



# NEWS

**Volume 24.4– September 2012**

**COOS**



**FVOS**



**THE FALL SHOWS**

**ECOS**



**OSRBG**  
**COC AGM**

**ExCOS**



# From the President

## Annual General Meeting

My two years as President of COC are rapidly coming to an end. At the Annual General Meeting Sunday, October 28, 2012 at the RBG orchid society show in Burlington you will be electing a new president as well as several other officers that have indicated they wish to be replaced. Please help past president Jean Hollebhone fill the vacancies. The organization needs dedicated officers and your help to stay connected.

Please consider attending our Annual General Meeting. Our hosts will have a nice show for you to view and an excellent lecture program. A society donation to our auction would be most welcome to help with COC finances in the coming year. Please notify us of your society attendance or nonattendance. The numbers are important to COC as well as our host society. An Agenda will be sent to all member societies around the middle of September.

## Federal government incorporation changes

We have been notified by our lawyers that our organization needs to transition to the new Not for profit corporations act (NFP Act enacted October 17, 2011) before October 17, 2014. This will require some amendments to our bylaws to meet the requirements of this new act. We are exploring the necessary changes where required. These will require membership approval.

## Vendors orders

I have noticed that several out of country vendors have offered to include plant orders from elsewhere in Canada when they come to Canadian shows or events. They then ship these orders on to their Canadian destination from the Canadian event. This seems like an excellent way to expedite these orders through the border process. Vendors will often advertise where they will be attending. Remember they often have to apply for the border permits many months in advance.

## Thank you for your support

Thank you to all who have helped keep our congress operating over the past years. Jerry Bolce our web master and editor has continued to be our very active front man; treasurer Andre Couture has been an invaluable assistant in financial and corporate matters;

Gail Schwarz has ably run our small society assistance program, Vice president Barbara Bowmar and her partner, Marilyn Light and Michael MacConnail from Ottawa, Ed Cott from Windsor and Ingrid Ostrander from Vancouver Island have all helped to digitize some of our older slide programs; Dianne Gillis has continued to run our valuable insurance program, Jean Hollebhone and Mario Ferrusi have kept us connected with the American Orchid Society. Terry Kennedy and Ingrid Ostrander have continued running the distribution of our COC medals. Thank you also to those who generously donated digitized programs for use by our member societies, and to those who donated and bid on items at our annual auctions. We could use more of both.

We regret the passing of Joyce Jaworski, prominent member of the Manitoba Orchid Society. Joyce was instrumental in inviting the COC to have it's 2013 Annual General Meeting in Winnipeg next year.

*Peter Poot.*



**The COC Annual General Meeting  
Orchid Society of the RBG Show and Sale  
Saturday, October 27 and Sunday, October 28, 2012**

I am writing to your orchid society to invite you to the 31<sup>st</sup> Annual Orchid Show of the Orchid Society of the Royal Botanical Gardens in Burlington, Ontario on Saturday, October 27 and Sunday, October 28, 2012.

This year we are hosting the Canadian Orchid Congress and invite you to our dinner and auction on Saturday evening. The only cost for this dinner is that you donate orchid related items to the COC auction. As this is a joint fundraiser for the COC, a Canada wide association working for all of us, I hope that you can support the auction with a donation even if you are unable to attend.

Our Society is looking forward to your company. Please come and enjoy the show, our dinner party and COC auction, Niagara Falls and the Royal Botanical Gardens.

Lynda Vuurman, President, OSRBG

Any questions? Email me at [lyndamv@hotmail.com](mailto:lyndamv@hotmail.com)

Perhaps you could let me know if you are attending the dinner, please.

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**Speakers for the 31st Annual Orchid Show of the Orchid Society of the Royal Botanical Gardens and Canadian Orchid Congress featuring Norito Hasagawa from California.**

Saturday, October 27, 2012

**12:30 Basic Care of orchids - Denise MacLeod**

So, someone gave you an orchid as a gift and now you want to know how to look after it and how to get it to bloom again....This session will provide valuable tips to get you and your orchid on the right track.

**1:30 Flower arranging with orchids - Kathleen Wilson**

Learn how to use orchids in table centre-pieces, baskets and corsages.

**2:30 What's New in Paphs – Norito Hasegawa**

Norito is an expert hybridizer of Slipper Orchids, owner of Paphanatics unLimited and a judge in both the American Orchid Society and the Cymbidium Society of America for over 35 years.

**3:30 Growing orchids in a terrarium - Drew Goddard**

Of interest to those who are thinking of doing “something different” in displaying their orchids.

Sunday, October 28, 2012

**10:30 Photographing Orchids – Don Corby**

Learn from an expert how to get the best results when you are photographing orchids.

**11:30 Selection and Care of Miniature Orchids – Carlo Balistrieri**

If you are thinking of adding to your orchid collection, but concerned about space restrictions, miniatures may be the way to go. Learn about what is available and how to look after them.

**12:30 Selection and Care of Oncidiums – Doug Kennedy**

You’ve been growing phaelenopsis and now you want to expand your collection to include oncidiums? This session will help you choose your specimens and learn how to care for them.

**1:30 Flower arranging with orchids - Kathleen Wilson**

Learn how to use orchids in table centre-pieces, baskets and corsages.

**2:30 Multifloral Paphs – Norito Hasegawa (Paphanatics unLimited)**

Norito has forgotten more about papheopedilums than we shall ever know

**3:30 Re-potting orchids - Denise MacLeod**

Is it time to re-pot your orchid? This session will provide valuable tips on when and how to re-pot.

# Phylogeny of *Angraecum* in Madagascar

by Tahiana Andriananjamanantsoa,  
transcribed by Inge Poot from notes supplied by Terry  
Kennedy and Jean Ikeson

*This talk was in the nature of a progress report on Tabiana's thesis undertaken at the University of Montreal and partially funded by SOOS via the SOOS Conservation Committee.*

Madagascar is an island 249 miles off the S-E coast of Africa and it has the distinction of being the fourth largest island in the world, with an area of 228,900 square miles. The prehistoric breakup of the supercontinent Gondwana separated the Madagascar-Antarctica-India landmass from the Africa-South America landmass around 135 million years ago. Madagascar later split from India about 88 million years ago, allowing plants and animals on the island to evolve in complete isolation.

The people inhabiting the island originally came from Indonesia, Malaysia and Africa. The country counts about 20 million people, 70% of them live on 1 dollar a day, and have a gross domestic product of 438 USD (in 2009).

Sources of income are mainly tourism, agriculture (using ancestral methods and practices, such as slash and burn agriculture, pasturage, etc), and mining.

The resources are mismanaged and transparency and good governance are lacking in politics.

Biodiversity is rich for both plants and animals. Talking about biodiversity, Madagascar is known for its rich and unique biodiversity and is considered one of the 34 biodiversity hotspots in the world. It has 14,883 vascular plants, of which the most common are in the genus *Pachypodium* in the family Didieraceae.

There are over 300 species of birds and 60% of them are endemic (this means that they do not occur elsewhere).

Madagascar is home to about half the world's 150 species of chameleon. The example shown was the miniature species *Brookesia micra* a specimen of which looked a bit scared but perched comfortably on the business end of a matchstick!

All 651 species of terrestrial snails are endemic

Over 100 species of fish are found around the island.

Over 100 species of Lemurs call Madagascar "home".

Here our speaker showed an adorable tiny species *Microcoebus bertae* which looked like a tiny brown bushy-tailed squirrel with huge black eyes. To then see dried lemur meat for sale is quite shocking.

Madagascar is really rich in natural resources. In 2015 the country is expecting to produce 750,000 to 2 million tonnes of ilmenite a year (ilmenite is a magnetic titanium-iron oxide mineral), that's 42% of the world production.



*Angraecum leonis 'Jenny's Moonbeam' CCM-AOS photo from Aqplus*

Canadian companies are the first in terms of direct investment in mining in the country (Rio Tinto in ilmenite and Sherritt in nickel and cobalt). Sapphire is another ore - mined in open pits.

Slash and burn agriculture (tavy) and wild fire (used as a form of protest!) constitute a scourge in Madagascar, responsible for approximately 494,210 acres natural habitat loss every year. Species are being driven to extinction and many are under threat. On top of this, mining and illegal cutting aggravate the situation. As a result, over 80% of the natural habitats are gone, the remaining forest is fragmented and the wild population is endangered. Only 10% of the forest is still continuous and that is a strip all along the east coast

In 2009, more than 50,000 tons of tropical hardwoods were taken from Madagascar's forests and more than \$200 million of questionable money passed hands such as the selling of scarce woods such as rosewood on the black market, while the people of the country received a paltry sum (Randriamalala et al., 2010).

Orchidaceae is the second largest family of vascular plants in Madagascar, with approximately 57 genera and more than 1,200 species. 90% of which are endemic. When compared to Costa Rica with its approximately 150 genera and about 1500 species this is quite impressive.

An attempt was made in Ranomafana, NP, on the S-E part of Madagascar, to re-introduce artificially propagated species to the wild. 360 seedlings were reintroduced in 2005. About 30% survived so far. Unfortunately the program was abandoned in 2007, when they lost the services of their guide.

The project under way now involves field sampling various, usually inaccessible spots. There were 10 locations sampled in 2007 and 5 more are planned for 2012. GPS was used to fix the exact positions. Local guides had to be used since the terrain was difficult and the weather worse! Cyclones are not a rarity!. So far about 600 samples have been taken, each recorded for posterity with a photograph and its GPS location.

The genus *Angraecum* belongs in the sub-tribe *Angraecinae*, which in turn is included in the *Vandeae* tribe located in the *Epidendroideae* sub-family. The genus contains over 200 species, of which over 150 are found in Madagascar. Of the 46 African species six are found in Madagascar as well.

The *Vandeae* tribe contains 4 sub-tribes and of these the sub-tribe *Angraecinae* (with 15 genera of 360 species) together with the sub-tribe *Aerangidinae* (32 genera containing 330 species) are referred to as the

Angraecoids. You can tell the two sub-tribes of the Angraecoids apart by the structure of the rostellum (the structure that separates the pollinia from the stigmatic surface) and by the structure of the pollinia. *Angraecinae* rostellums are pairs of large flaps, while those of *Aerangidinae* are just one or two skinny teeth. *Angraecinae* pollinia have short stipes and generally large sticky pads at the end of the stipes (or stems), while *Aerangidinae* pollinia have long stipes and generally smaller sticky pads (called viscidiums). DNA analysis and the resulting "Cladograms" using two spots on the DNA of the energy carrying organelle showed that the *Angraecinae* sub-tribe is actually in two fairly strongly separated sections with the subtribe *Aerangidinae* placed right between the two sections. Therefore the sub-tribes are not a natural division.

The genus *Angraecum* is monopodial in growth habit (that is it grows upwards, not sideways like a *Cymbidium* or *Cattleya* would). The species vary greatly in size, going from the 3cm *A. urschinum* to the about 100cm *A. longicalcor*. Like most orchids the inflorescence is a raceme, which means that there is no stem for the individual blossoms on the inflorescence just an elongated ovary. The flower colour is usually white, but can also be green, yellow or ochre. The flowers are spurred with the spur varying from one to 300mm in length for the different species. The number of chromosomes found in the plants is usually 19 pairs, but 21, 23, 24 and 25 also occur. The plants are usually epiphytic (grow on trees), but some are lithophytic (grow on rocks). They are found in tropical climates at elevations from 0 to 2000 meters. The genus usually uses Moths as pollinators (eg *A. sesquipedale* is pollinated by the famous *Xanthopan morgani praedicta*) but some species are bird pollinated such as *A. bracteosum* which is pollinated by the wren-like *Zosteror barbonicus*. There is even a species pollinated by crickets: *A. cadetii* by the cricket *Glomeramus orchidophilus*. The expectation is that other pollinators will be found with further study.

The speaker is not the first person to study the phylogeny (evolutionary ancestry) of the genus *Angraecum*, but previous authors more or less ignored the angraecums found in Madagascar other than study them enough to realize they do not all have the same ancestor (Micheneau, 2008). In scientific "speak" this means they are not "monophyletic" For instance in 2003 Carlswald and co-workers studied three African species using a gene known as "ITS". It is located on a plastid found in the cytoplasm of the plant, not on the chromosomes in the nucleus. Studying changes in this gene does not allow resolution down to species level.

The 2008 genetic study of Micheneau and co-workers involved 30 Mascarene species using plastid genes known as “matK”, “tmL-F” and “rps16” which all allow the investigator to discern if two plants belong to the same genus, but again it does not help in deciding if they belong to the same species.

So Garay’s work in 1973 using characters such as flower, ovary and leaf structure to set up a classification turned out to not reflect actual relatedness.

By now you are probably wondering how on earth these relationships can be discerned from the DNA – especially since all earlier work was done on one or two sites found on plastid DNA, not nuclear DNA. Scientists found sections of chromosome that are apparently not involved in essential, not to be altered functions. Any mutations occurring at these sites do not affect/kill the organism and will therefore be carried forward in future generations. Since mutations occur at a fairly steady rate if two plants have the same mutations, then they must be closely related. By counting the mutations and deciding if they are different or the same as those in another plant, an estimate can be made of how long ago their ancestors became reproductively isolated from each other. These degrees of relatedness are what these “cladograms” show, that are flashed onto screens so often in much too tiny a print size to read....

Anyway the cladogram we saw showed that the bulk of angraecums together with the genus *Bonniera* is more closely related to *Jumellia* and *Aeranthes* than to the African angraecums. The latter are again not all closely related, but fall into two groups, one more closely related to *Dendrophyllax* and *Campylocentrum* than to the other African group of angraecums, which in turn is closely related to the *Aerangidinae*. So there are three groups that have yielded plants that we would call angraecums, but they obviously had separate origins and were shaped by their gradual adaptations to similar pollinators.

The *Aeridinae* are separated from even the two groups of African angraecums by the genera *Cryptopus*, *Oeonia* and *Beclardia*.

By co-operating with other researchers and trying to use more genes and especially genes from nuclear DNA in his analysis, a new picture is emerging that is different from that of other researchers. There is going to be a lot of combining and dividing of genera, especially in view of the situation with the African angraecums. If they are

to remain angraecums, then a lot of other genera have to become angraecums too!

There is a theory that should be examined that postulates that the genus *Angraecum* originated in Malagasy.

Based on work at seven sites in Madagascar, all species from Eastern Madagascar are at high elevation and have the same habitat. It shows that most orchids have a narrow range of habitat requirements. Those found on the Western side of Madagascar are the exceptions, since they use different habitats. This separates them geographically from the high elevation species and thus provides a genetic barrier that should result in genetic isolation and a resulting diversification of species.

The speaker is using many genes :

- matK, rbcL, ycf1, rps16
- ITS, ETS
- Nuclear

from about 250 samples of plants to test relatedness. In this he is collaborating with Claire Micheneau and Tariq Stévant who are working on sequencing genes of African species.

Preliminary findings

- African species, are “nested” with *Aerangis*, *Angraecopsis*,
- Malgasy species, with *Jumellea*, *Aeranthes*, *Beclardia*, *Cryptopus*.

### Conservation:

85% of the former habitat of Madagascar’s orchids is gone as a result of the slash and burn way of farming, where a new plot is cut and burned over for farming every year. The disjointed pieces of original jungle that are left need to be connected to allow cross-pollination/flow of genes. So conservation groups have been planting trees as corridors. They cannot use desirable lumber trees for the corridor proper because they will be cut again! So they have tried to plant fruit trees. Lumber trees such as *Dalburgia* (Rosewood and Palissandre), *Diospyros* (Ebony), etc... are planted to stop cutting them out of the wild forest. Permanent Forest: trees such as *Canarium*, *Ocotea*, *Nephelium*, *Dalburgia*, *Diospyros*, etc...are planted as well.

The school-children are given lessons in reforestation techniques because they will be the agents of change for the better

The 25,000 trees planted so far were placed with the really active help of locals and students. One such

corridor is the seven kilometer corridor between Kianjavato Ahmanson Field Station(KAFS) and Vatovavy.

**Progress:**

In 2010 : 3,581 trees were planted

In 2011 : 15,000 trees and this season so far : 18,000 trees have been planted

Efforts are being made to teach locals another way of farming to replace the slash and burn method.

There is no more work being done on micro-propagation, because of lack of qualified staff, but some re-introduction to former habitats and removal from mining sites to other areas where the species is found is being done by mining companies in co-operation with the government. When they are re-introduced into areas where they used to be originally, their pollinators are still present and result in quick reproduction by naturally set seed.

Another problem hampering conservation efforts is the lack of official ownership of land. There are just verbal claims. By planting trees it is hoped that this defines borders that will be respected.

Even though many foreign organizations have funded conservation efforts, the success is hampered by local cultural attitudes.



Mr. Jerry Bolce  
COC News Editor

Regarding the publication in the May issue of the COC News of Marilyn Light's very favourable report of Michel Tremblay's deserved success at the Les Orchidophiles de Montréal ORCHIDEXPO 2012 and Michel Tremblay's own account of his display's history and the preparation needed- "PRÉSENTOIR ÉDUCATIF À ORCHIDEXPO 2012":

M. Tremblay,

Félicitations. Concept génial. Beau travail bien exécuté. Bonnes explications. Belle réussite. Prix de qualité (AQ/AOS) certainement bien mérité.

Chuck Lefave  
VP Windsor Orchid Society/La Société des Orchidophiles de Windsor (WOS/SOW)

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## Discovering New World Orchids

I would like to draw your attention to my book "Discovering New World Orchids". It deals with the explorations and discoveries of orchids in Central & South America. In addition to the explorers themselves, it deals with the people who sent them, what happened to their discoveries on arrival in Europe, the disputes between taxonomists etc etc.

It is fully researched, referenced and indexed. Hard cover, it has over 600 pages and over 1,000 illustrations including some historical ones, never previously published.

Therefore it is heavy - 2.7 kilos and the postage is also heavy, so the total cost of delivering one copy to an address in Canada works out at 128.40 CAD at today's exchange rate.

It has received many favourable reviews including The Orchid Review, Plant Heritage, The Botanical Journal of the Linnean Society, etc.

I hope you wish to buy a copy for your Orchid Society library, but as it is not available through bookshops, you must order direct from myself.

Best wishes, Steve Manning, Nantwich, England.  
orchidsmann@uwclub.net

## COC Travel Grant 2012

We wish to thank the COC for the \$200.00 travel grant for 2012. We are a very small Society and are very grateful for this help to bring in speakers for our meetings. This year we joined Vancouver, Victoria and Nanaimo in welcoming Marilyn Light from Ottawa in January. Her topic was "Getting to Know Wild Orchids" and was very informative and well received by our members. Marilyn has 26 years of field studies and is extremely knowledgeable on the subject of conservation. The grant helped offset some of the expenses. Thank you.

Dianne Gillis (on behalf of the Fraser Valley Orchid Society)

## FVOS Show

Fraser Valley Orchid Society will be hosting their annual Orchid Show and Sale. The banquet and preview dinner will be on October 19th. at 6 pm. The Show is open to the public on Saturday October 20th. from 9 to 5 and Sunday October 21st. from 10 to 4. We will have several international vendors as well as local vendors and many great displays. The theme this year is "Orchids at Home". We are very pleased to partner with the Langley Hospice this year and half the proceeds from the silent auction will be donated.

## Address Change

Please note the change of email address for Marilyn Light. It is now <mslight@distributel.net>.

## ORCHIDFÊTE 2012

Saturday, October 13, noon to 6 p.m. and Sunday, October 14, 9 a.m.-5 p.m.

At the Hotel Espresso, 1005 Guy Street (Metro Guy-Concordia or Lucien-L'Allier)

Website: <http://www.ecosorchids.ca/>

### Sunday's Speaker Program:

10:30 am - "How to Grow Great Slipper Orchids" by Glen Decker of Piping Rock Orchids

12:00 noon - "Phragmipediums of Ecuador" by Pepe Portilla of Ecuagenera.

1:00 pm - "Potting Bare Root and Repotting" by Jay Norris of Ravenvision

## Thank you SOOS and COC

Hello Yvonne,

Members of the Windsor Orchid Society (WOS) were again grateful to be invited and welcomed to participate in the SOOS Orchidfest 2012. Your Australian guest speaker, the dynamic and personable Phil Spense, succeeded in delivering our pre-orders, and the 12 WOS members who made the trip to Toronto were rewarded with an extra selection of Australasian sarcochilus, dendrobiums and cymbidiums for purchase. And we did buy more! The WOS members were fortunate to have had this opportunity to meet the speaker, to also learn from Phil Spense himself about how best he grows dendrobiums, to hear his informative answers to audience questions and to view a somewhat exclusive and important video on orchids that he brought for us consider. We are fortunate that a grant received from the Canadian Orchid Congress (COC) Travel Subsidy helped make the trip from Windsor more affordable and for this grant we acknowledge the COC.

On behalf of the WOS members, I would like for you to please extend our sincere thank you to the SOOS Executive.

Regards,

Chuck Lefaive

President, Windsor Orchid Society/La Société des Orchidophiles de Windsor (WOS/SOW)





# COMING EVENTS

## 2012

**Sept 29-30:** The Central Ontario Orchid Society, Cambridge Hespeler Arena, 640 Ellis Road, Cambridge. "<http://www.coos.ca/>"

**Oct 13-14:** Eastern Canada Orchid Society at the Hotel Espresso and Conference Center, 1005 rue Guy, in Downtown Montreal. Phone 514-684-3904 "<http://www.ecosorchids.ca/>"

**Oct 19-21:** Fraser Valley Orchid Society Show & Plant Sale will be held at the George Preston Recreation Centre, 20699 42nd Avenue, Langley, BC "<http://www.fraservalleyorchidsociety.ca/>"

**Oct 27-28:** Orchid Society of the Royal Botanical Gardens, 680 Plains Rd., Burlington. The OSRGB will be hosting the COC AGM - stay tuned for details. <http://www.osrbg.ca/>

**Nov 10:** The Essex County Orchid Society will be holding their third Orchid Show and Sale. The one day event will take place at Colasanti's Tropical Gardens, 1550 Road 3 E. Ruthven, ON. For more information, please email: Juliette St. Pierre at [canadel@cogeco.ca](mailto:canadel@cogeco.ca) "<http://www.essexcountyorchidsociety.webs.com/>"

## 2013

**Feb 16-17:** The Southern Ontario Orchid Society Orchid Show at the Toronto Botanical Garden, Edwards Gardens. "<http://www.soos.ca/>"

Get your spring show dates, with details, to the COC editor.

## Officers of the Canadian Orchid Congress

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## COCnews

The purpose of COCnews is to inform members of the meetings, policies of the COC, to profile members, and to provide technical information regarding happenings, trends and techniques in orchid cultivation across the country and around the world.

We welcome your suggestions and contributions. Deadline for each issue is one month before the issue dates previously announced.

Recipients of this newsletter are strongly urged to pass a copy on to other members of their society.

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COC Web Site - <http://www.CanadianOrchidCongress.ca/>  
Please email the Editor your show information: date, etc.