



Nutmeg State Orchid Society Inc.

Conservation Through Knowledge

Issue 46 Volume 7

March 2015

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The President's Message:



Dear friends & fellow orchid lovers,

This has been such a terrible winter!!! But Spring always arrives and since it's March, Spring can't be far behind. March is our big show month and I'm really looking forward to it! Every day I talk to my plants and say get blooming because the show isn't far away. The setup day for the show will be Friday, March 27th and the show itself will be on Sat. March 28th, noon to 5pm and Sun., March 29th, 10am-4pm at the West Hartford Meeting & Conference Center, 50 South Main Street, West Hartford. I really need everyone who possibly can to help with the show. If you can take the day off Friday we will need help all day from 11 am to 5pm. If you can't be there Friday then we still need help Sat and Sun. So please come to the meeting and sign up or email me or call me to volunteer. Various jobs are covering tables with black cloth, wrapping plants with cloth, putting labels on plants, sitting at the admissions table, sitting at the membership table, helping to judge and working in the kitchen. Remember the more hands, the faster the work! And we have fun to. There will be a pizza lunch on Friday for all the workers. So, come join in!

Walter Doehr sent every member an email with the show flyer attached to it. He did that so that you could send the flyer to 10 of your friends and ask them to come. A personal invitation is always better than a sign in a window. So, please do ask everyone you know. Thanks!

And, last but not least I need all your bloomers to set up a beautiful show table. Julie and Russ will be setting up the display again this year. They do a great job but they really need lots of plants to work with so please bring them on Friday, March 27th any time. If you want them judged you will need to register them by Wed., March 25th by 11 pm. If you need help registering you can send a list of your plant names to Ginna Plude (gcplude@aol.com) and she will register them for you. Please NOTE: There will not be any plant registration on Friday at the Meeting Hall. If you bring your plants in that day and they aren't registered they can be in the show but they will not be judged. You can just put your plants in the show without having them judged if you wish. You must bring your plants to the show and pick them up on Sunday at 4pm or arrange to have someone do that for you. Please do not bring them to my house unless Thursday night is the only time that you can bring them. Then I will keep them until the next day and bring them there for you.

At this month's meeting on March 12 we will have Jeree Harms speak to us about "Hydroponics". He will also bring hydroponic supplies to sell. And Herb Fishman will be donating plants for our raffle again as well. Ginna will be there to answer any registration questions that you may have. And there will be sign up sheets for you to volunteer. So, try very hard to make this meeting. I'm hoping that mother nature will cooperate. See you there!

Sandy



COMMITTEE CHAIRS

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NUTMEG STATE ORCHID SOCIETY MENTOR LIST 2013

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Walter Doehr	Cymbidiums, Phals., Growing under lights Hydroponics	203-634-7712	johndeered1923@gmail.com	Call/e-mail anytime
Joe Hertz	Under lights and Windowsill growing All species	860-233-5505	jhertz1015@aol.com	Call/e-mail anytime
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Jeanne McDermott	Windowsill growing: Phals, Paphs, Brassia, Oncidiums, Cymbidiums, Miltoniopsis & mixed genera	860-677-5381	jtmcdermott@comcast.net	Call/e-mail anytime
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John Sziklas	Paphiopedilums Phragmepediums Cattleyas	860-658-2908		Call anytime

NSOS now has a mentor list and would like to add more folks going forward. We are looking for people that are willing to answer questions on something that you are familiar with pertaining to orchids. You do not have to be an expert, just able to help someone who has a question in your area of knowledge. We all have areas that we feel comfortable in that would be of great assistance to someone just starting out. If you wish to be added to our NSOS Mentor List, please send me a note: johndeered1923@gmail.com

BUSINESS MEETING

NO NOTES AVAILABLE

We are in need of a Hospitality Person or Persons. Walter & Harriet have stepped down from this position after 5 years. This position can be done by either one person or several people working together. Please let Sandy Myhalik know if you are interested in helping with this.

SPEAKER

Rob Dudley

TREASURER'S REPORT

NSOS financial data is available to members upon request. Send your inquiries to our Treasurer, Tom Mierzejewski: tommajseski@comcast.net.

Advertising in our NSOS Newsletter

Advertising is now open to members and businesses. The following rates apply: \$10/month business card size ad. ¼ page \$25, ½ page \$50. Members would get \$5 & \$10 off these rates respectively. A four line word ad for members would be \$2. Contact Walter Doehr if interested and send your check to Troy Jordan, our Treasurer.

Refreshments :

It is requested that for the February meeting, those members with last names beginning with A thru M bring in a snack or finger food to share with members. Thanks in advance for your contributions!

UPCOMING EVENTS & MEETINGS 2015

Mar. 7, 2015 - Northeast Judging Center -Tower Hill Botanic Gardens of Worcester, 11 French Dr., Classroom C, Boylston, MA at 1:00PM on the first Saturday of the month. Send cut flowers to: Robert Winkley, 80 Florida ST., Unit 9, Dorchester, MA 02124.

Mar. 21, 2015 - Northeast Judging Center -Bartlett Arboretum and Gardens, Silver Educational Center, 151 Brookdale Road, Stamford, CT at 12:00PM on the third Saturday of the month. Send cut flowers to: John Sullivan, 299 Village Place, Wyckoff, NJ 07481.

Mar. 12, 2015 – Jeree Harms- "On Orchids in Hydroponics", - Farmington Senior Center, 321 New Britian Ave., Unionville

Apr. 4, 2015 - Northeast Judging Center -Tower Hill Botanic Gardens of Worcester, 11 French Dr., Classroom C, Boylston, MA at 12:00 Noon on the first Saturday of the month. Send cut flowers to: Robert Winkley, 80 Florida ST., Unit 9, Dorchester, MA 02124.

Apr. 9, 2015 – Bus Trip to the NewYork Botanical Garden Orchid Show-

Apr. 18, 2015 - Northeast Judging Center -Bartlett Arboretum and Gardens, Silver Educational Center, 151 Brookdale Road, Stamford, CT at 12:00PM on the third Saturday of the month. Send cut flowers to: John Sullivan, 299 Village Place, Wyckoff, NJ 07481.

May 2, 2015 - Northeast Judging Center -Tower Hill Botanic Gardens of Worcester, 11 French Dr., Classroom C, Boylston, MA at 12:00 Noon on the first Saturday of the month. Send cut flowers to: Robert Winkley, 80 Florida ST., Unit 9, Dorchester, MA 02124.

May 14, 2015 – TJ Hartung from Mexico - "Understanding Light & Orchids", - Farmington Senior Center, 321 New Britian Ave., Unionville

May 16, 2015 - Northeast Judging Center -Bartlett Arboretum and Gardens, Silver Educational Center, 151 Brookdale Road, Stamford, CT at 12:00PM on the third Saturday of the month. Send cut flowers to: John Sullivan, 299 Village Place, Wyckoff, NJ 07481.

Jun. 6, 2015 - Northeast Judging Center -Tower Hill Botanic Gardens of Worcester, 11 French Dr., Classroom C, Boylston, MA at 12:00 Noon on the first Saturday of the month. Send cut flowers to: Robert Winkley, 80 Florida ST., Unit 9, Dorchester, MA 02124.

Jun. 2015 – Picnic or Field trip TBD, Farmington Senior Center, 321 New Britain Ave., Unionville

Jun. 20, 2015 - Northeast Judging Center -Bartlett Arboretum and Gardens, Silver Educational Center, 151 Brookdale Road, Stamford, CT at 12:00PM on the third Saturday of the month. Send cut flowers to: John Sullivan, 299 Village Place, Wyckoff, NJ 07481.

DUES

2015 membership dues are now due, Payment may be made to Tom Mierzejewski or Sharon Field at any meeting. Those that Joined after September 2014 are paid for 2015. Those that have not paid their dues by April 1, 2015 will be removed from NSOS Rolls. The dues remain the same – Individual - \$20, Family - \$25 and Life member \$250

PICTURES OF OUR 2014 NSOS SHOW Come help make the 2015 a great success also



Monthly Checklist for March and April

Cattleya

Although March is, in many parts of the country, still a cold and blustery month, the lengthening days and warmer temperatures allowed by increased light are long-awaited harbingers of the coming change of season. Some of the best standard cattleyas of the year will be in bloom, or will be blooming soon. The last of the winter-flowering hybrids will join the earliest of the spring hybrids in a wonderful display. Be on the alert for senescing sheaths that need removal. If these yellowing sheaths are not removed, the moisture they trap can lead to bud rot. Careful removal of the sheath will allow the buds to develop, although they will need additional support. Changing light conditions can also be a problem in March and April. An exceptionally bright day, especially immediately following a rain, can lead to sunburn of the foliage if shading is not attended to properly. There can still be periods of dull days where spikes can be weakened owing to the lower light. Lengthening days will mean increased metabolic rates necessitating increased water and fertilizer. The plants will indicate needs by drying more rapidly, which means more frequent watering and fertilizing.

With the passing of the season for winter bloomers, and the beginning of the season for spring bloom, it is also the time to be on the lookout for plants that will need potting after they bloom. Immediately after blooming has proven to be the best time to repot winter- and spring-flowering cattleyas. In most cases, they will be ready to grow roots, so if potted at this time, they will root right into fresh mix with little or no setback.



Cymbidium Magic Mountain photographed at Longwood Gardens in early April. © G. Allikas

Cymbidium

Plants should be putting on a spectacular show this time of year. Adjust all staking and twist-ties and be on the lookout for aphids, slugs and snails. Give adequate water because flowering strains the plants. As new growths appear later, increase the nitrogen level in the fertilizer. Should a plant look healthy but not be blooming, try increasing the light during the next growing season. The number-one reason for no flowers is lack of light.

Dendrobium (Australian)

These hard-cane dendrobiums will be at their flowering peak now. It is not unusual to see a specimen of this type in an orchid show boasting 1,000 flowers. The secret with this group -- bred primarily from *Dendrobium kingianum* and *Dendrobium speciosum* -- is to provide ample water, fertilizer and light during the growing season.

Lycaste

This genus of superb orchids will be coming to the end of its flowering season. Soon you will see the beginning of new root growth, which is an excellent time to repot into fresh media. As new growth emerges, provide ample fertilizer and water. A sign of good culture is an increase in the size of pseudobulbs with each successive year.

Miltoniopsis

This marks the beginning of the flowering season. Amazing displays of color will dazzle the grower over the next few months. Prepare your plants for optimum display by staking spikes (if needed) and cleaning off the older yellow foliage. Do not miss the wonderful fragrance as the flowers unfold..



Miltoniopsis Martin Orenstein shows off a beautiful waterfall pattern on its labellum.
Photographed at Longwood Gardens in early April. © G. Allikas

Paphiopedilum

March is the beginning of the season of heaviest potting for lady's-slipper orchids. However, it is a month where the volume of plants needing attention is still small. It is an excellent month to take the time to work with your paphiopedilums before the pressure of other potting prevents your doing the thorough job you should. Look at each plant: Is it clean of dead and dying foliage? Is it weed free? Does it need potting? Is it in spike? Does it have an insect problem? Cleaning and restaging your paphs is one of the most satisfying tasks of the orchid year. Cleaned and potted paphiopedilums look happy.

The summer-blooming types will be showing the first of their buds in March and April. Be on the lookout for the buds, as well as any insect pests that may have found their way into the crowns of your plants. It is especially difficult to clean mealybugs, in particular, once they have become established in the plant. Better to get to them before they get a good toehold.

Increasing light levels should give emerging spikes the strength they need to grow straight and strong. Do not be too anxious to stake the spikes, because if they are staked too soon, the flowers may develop a "nodding" stance, where the dorsal will not stand upright. If the spikes seem to develop at an angle, let them, and stake after the flower has hardened for best carriage, especially on the hybrids with fairieanum background.

Phalaenopsis

In most of the country, March is the peak blooming month for phalaenopsis. Staking needs to be carefully attended to, so that the flowers will be displayed at their best for orchid shows and judging -- even those intended for your home will look best if properly staked. One of the most decorative aspects of phalaenopsis spikes is the way they gracefully arch. If not staked properly, the spike will lack this grace and will not be as pleasing. Most growers like to have the final support just below the first flower, allowing maximum support, without sacrificing the beauty of the arching spike.

Rapid-growing spikes and open flowers place extra demands on the plant. Careful monitoring of watering and feeding will give the plants the energy they require to give their best floral display. Remember, too, that the lengthening days will also increase the frequency at which plants need water.

Beware of the invasion of sucking pests that accompany the flowering season. Flowers and spikes are favorite targets of mealybugs and scales. Be on the look out for their presence, often indicated by the appearance of sooty mold resulting from the exudate of the bugs, and treat before flowers or buds are too advanced. If flowers and buds are too far along, the chemical treatment may damage or abort them.



Masdevallia Highland Monarch 'Free Spirit'
AM/AOS photographed at Parkside Orchids.
Ottsville, Pennsylvania © G. Allikas

Pleurothallids

Members in this large and increasingly popular group will be looking their best now. If plants are not in flower, the next few months provide an excellent time to divide if needed or repot into fresh mix. Taking care of these tasks now will allow enough time for your plants to become established before the hot weather arrives.

The AOS thanks Ned Nash and James Rose for this essay.

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Growing Orchids in a Window Greenhouse

- Originally published in the March 1981 *American Orchid Society* BULLETIN

MARY HELLEINER



The exterior of the window greenhouse, taken in October when shading covers part of the glass.

FOR MANY YEARS we grew a very small collection of orchids on the windowsills of whatever house or apartment we happened to be living in. Our first orchid plant, *Paphiopedilum insigne*, which we bought more than twenty years ago from a large, commercial grower of cut flowers, is still with us, now in the form of several, good-sized plants. Two years ago, after some unexpected successes in windowsill growing (we had found to our surprise that mottled-leaved paphs grew for us just as well as the plain-leaved ones), we decided to install a "window greenhouse" in order to enlarge our collection and provide better growing conditions. (A window greenhouse is something like a bay window with glass sides and a glass roof; "greenhouse window" would probably be a more appropriate name.)

We ordered the largest window greenhouse available to us, the selection in Canada being limited, and installed it on the outside of a south-facing window in our living room. In order to accommodate it, we enlarged the window opening at one side and at the bottom; the opening now measures 48 inches by 58 inches and the greenhouse window projects 16 inches from the house. It contains two metal mesh shelves, supported in the center by a metal rod which rests in the tray which forms the base of the window. The window greenhouse arrived with only a metal tray as its base. When we had it installed we had a wooden box constructed underneath this, filled with fiberglass insulation, since we felt that this was more realistic for our winter conditions. Since the metal tray leaked, we had a heavy plastic one made to fit inside it. At the same time we had a three-sided galvanized tray constructed to fit on the windowsill, tilted into the plastic tray, so that water drains away from plants standing on the windowsill. Because the window greenhouse was made of aluminum, it was impossible to attach hanging plants to it. We attached some hooks to the wooden window frame, projecting into the upper part of the

window, with a wire stretched between them. This works well for hanging small plants. The old window sash was entirely removed. Although I have seen recommendations to leave the sash in place to create something resembling a Wardian case, I cannot imagine that this could work in a climate like ours. The enclosure would overheat violently in the summer and present a tremendous heating problem in the winter, as well as making access to the plants for the constant care they require very difficult.

When our window greenhouse was first installed, we tried to find as much information as we could about how to operate it successfully to grow orchids. Lots of information was available on growing orchids in greenhouses, on windowsills, in Wardian cases and under fluorescent lights, but virtually none on our type of situation. The methods we adopted were found by trial and error, and by attempting to combine the information we found on the operation of small greenhouses and on windowsill growing. The window has been used for over two years now; the description of our methods which follows describes our present attempts at orchid growing. No doubt these will change as time goes on.

TEMPERATURE



Rhynchostele rossii, grown and flowered in the window greenhouse.

One of the surprises we found in operating our window was the differences in temperature among the three different levels (the two upper shelves and the lowest "shelf" which was in fact a series of bricks standing in water in the bottom tray). The top shelf was, on the average, about 10F warmer than the bottom, both by day and by night. For most of the year the minimum night temperature at the top was around 60F or a little above. For a month or so in the summer, it was somewhat warmer than this and in extremely cold weather, in winter, it occasionally dropped to 58F or 59F. The mottled-leaved paphs are grown (with shading) on the top shelf, except in summer; this area is the brightest as well as the warmest part of the window.

The lowest level of the window has a night temperature which varies from 50F or even less in the coldest part of the winter to about 60F for most of the summer. In a prolonged, warm spell (rare on the Atlantic coast of Nova Scotia) the night temperature may be in the 65 range for a week or two. The cool-growing orchids are obviously kept in this area; in summer, the cool-growing paphs are moved outdoors but the masdevallias, miltonias and some mottled-leaved paphs are left here for the summer. When the outdoor temperature in winter goes below 0F for a few days or even weeks at a time, and this fortunately is rare, ice forms in the bottom tray.

However, the air temperature around the plants does not go below 45F and they do not appear to suffer. The warmer growers among them are moved to a higher level in winter to avoid these very low temperatures.



Isabelia violacea is a beautiful miniature, suitable for the window greenhouse.

To sort out these differences a maximum and a minimum thermometer was necessary, and it would have been better to have three, one for each level.

It was apparent from the start that some form of heating would be needed in the window in the winter. Since we wanted a heater that would take up as little of the valuable space in the window as possible and also one which would not give a hot, drying blast at close quarters, we bought a 1200-watt electric heater which measures about 8 by 10 inches by 4 inches high. Its control indicated only "high" and "low" but we calibrated this so that we could set its thermostat to switch on at 50F. The heater is placed on bricks in one corner of the bottom shelf in such a way that the hot air (the heater contains a small fan) is blown along the bottom shelf. It rises up the other side to the top of the window. At first we kept some small bromeliads beside the heater to break the impact of the hot air, but, after these turned brown and died, they were replaced with clay pots filled with wet peat which seem to work effectively.

The large volume of air in the room behind the window greenhouse seems to have a buffering effect on temperature changes, so that the air in the window never heats up or cools off as much as it would if it were entirely enclosed. The roof of the window is essentially one large vent; it opens upwards and out and can be held in any position from one which admits the smallest crack of air to one which is wide open. In spring and fall the roof is opened slightly on sunny days and closed at night; in summer it is open wide by day and open to some degree at night, depending on the temperature. In winter it is not necessary to open it at all, even on very sunny days.

Since our window greenhouse was single-glazed and our winters fairly cold, it was necessary to provide an insulating layer, which we did by applying a layer of bubble plastic with propylene glycol (Collins, 1978) to all surfaces except the roof. This is left on from December to April. When the time comes to put the insulating plastic on, all the plants and the mesh shelves have to be completely removed, a troublesome job but one which permits a thorough cleanup of the window and especially the water tray. Again in the spring, everything must be taken out in

order to remove the plastic.

HUMIDITY



The exterior of the window greenhouse in winter with bubble wrap in place. This photograph was taken after only a few months of use; orchids subsequently replaced the non-orchidaceous plants in the picture.

The climate of our part of Nova Scotia could be described as cool and damp in summer and cold and damp in winter. For this reason, maintaining a relative humidity which is suitable for orchids is not very difficult for a large part of the year. In summer, except on the hottest days, the relative humidity in the window is over 50%, sometimes as high as 80%; in the coldest part of the winter, if the house furnace runs frequently and the sun is bright, the humidity may fall to 20 or 25%, rising again at night. For a large part of the year, the humidity averages 40 to 50%.

The plastic tray which occupies the entire bottom of the window is kept filled with water, most of which drains in from the plants. This, however, probably provides extra humidity only for those orchid plants immediately above the tray. Most of the extra humidity comes from the plants themselves because they are packed in fairly closely, especially in winter. In addition, they are sprayed heavily with water in the morning on sunny days before we leave for work, and again later in the day if someone happens to be home to do it. The humidity for about half the year is probably lower than ideal, but this does seem to have the good effect of discouraging diseases.



The interior of the window greenhouse in late summer. The collection is planned so that most flowering is from fall to spring.

We were originally very reluctant to try growing orchids on slabs because of their humidity requirements; we had had some bad experiences with slabs in our days of windowsill growing. However, a year ago we acquired a *Brassavola nodosa* growing on cork bark, and after doing nothing for six months after its arrival, it has now made many hearty roots and has put out two spikes of flowers. Encouraged by this, we bought an equitant *Oncidium* a few months ago which was growing on a tiny piece of shingle. It too seems to be growing well. *Dendrobium capillipes*, *Prosthechea mariae* and *Haraella odorata* mounted on cork bark have all been added recently and so far show no signs of suffering from lack of humidity. These are dipped in water every morning, rain or shine, and then given whatever misting is available for the rest of the day.

The relative humidity in our window is measured by a small hygrometer which proved, after testing, to read 5 to 10% too low. It is nonetheless a very useful piece of equipment to have, perhaps mainly to prevent one from over-misting on damp days.

WATERING AND FERTILIZING

Watering is one job which is certainly more troublesome in a window greenhouse than in a greenhouse proper. Although the water can be splashed around and spilt with a lot more freedom than it can on a windowsill, it is still necessary to take a certain amount of care to keep it from soaking the insulation in the base of the window or from drenching the rug and furniture in the living room. I have found that the best way to do a thorough watering is to take the plants out of the window, half a shelf at a time, and submerge them in a bucket of room-temperature water. They are then drained on a rack over another bucket and are replaced in their positions. After a few attempts one learns that it is much easier and quicker to work out a system for doing this and to follow it each time; even so it is time-consuming. These major waterings take place every three or four days in hot, dry weather, but in cool, damp weather they may be needed only every week or ten days. In between times the paphs, other moisture-demanding

orchids and those in small pots are given extra waterings with a watering can.

Because most of our orchids are grown in osmunda which we dig locally, they stay damp for a fairly long time, although this is offset to some extent by the use of clay pots wherever possible. Also because of the osmunda, we fertilize only lightly, using a weak solution of fertilizer about every two weeks from late spring to early fall and only very occasionally at other times of the year. The plants that arrive in bark are also given a high nitrogen fertilizer until the time comes to repot them. Whenever a fertilizer solution of any kind is going, the plants on slabs are dipped in it.

LIGHT AND SHADING

One of the best features of the window greenhouse has turned out to be the amount of light available to it. Because it faces south and because its roof and sides are glass, it gets a very acceptable amount of light. The top shelf, directly under the roof, is by far the brightest part, and that is where we grow our cattleyas, laelias and other light-demanding orchids. The orchids on slabs are hung from a wire in this area. We found that reddish purple pigment developed quite strongly in most of these plants and take that as an indication that they are getting enough light.

Shading is put on the window gradually as it seems to be required. There is a period from mid-November to the beginning of February when little or no shading is used; then cheesecloth or thin nylon curtain fabric is used on half the roof and the corresponding half of the large south exposure of the glass. This is mainly to protect the mottled-leaved paphs which spend the winter on the top shelf for warmth. Also, at this time of year when the sun is low, a good deal of direct sun enters through the lower parts of the glass and falls on the orchids on the lower shelves.

In mid-March another layer of material is used to cover the entire roof and south side. On one occasion, when we were a few days late in doing this, our *Paphiopedilum callosum*, which proved itself to be the most susceptible to sunburn of any of our orchids, was badly burned under the single layer of cheesecloth.

Eventually, possibly at the beginning of May, a narrow strip of cheesecloth is hung over the west-facing glass of the window, a relatively small area. This is not necessary on the east side because of an oak tree which partly shades that side when in leaf.

PESTS AND DISEASES

So far we have been fairly lucky about pests and diseases. An occasional crop of aphids springs up, usually brought in by non-orchidaceous plants, and gets into flowers and buds, particularly those of *Prosthechea cochleata*. I have once or twice suspected thrips on a new paph, but these have been dealt with by hanging a Vapona strip in the window, and then sealing the window up by taping plastic over it. After many tries this seems to have disposed of even the fungus gnats. We have had two or three minor cases of rot, which seem to have been arrested by dipping in Benomyl. It is obvious that where orchids are growing in an area that is lived in it is

undesirable to use chemicals more than absolutely necessary.



Cuitlauzina pendula

Our worst pests so far are slugs and snails. The slugs are mainly active outdoors and we have learned from bitter experience that as soon as an orchid plant which has been put outside for the summer shows a bud, it should be brought in immediately before the entire bud stalk is eaten. We have at times used metaldehyde slug bait outdoors, but have become wary of it after several neighborhood dogs and cats seem to have had a possible severe reaction to eating it. Very small snails seem to come in with the osmunda, and we have recently tried steaming it very lightly to try to kill them without breaking down the medium.

The only worrying possibility in this area that bothers us at the moment is the presence of slight light and dark green mottling on the leaves of a couple of oncidiums and an Odontoglossum. We keep hoping that this may be nutritional, or in some way an effect of our conditions, but we are afraid that it may be due to a virus. If so, watering by dipping all the plants in the same bucket of water seems likely to spread it, as does keeping the plants in such close proximity to each other.

PLANTS GROWN

We know that orchid plants can coast along on their reserves and may not show the effects of poor culture for some time. We have been growing orchids in our window greenhouse for only a little more than two years and no doubt it is too soon to be certain about our results. So far, we have over fifty orchids growing in the window and the following plants have been with us for more than a year and have flowered well: *Paph. insigne*, *Paph. fairrieanum*, *Paph. spicerianum*, *Paph. sukhakulii*, *Paph. callosum*, *Paph. Maudiae* 'Coloratum', *Paph. niveum*, *Paph. hirsutissimum*, *Paph. villosum*, *Masdevallia towarensis*, *Bulbophyllum guttulatum*, *Oncidium cheirophorum*, *Onc. ornithorhynchum*, *Brassavola nodosa*, *Dendrobium longicornu*, *Isabela*(*Sophrontiella*) *violacea*, *Prosthechea cochleata*, *Rhynchostele rossii*, *Cuitlauzina pendula*. There are a number of others that we have had for a year or two which seem to be making healthy growth and of which we have hopes of bloom. *Paphiopedilum bellatulum* and

Paph. haynaldianum appear to be about to put up bud spikes. Some others more recently acquired have already bloomed or are growing well. There are also those stubborn plants that stand still, for a long time, perhaps recovering from the shock of new conditions. Nevertheless, we feel that our orchids are growing better than they did on the windowsill and that we are now capable of growing a much greater range of plants.

The best measure of the success of the window is the behavior of the plants which were already growing on our windowsills that were moved into our window greenhouse. First there are the paphs, which, although they have always bloomed, now make more rapid growth with less dying out in the middle of the plants and probably do produce more flowers. Our *Oncidium cheirophorum* used to produce flower stems that stuck in the bracts, shaped like hairpins, unless they were released at an early stage of development, and in addition it frequently had pleated leaves. The plant now produces straight stems of flowers without any difficulty, and for the first time has produced two flower stems per pseudobulb. Its leaves do not pleat now except on rare occasions when we are on vacation at a critical time in its development. *Masdevallia tovarensis*, which was going rapidly downhill when grown on the windowsill, producing fewer and fewer flowers and leaves, has now reversed this trend, producing abundant new leaves and appearing green and fresh instead of yellowing and dried up.

Growing orchids in a window greenhouse combines some of the advantages (and disadvantages) of windowsill growing with those of a greenhouse. The relative humidity that can be maintained in the window is probably its biggest advantage over the windowsill; the next is the longer hours of light available, as well as brighter light. It is also easier to water, and, of course, it accommodates more plants. In addition, the window greenhouse seems, at least under some conditions, to provide a wide range of temperatures. Most of these advantages, of course, would be considerably increased by the use of a real greenhouse. However, the big advantage that a window greenhouse has here is that it displays the plants in the living area of a house. The plants can be admired and looked after while going about one's everyday affairs. In addition, the time required to look after orchids is less than that required by a greenhouse, and of course both the construction and operating costs are considerably lower. -
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