Wilson
Bl. Yellow Bird† (Richard Mueller x *B. nodosa*) ?

Vandaceous

Phal. Golden Buddha (Cher Ann x Spica) Groll
Phal. Roman Dusk (Golden Buddha x Ida Fukumura) "
Asctm. ampullaceum var. *moulmeinense* Witkin
Phal. Breck's Freegold x *Dtps. Happy Valentine* Lloyd
Phal. Harford's Jewel (Tabasco Tex x *violacea*) Capella
Phal. Pomeroy x *Terradyne* (sic) "
Phal. Leucorrhoda x *Ho's Amaglad* Cohen
Phal. aphrodite Ufford
Phal. lamelligera "
Phal. aphrodite subspecies (sic)§ *formosana* "
Phal. gigantea x *Golden Pecker* (sic) Coyle
Phal. Sogo Pony (Ching Her Buddha x *Sogo Kaiulani*) "
Phal. Brother Sally Taylor (sic) x *Carmela's Brite Lites* Wilson

Oncidium Alliance

Tpla. tortilis Stuart

Tpla. marginata "
Rhynchostele rossii Groll
Colm. Jungle Cat (*Jungle Monarch* x *Rhynchostele bic-toniensis*) Witkin
Miltoniopsis phalaenopsis "

Dendrobium

Den. moniliforme Groll
Den. harveyanum "
Den. sulawesiense Stuart
Den. cuthbertsonii Wilson

Pleurothallid Alliance

Pths. (?) pseudoglomeratum Groll
Pths. racemiflora "

Miscellaneous

Mlca ringens Groll
Cymbidiella pardalina "
Gga. horichiana Witkin
Palumbina candida Stuart

*Cast your vote. Final results are not in yet.
 †Grex names do not take any quotation marks.
 §A variety is a variant of a species found growing in the same area as the normal form. A subspecies is a variant found growing in a separate geographical area.

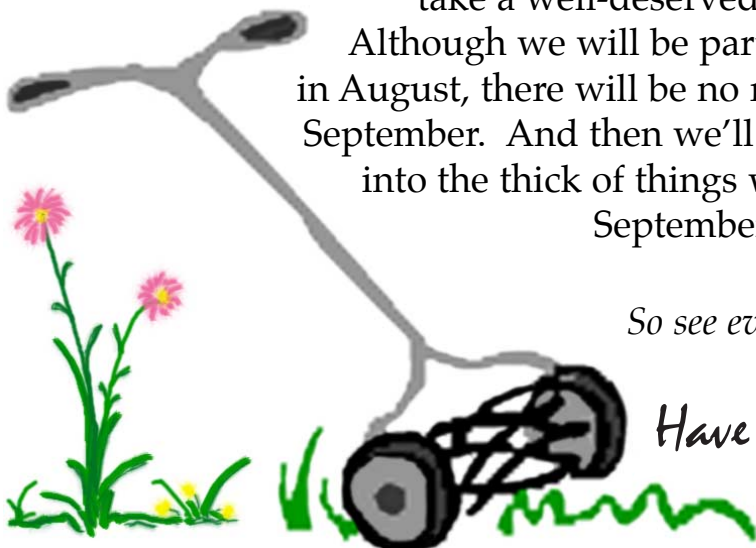
Iris Cohen

THE ANNUAL SUMMER PICNIC marks the end of the 2001-2002 CNYOS Season, as we take a well-deserved break for the summer.

Although we will be participating in the NYS Fair in August, there will be no regular meeting until September. And then we'll be jumping right back into the thick of things with our upcoming September Show!

So see everyone this fall, and...

Have a Great Summer!



CLUB REMINDERS

Orchid-Growing Supplies are now available, including fir bark, sphagnum, sponge rock, charcoal, and 40W fluorescent tubes. Call Rich Groll for details on pricing and availability (451-4248).

The **CNYOS Club Library** is now located at St. Augustine's church. Make arrangements with Val Introne (682-8595) if you want to borrow an item from the Library.

**DON'T FORGET TO BRING YOUR
BLOOMING ORCHIDS FOR THE MONTHLY
SHOW TABLE!!!**



Phalaenopsis bellina (violetacea), photograph by Vagisha Sharma, with digital enhancement by J. Stuart.

CNYOS IS NOW ON-LINE!

CNYOS is on-line at www.paphiopedilum.net. The site is regularly updated and will be changed as the club's two crack web-masters (Jeff Stuart & Charles Ufford) have time to do so, so check back frequently!

REFRESHMENT SCHEDULE

Looks like it's time to search for new volunteers for the refreshment table! Please consider signing up for next Fall!

CHECK OUT THE NEW WEB SITE FORMAT!

The club web site has a new look! It has been reformatted to make it easier to navigate (less scrolling) and hopefully will soon be more informative with expanded content. Stop by and let us know what you think!

DENDROBIUMS NOBILE & BRACTEOSUM

Dendrobium species are often ignored by many hobbyist, as they can be somewhat intimidating—special needs, especially with regard to dry dormant periods, often make them difficult to bloom well. If these needs are met, however, Dendrobiums can be very rewarding. Two popular selections are featured this month, and with good reason—with a little attention to details these beauties are easy bloomers!

Dendrobium nobile is one of the most commonly grown Dendrobium species. It is widespread throughout parts of India, China, and Southeast Asia, and has been recorded as growing and flowering in full sun at altitudes below 1500 meters. Its petals and sepals are ivory tipped with fuchsia, while the lip is throated with deep red-purple.

This species is a good beginner's orchid, but must dry out and be given as much light as possible during the winter to flower well. *Den. nobile* has been the parent in extensive breeding programs to the degree where these hybrids are known as "nobile Dendrobiums." Just about every orchidist has had one of its off-spring in his or her collection at one time or another. Although the hybrids exhibit fuller form and a rainbow of colors, they lack the simple charm of this prolific parent. A fresh clean fragrance is an added bonus.

Dendrobium bracteosum offers several desirable traits that make it a worthwhile species. It will grow easily under intermediate to warm conditions and filtered light (such as for Cattleyas). Unlike some other Dendrobiums (particularly in this section, Pedilonum) this species flowers in the summer, offering a burst of color when there is not much else in bloom. Plus, the flowers last for a disproportionately long time despite summer temperatures. Flowers are produced low on leafless canes which can flower again in successive years. Colors range from pale pink to fuchsia with an alba variety also being fairly common. This white version also has the striking orange lip of the colored varieties. *Den.*

bracteosum, as well as other Pedilonum Dendrobiums, appreciate plenty of water and fertilizer during the spring and summer growing season. When temperatures start to drop in November, plants should be moved to a bright, dry spot with cooler temperatures to send them into dormancy and a deciduous state. This leaf drop is necessary to initiate flower production the following summer.

*Dendrobium nobile*

© 1997 Greg Allikas

*Dendrobium bracteosum*

© 2000 Greg Allikas

Reference: Photos © Greg Allikas. The Orchid Photo Page by Greg Allikas: <http://www.orchidworks.com/>. Text reference, Greg Allikas (<http://www.orchidworks.com/>) & Jeff Stuart.

Some of the more insidious pests we have to deal with on our orchids are often from the mite family.

Hard to see, and nearly as hard to control, mites often go undetected in an orchid collection for months at a time. Then some environmental condition changes, and their population explodes... In our last article of this season's series on orchid pests, Paul Johnson educates us on some of the more common mites afflicting our orchids, and how to deal with them.

Paul J. Johnson, Ph.D.

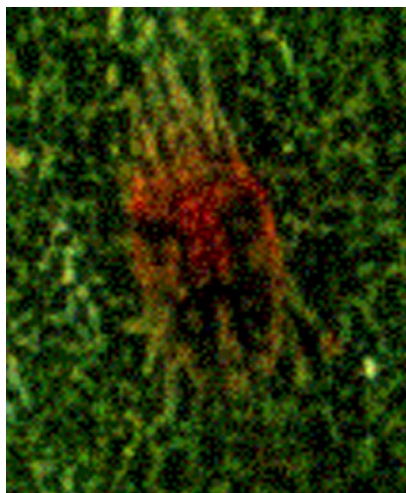
Insect Research Collection, Box 2207A, South Dakota State University, Brookings, SD 57007

E-Mail: paul_johnson@sdstate.edu

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.

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.

The most common spider mite recognized as a persistent pest of orchids is the common two-spotted spider mite (*Tetranychus urticae*).

The two-spotted spider mite is yellowish-green, usually with two large dark areas on either side of the body at

about midlength. It is an active species that is easily seen wandering the plants. This species is also known as the red spider mite because of an orange-red color phase during non-feeding periods. The two-spotted spider mite is global and is easily moved 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. 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, while flat mites are more common in tropical and subtropical areas. Both two-spotted and flat mites can become problems in greenhouses, but the two-spotted spider mite is the main problem species in homes. Because of the small size of



these mites, and great similarity, their accurate identification is difficult and often requires the help of an experienced entomologist with a good microscope. In general, two-spotted and flats are small sized, with two-spotted reaching a grand 0.5 mm in length and flats 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.

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. 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. 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, particularly 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 that 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 and deutonymph (or nymphs), and adult. The larva has only six legs, but the nymphs and adults bear 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 discernable 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. 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.

Two-spotted spider mites particularly tend to increase in numbers during "rain-less" periods, and at least some of the flat mites also respond to dry conditions. Out-of-doors mites are problematic mainly during the dry season, even when the humidity is high (>70% RH), simply due to the lack of rain, fog-drip or other sources of free water on plants. Predatory mites and other predators are also at low numbers during dry seasons due to the lack of moisture and low humidity. In-doors, two-spotted spider mites become serious problems during the winter and periods of low humidity when growers are unable to keep adequate moisture on the plants because of dry air circulating from furnaces and heaters. These mites are often a problem in high relative humidity conditions yet breezy conditions because of disruption of the static air boundary layer at the leaf surface where the mites live. This boundary layer is most easily disrupted on smooth leaves and less so on hairy leaves. Not surprisingly, mites tend to be more problematic on the former than the latter. Frequent rain, mist, or sprays discourage mites through the physical action of water droplets hitting the mites or washing them off the plant, but also by temporarily offsetting the loss of relative humidity in the boundary layer from breezes. 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.

MANAGEMENT AND CONTROL

Two-spotted spider mites and flat mites are small and relatively delicate creatures. The easiest method to keeping mites under control is to regularly spray, or syringe, the plants with water. 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.

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.

Light infestations restricted to one or a few plants can usu-

ally be treated with household products. When possible, immediately isolate infested plants from others to prevent the mites from moving amongst them. Probably the most popular home remedy is to spray plants with a mixture of isopropyl (rubbing) alcohol and liquid mild dish detergent, such as Ivory. Do not use other alcohols, such as ethanol or methanol, as these will penetrate the plant tissues and cause considerable damage! The concentration of the isopropyl seems to make little difference, the common 70% concentration available in stores is satisfactory. Alcohol treatment is effective against all the life stages of mites, except eggs.

A potential problem with alcohol treatment is the rapid evaporation of alcohol causing cooling of plant tissues. Especially with air movement that increases evaporative cooling, this chilling may over-cool tissues and create zones of dead cells that can become necrotic with bacterial or fungal infection. On warm days or in a breeze consider blotting residual alcohol with a tissue instead of permitting it to evaporate off the plant. Alcohol and detergent solutions can also damage delicate buds and blooms, so caution is urged for prized plants.

Repotting is not very effective against mites. However, with an extreme infestation it may be worth repotting a plant as eggs and resting adults may be in the growing media.

Horticultural oil, neem oil, mineral oil, and insecticidal soaps are readily available, inexpensive, and effective against mites. Oil solutions smother the mites so a complete coverage of all sprayed plants is essential. These oils are mixed with water and usually a plant-safe detergent or commercial spreader-sticker should be used for enhancing the effectiveness of the oil. The main caution with these oil solutions is that they should never be applied to plants on hot days (>85°F/29°C) or in direct sunlight, as to prevent burning of tissues. Leave the plant in shade until the application has dried. Some plants or parts, such as buds and blooms, are sensitive to oils so due care and consideration is urged.

Insecticidal soaps are usually solutions of a synthetic pyrethrin and potassium salts of fatty acids, otherwise known as soaps. Pyrethrins are synthetic analogs of pyrethrum, the natural extract from certain Asteraceae, particularly certain species of Chrysanthemum. Caution is urged with so-called "safe" insecticidal soaps as some plants are sensitive, particularly tender new tissues. Piperonyl butoxide is a common enhancer of pyrethrins but can cause allergies in some people and may affect plants, too. Some non-orchid ornamentals will drop leaves and abort flowers when sprayed with insecticidal soaps, so

again, caution is urged with prized orchids.

Because the life cycle of mites is so short and there are overlapping of generations, to bring a serious problem under control you may need to do treatments every 1-3 weeks. The time period between control efforts will depend upon the growing conditions, especially temperature: greater frequency in a warm greenhouse, less inside a house. As with any pest, persistence is a key to success and correlating the control method to the mite species is important for effective management. Cultural conditions are a key to managing mite populations.

PESTICIDES

Persistent populations of mite or infestation in many plants usually demand the need for synthetic pesticides. Mites are unrelated to insects and most common insecticides are not effective against mites. Pesticides designed for mite control are called miticides or acaricides. There are few miticides specifically registered for use on orchids, but there are many miticides for ornamental plants in general and several are available as inexpensive home-and-garden solutions. Miticide 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 miticide itself, often produce phytotoxicity and may seriously damage or kill plants. Thus, never use any chemical that is not specifically labeled for ornamental plants.

Common insecticides are not effective against mites, though some do have some weak suppressive action. Acephate (Orthene), malathion, dimethoate (Cygon), chlorpyrifos (Dursban), diazinon, and disulfoton (Di-syston) are labeled for mites but are not very effective. Resistance by mites to pesticides is in part due to this weak action from common insecticides. Dimethoate and chlorpyrifos are being removed from the market in the U.S. for non-commercial applications due to excessive and careless use by homeowners causing some serious health and environmental problems.

There are many miticides available for ornamental plants, but some are not tested on orchids, and others are generally too expensive or otherwise not readily available for the small-collection grower. Effective miticides for ornamental use include avermectin (Avid), bifenthrin (Talstar), dienochlor (Pentac), fenbutatin-oxide (Vendex), and fluralinate (Mavrik). Fenbutatin-oxide is mixed with acephate and sold as Isotox IVTM, a home-and-garden formulation, and should not be confused with the standard IsotoxTM that contains lindane and is ineffective against mites. Avermectin is probably the least toxic of these

chemicals to people and pets.

Of course, always follow label directions and never exceed the minimum recommended concentration given in mixing directions! Recommended solutions are based on extensive testing for selected pests and plants. Orchids are sensitive to many chemicals, particularly under direct sunlight or high heat, and while certain species may not react to a given formulation others may, so your own testing on plants before general application is recommended.

Home orchid keepers that need to apply miticides 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.

FINAL CONSIDERATIONS

Heavy infestations of mites, especially on many plants may require extensive control methods. Since the damage done by mites is permanent, constant management of the population more effective than control of a major infestation. On the extreme side if you have a plant showing signs of severe cosmetic change or general decline from mites you may have to seriously consider destroying that plant, as the likelihood of rejuvenating that plant may not justify the expense and effort of continued treatments. Also, destruction of a sick plant can be used to justify the purchase of a new and healthier plant!

If you are battling mites for long periods of time (e.g., >2 months) and have been using the same miticide then you have likely developed a resistant population of mites. Remember the short generational time of mites. The best resolution to this is to change methods and chemicals frequently; 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. Resistance is not a problem with alcohol, oils, and soaps as these suffocate or desiccate the mites.

Generally, never use a miticide not labeled for ornamental plants. Be thorough. Prophylactic use of miticides is tempting but does little good as it is a waste of chemical and money, and allows resistant mites to develop.

Image credits: False spider mite and spider mite images are from the North Carolina Cooperative Extension Service and USDA-ARS, respectively. Other images are those of the author.



Directions to Ken & Judy Renno's House

4302 Ironwood Circle
Liverpool NY 13098
(315) 652-6495

From the East: NYS Thruway Exit #38 **OR** Rt. 690 W to 81N to Liverpool Village. Take Rt. #57N to the Bayberry Shopping Plaza. At the traffic light (**Blackberry Rd**) turn **Right**. Take a **Left** onto **Cherrytree Circle**. Stay on Cherrytree Circle until **Jennings Rd** and turn **Left** onto Jennings. Follow Jennings to **Ironwood Circle** and turn **Left**. The Rennos live in the fourth house on the Left (# 4302).

From the South: Rt. 81N to Liverpool Exit. Follow directions above as from East.

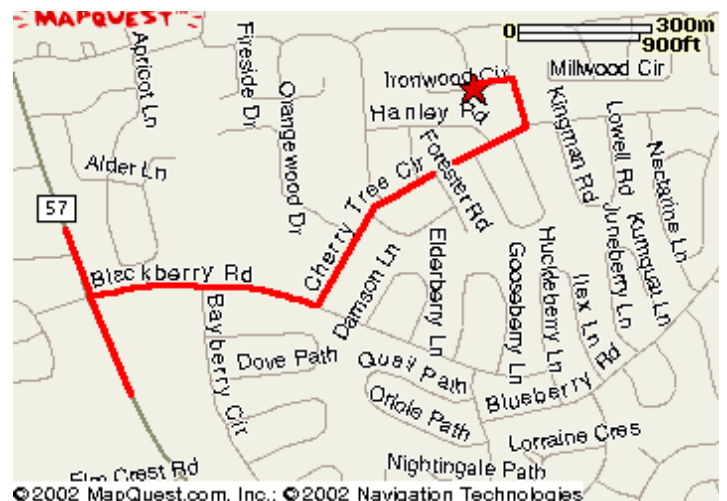
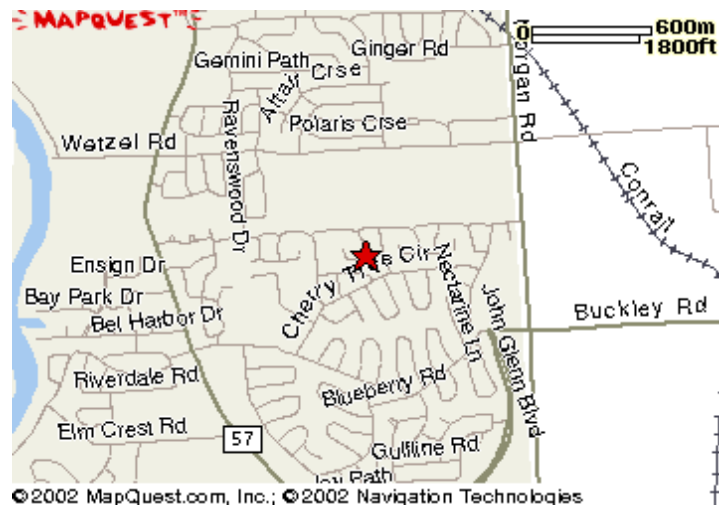
From the West: Take **John Glenn Blvd. E. to Rt. 57N** and follow to the Bayberry Shopping Plaza. Follow directions as from East.

From the North: Take **Route 57S** to the Bayberry Shopping Plaza. Turn **Left** onto **Blackberry Rd** and follow the directions as from the East.

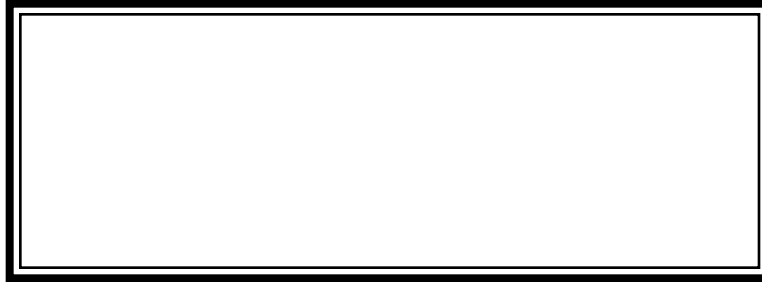
Please RSVP by June 1 (phone number above), and tell us what you're planning to bring. The Rennos will provide non-alcoholic beverages and paper place settings.

Remember to bring a chair for yourself, as well as your appetite!

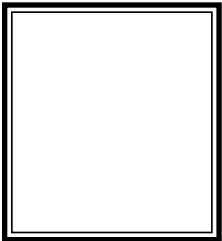
The Show Table will be making its final appearance for the 2001-2002 season. So this is the last chance to show off your bloomin' beauties 'till fall!



Next Meeting: June 2: Annual Spring Picnic to be held at
the home of Ce-VP Ken Renno: RSVP by Saturday June 11



Have a Great Summer—see you in September!



THE CENTRAL NEW YORK ORCHID SOCIETY
Your local AOS & Orchid Digest Affiliate
351 Kensington Place
Syracuse, NY 13210-3309

Central New York Orchid Society

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Dianne Bordoni (315) 446-3836
Vice Presidents: Judi Witkin (315) 422-0869
Ken Renno (315) 652-6495
Treasurer: Elinor Burton (315) 682-6274
Secretary: Barbara Weller (315) 468-5039
Newsletter Editor: Jeff Stuart (315) 471-1404

The Central New York Orchid Society meets at St. Augustine's Church, 7333 O'Brien Rd, Baldwinsville, at 2:00^{PM} on the first Sunday of each month from September through June. Yearly dues are \$15.00 per individual, or \$17.00 family. Dues should be paid to the CNYOS Treasurer, Elinor Burton.

THE ORCHID ENTHUSIAST

The CNYOS Newsletter, *The Orchid Enthusiast*, is a publication of the Central New York Orchid Society and is distributed to the Society's members ten times per year, prior to all club meetings, events, or functions.

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