

# NROS News

Home of Ontario's Best Show Table

DECEMBER 2008

Wednesday, December 10<sup>th</sup>., 2008

Regular Meeting 7:30 p.m.

Holy Rosary Church Hall  
35 Queen Street  
Thorold

## PROGRAMS

**XMAS PARTY!!**



## EXECUTIVE 2007-2008

President .....	Rick Rempel .....	905-734-1588
Past President .....	Yvon Doucet . . . . . <a href="mailto:ydoucet@cogeco.ca">ydoucet@cogeco.ca</a> .....	905-834-6896
Vice-President .....	Colin Burns. . . . . <a href="mailto:burnscolin@hotmail.com">burnscolin@hotmail.com</a> .....	905-684-9705
Treasurer .....	Tom Cunningham _ .....	905-934-8289
Secretary .....	Aimee Roger .....	905-685-8159
Newsletter/Membership .....	Lydia Stewart . . . . . <a href="mailto:lydjin@vaxxine.com">lydjin@vaxxine.com</a> .....	905-354-4110
Show Chairmen .....	James & Jodi Shannon .....	905-641-1934
Librarian .....	David Culp .....	905-688-4101
Telephone .....	Nel Dekker .....	905-934-0887
Show Table .....	Nancy Vandenberg .....	905-384-2381
Hospitality .....	Rod & Bev Craig . . . . . <a href="mailto:rcraig@becon.org">rcraig@becon.org</a> .....	905-892-3420
AOS/COC Rep .....	Susan Pearce-Deighton .....	905-688-3294
Program Co-ordinator/ Webmaster .....	Warren Steele	

WEB SITE ADDRESS: [www.niagaraorchidsociety.org](http://www.niagaraorchidsociety.org)



## NOVEMBER SHOW TABLE

### Class 1 Cattleya Alliance

**** Blc. Tainan Gold 'Orchis'	P. Hinman	1 <sup>st</sup> .
Lc. Mariner 'Far Horizon'	K. & F. Wilkinson	2 <sup>nd</sup> .
Barkeria lindleyana	D. Culp	2 <sup>nd</sup> .
Potinara Burana Beauty	K. & F. Wilkinson	3 <sup>rd</sup> .
Lc. Bowri-Albida 'Pink Lady'	W. Muste	
Lc. Bowri-Albida	P. Hinman	
Epidendrum Green Hornet	S. Holierhoek	
Cattleya Marjorie Hauserman 'York' HCC/AOS	N. Vandenberg	
Cattleya Chocolate Drop 'Kodama'	N. Vandenberg	

### Class 2 Paphiopedilum

Paph. helenae	P. Hinman	1 <sup>st</sup> .
Paph. villosum 'Yvonne' HCC/AOS	P. Hinman	2 <sup>nd</sup> .
Paph. charlesworthii x Paph. primulinum	W. Muste	3 <sup>rd</sup> .

### Class 4 Oncidium Alliance

Oncidium Sharry Baby	S. Holierhoek	1 <sup>st</sup> .
Wilsonara Tigerette	M. Booy	2 <sup>nd</sup> .

### Class 5 Cymbidium

Cymbidium Zig-Zag 'Kisi'	P. Hinman	1 <sup>st</sup> .
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### Class 6 Dendrobiums

Dendrobium Banyad Pink	S. Holierhoek	1 <sup>st</sup> .
Dendrobium Parapin	S. Holierhoek	2 <sup>nd</sup> .

### Class 7 All Others

Bulbophyllum Jersey	W. Muste	1 <sup>st</sup> .
Zygopetalum ???	L. Meevis	2 <sup>nd</sup> .

### Class 8 Specimen Plants

Cattleya Portia 'Cannizaro'	K. & F. Wilkinson	1 <sup>st</sup> ..
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\*\*\*\*\*PLANT OF THE MONTH

Well, everyone, another show is over for the year. I would like to thank everyone that made a donation to the kichen and a special thanks to Carole Doucet for all her help and support. Thanks, Carole!! Jodi Shannon and the entire Executive would like to thank all the volunteers that helped in every capacity to make the show another success. Thanks everyone. Nancy Vandenberg would like to give a special thank-you to Don and Bea Eastman for donating plants to the members' sales table and to giving their entire proceeds from those plants sold to the Society. Thanks, Don & Bea.

Here are the results of our display.....

Simon Holierhoek	1 <sup>st</sup> .	Epidendrum Green Hornet
	1 <sup>st</sup> .	Vanda Roberts Delight 'Garnet Beauty'
	1 <sup>st</sup> .	Mtssa. Pelican Lake 'Everglades'
Sylvia Dietsch	3 <sup>rd</sup> .	Cattleya Bowringiana
Wilhelmina Muste	3 <sup>rd</sup> .	Lc. Bowri-Albida 'Pink Lady'
Phil Hinman	2 <sup>nd</sup> .	Blc. Tainan Gold
Don & Bea Eastman	3 <sup>rd</sup> .	Cattleya Mem. Henry Goldberg
Kathy & Fred Wilkinson	2 <sup>nd</sup> .	Potinara Burana Beauty
	2 <sup>nd</sup> .	Phrag. Sedenii 'Blush'
Aimee Roger	3 <sup>rd</sup> .	Paph. Julia Bell
Lydia & Jim Stewart	1 <sup>st</sup> .	Paph. Susan Booth
Lou Meevis	2 <sup>nd</sup> .	Phalaenopsis ???
Wayne Hoeschle	1 <sup>st</sup> .	Encyclia radiata
	2 <sup>nd</sup> .	Anguloa Dubia
	1 <sup>st</sup> .	Epidendrum Cilare - also won Best Cattleya and Best Specimen Plant Awards
Rick Rempel	1 <sup>st</sup> .	Blc. South Island
	3 <sup>rd</sup> .	Lc. Tricky Elf
	1 <sup>st</sup> .	Asc. John de Biase 'Angelia'
	1 <sup>st</sup> .	Bulbophyllum Echinolabium - also won Best in Class Award.

The Society also won a 1<sup>st</sup>. For Best Society Display, and since Rick set up our display, thanks goes to Rick for getting us that First!! Thanks Rick!! Also, thanks to Colin Burns and everyone else who donated plants for the display!

### Meeting

Since everyone had a great time at last year's Christmas Party and it worked out very well having it during our meeting, we are doing it again this year. The party will start at 6:30 p.m. on Wednesday, December 10<sup>th</sup>. If you have not done so, please contact Nell Dekker to let her know what kind of dish you are bringing. Please be reminded that this is a **NON-ALCOHOLIC** party. So I hope all of you will join in the celebration and please feel free to bring your spouse. We will also be having the Show Table, so bring your orchids along too!

### Membership & Draw

Just another reminder that your \$20.00 membership fee is due. Please pay me at the meeting or if paying by cheque, send it to my home address:  
(Cheque payable to Niagara Region Orchid Society):

5831 Murray Street  
Niagara Falls, Ontario  
L2G 2J9

Thanks. Those who paid by November 30<sup>th</sup>., will have their names entered in the draw. Instead of a plant, we have decided to have a gift certificate for \$25.00 from Clouds Orchids so that the winner can choose his/her own plant. You must still be present to receive the prize.

Also, if you are stuck on what to buy for that 'hard-to-buy-for person on your Christmas list, why not buy them a gift membership to our Society. We are going to have a some great speakers in the new year and some fun meetings are planned,

so if you know of someone that might enjoy coming to meetings, buy them a membership. We would love to have them!

### Open House

Clouds Orchids Open House weekend will be on Saturday, December 13<sup>th</sup>., and Sunday, December 14<sup>th</sup>., between 11:00 a.m. and 4:00 p.m. The workshop on both days will be on Paphs. & Phrags., and it starts at 12:00 p.m. If you need a Christmas gift for that orchid enthusiast, come on out to the Open House and buy a gift certificate or some plants!

### Newsletter

Also, I would like to remind all members that they are welcome to put items of interest in this newsletter, such as items for sale or looking for particular items, etc., just contact me and I'll make sure it gets put into the newsletter.

TORONTO ORCHID SHOW

February 14<sup>th</sup>. & 15<sup>th</sup>., 2009

Toronto Botanical Gardens  
777 Lawrence Avenue East  
Toronto

The following article is courtesy of the Victoria Orchid Society newsletter of January 2006.

## WHY AIR MOVEMENT COUNTS

Charlie Musquetier and Cindy Rea, in Talking Orchids, Regina Orchid Society, May 2005.  
*Originally printed in LOS News, Publication of the London Orchid Society, June 2005.*

When growing indoors one must, for all intents and purposes, provide the essentials for plant life. When taking a brief survey most will pay heed to providing proper nutrition, Carbon Dioxide (CO<sub>2</sub>) and light, the basis for photosynthesis and consequently plant growth.

Grow rooms are always a development in progress and as such many indoor gardeners have pondered what new piece of equipment or additive to experiment with next. Often an equipment upgrade or additional HID lamp will head the list. Many times it is the wrong choice. Man is often guilty of thinking, 'more is better.' In this case any of the afore-mentioned should not hold consideration if proper attention has not been given to the garden environment. Yes, it is the exhaust fan that is one of the most essential and most often ignored pieces of equipment within the grow room.

Air movement, through exhaust, can help maintain ideal temperature, humidity and CO<sub>2</sub> levels in the grow room. There are a number of problems that can easily be prevented by taking control of temperature and humidity ranges indoors. Air movement has a direct effect on a number of plant processes. For instance the effect temperature can have on transpiration; a process that is shut down when temperature is excessive or causes condensation when temperatures reach too low a value. Complete control can be a formidable accomplishment during the winter months, however, any effort put toward the cause will be rewarded handsomely.

Most indoor gardens are often set up with regard to the winter season, with the air conditions outdoors being drier and cooler than those in the summer. In the winter, for the grower, this is a valuable resources,

free of charge. Well, almost. In fact, all that is needed is a quality exhaust fan that is able to remove the volume of air in the room within three to five minutes. This may have to be accompanied by an additional intake fan, depending on the conditions, the number of lights involved or the amount of heat created. A fan will easily facilitate the removal of hot, humid air inside a grow room replacing it with cool dry air.

In summer the outdoor conditions are reversed, making temperature control infinitely more difficult. Intake air will likely be as hot and humid as that from the outdoors. Many times a gardener can escape this by having the lights on in the middle of the night, taking advantage of cooler temperatures. But the relentless summer heat of the northern hemisphere will usually catch up with them in the end. This hot, humid air can have a devastating effect on indoor plants. This problem can be exacerbated by the increase in temperature from having several lights. In the summer it often becomes imperative to control the heat created more effectively. Many times an air-cooled reflector with a separate exhaust fan is the answer. This will remove the heat from the bulb before it is able to increase the temperature of the garden area. An additional benefit of this method is the ability to bring lights closer to the plants increasing the total number of lumens available. At other times air-cooled systems are not enough and it becomes necessary to introduce an air conditioner or heat exchanger. These options come at a significant cost. However, these costs can be deemed inconsequential when considering the amount of grief that can be prevented by buffering your indoor gardens from high temperatures and humidity conditions that can have a detrimental effect on the plant's ability to function.

There are a number of reasons how the plant is affected by the gardeners ability to remove air effectively. Chief amongst them would have to be the effect it has on CO<sub>2</sub>. Not only in relation to the amount available within the environment, but also to both the amount that can be taken into the plant and the rate at which it is processed.

It is common knowledge that CO<sub>2</sub> and light must be present in order for plants to photosynthesize, the process it uses to create energy. It is a naturally occurring compound in the air, around 300 pip. However, with adequate lighting, a garden can easily consume the CO<sub>2</sub> available indoor within a few hours. By controlling temperature the CO<sub>2</sub> depleted air is removed and cool, carbon dioxide rich air is added.

When considering how CO<sub>2</sub> uptake is affected by temperature, a brief examination of the leaf structure is necessary. CO<sub>2</sub> is taken in through millions of microscopic openings located on the undersides of the leaves known as stomata. It is here that carbon dioxide is absorbed by the plant and taken within the interior of the plant in order to be combined with chloroplast and water to form Adenosine Triphosphate (ATP) the major source of usable chemical energy in metabolism. ATP is a compound that can be transported and broken down to be used for energy needed for development.

In respect to the stomata humidity and temperature ranges are of great consequence, but it is the latter that is of a primary concern. Just, as it can speed up the metabolic rate in animals, so too can it affect plants. Air temperatures with the range of 65 – 80°F (18-27°C) are usually good parameters to seek within an indoor garden. The upper daytime limit can be raised to 85°F (29°C) or more when CO<sub>2</sub> is supplemented. In fact, the processing of CO<sub>2</sub> is directly affected by temperature. Some experiments have shown a rise of 20-30°F (1-7°C) can increase the rate of photosynthesis dramatically by increasing the speed at which carbon is taken from the CO<sub>2</sub>,

thus increasing the amount of energy available. Of course this relationship is not infinite! A limit is reached, not too far above the 90°F mark. Once core leaf temperature rises to this point, the stomata will close in order to curtail excessive transpiration. This effectively starves the plant of CO<sub>2</sub> consequentially having a disastrous effect on yield.

Temperature in many respects can be seen as linchpin. If kept within range, transpiration will occur keeping stomata open, which will allow the plant to absorb the much needed CO<sub>2</sub>. When considering transpiration CO<sub>2</sub> is not the only concern. Most simply put, transpiration is the evaporation of water through the plant. Water is taken in through the roots because of osmotic pressure and sent up into the body of the plant, into the leaves, and in the end released through the stomata. It is through this process that nutrients taken into the plant and sugars created through photosynthesis are cycled throughout the plant. With this process occurring throughout the day, a number of gallons can be evaporated into a grow room having a direct effect on humidity. Plants that are reacting to higher temperatures attempt to cool themselves through transpiration. Hence the temperature will increase the rate of transpiration directly affecting the humidity of the environment as well.

Most plants indoors would prefer relative humidity ranges of 40-60% because it is within that optimum CO<sub>2</sub> absorption occurs. As relative humidity grows beyond the 60% level the stomata's ability to absorb it is retarded. It is mentioned above why CO<sub>2</sub> is important to plant development, but because of the effect high humidity has on stomata it is also a concern.

A more serious issue arrives when moist warm air is cooled to low temperatures. This occurs when the light(s) go into the off cycle, eliminating the heat created by the bulb. When the temperature is left to drop

more than 10-15°F (9-12°C) in a humid environment condensation occurs. Basically, this temperature change affects the relative humidity of how much water the air may hold. When the drop is too sudden, the volume of air's capacity to hold water vapor is lowered and water vapor becomes liquid ending up covering the surfaces of the garden room. These water droplets allow a number of fungi and molds to colonize, powdery mildew being the most common. These reproduce by releasing spores that can spread throughout the foliage and if left unchecked will decimate the plants. Once these populations are present, a number of different products can be used to control them. These will, however, only limit the damage and sometimes a fresh start is what is needed. The removal of plant material and wash down with a bleach may be necessary. The best approach is to nip the problems in the bud and ensure all hot air is exhausted from the room.

By moving air one can take control over the humidity in the room. It can be done in a number of ways with various rates of efficacy. Arguably the simplest is to purchase a humidistat and a fan or if warranted a dehumidifier, allowing for establishment of upper humidity controls. By not allowing the humidity to build one escapes excessive condensation. Removing this air is essential but equally important is moving fresh air throughout the garden canopy. The foliage of the plants' is the area where all the aspects mentioned above come into play, and so the air within must be oscillated. By bringing in an oscillating fan or two

the gardener will help to mix the air within the room, helping to create more uniform temperature and humidity. By mixing the cooler air from outside the area of the canopy with that within will reduce the humidity around the plants keeping the stomata open. There is additional benefit here, in that this new air is rich with carbon dioxide.

Oscillating air will also have an effect on a number of garden pests that become uncomfortable under a breeze. There are too many varieties of pests that can wreak havoc on an indoor garden to discuss in full here, however, there is "space" to explore one example, perhaps the most common and devastating: The spider mite. This microscopic spider's metabolism is increased with temperature reducing the time it takes for them to reach sexual maturity. When one is dealing with a population exponentially, it can become beyond control in a short period of time.

It all comes back to the temperature/humidity issue. That is the primary reason for moving air in any garden. The above is no more than a brief synopsis, listing some of the benefits gained from moving air. It is therefore imperative not to ignore the climate within your grow room even if at times it is tempting to add another light or more additives with any extra money one might have.