

SOUTHERN ONTARIO ORCHID SOCIETY

established in 1965

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Executive: President, Jay Norris 416-463-7411; Vice-presidents, Wayne Eyles and Mario Ferrusi ; Secretary, Sue Loftus 905-839-8281; Treasurer, Joe O'Regan 416-759-2538

Membership: Annual Dues \$25.00/Calendar Year. Membership Secretary, Hess Pommells 416-245-0369, Apt. 503, 370 Dixon Road, Weston, Ontario, M9R 1T2

Web site: www.soos.ca Member of the Canadian Orchid Congress; Affiliated with the Orchid Digest, the American Orchid Society, and the International Phalaenopsis Alliance

Honorary Life Members: Walter Norman, Terry Kennedy, Doug Kennedy, Inge Poot, Peter Poot, Joe O'Regan, Diane Ryley

Program: January 28, Toronto Botanical Gardens, Floral Hall, Sales 12:00, Program 1:00 pm:

Mario Ferrusi, chairman of the Toronto Judging Centre of the American Orchid society will give a slide presentation of some of the award winners of 2006 and explain how the award system works. -- Everything you wanted to know but were afraid to ask --

Mario Ferrusi started growing orchids in 1980. As everyone else, he started with a hybrid Phalaenopsis. This soon escalated when he purchased a hobbyist setup of 23 plants and a fluorescent light setup. Mario quickly learned to like the weird and unusual ie Masdevallias, Draculas and everything in the cool range.

He joined the local Niagara Region society and almost immediately became Membership chair. Soon afterward he took over the Show Chair's job and held that for about 10 years.

Mario is a past president of the Southern Ontario Orchid Society and currently heads the program committee. He joined the AOS judging program in 1992 and became accredited in 1998. Mario has two greenhouses, the smaller one (15 X 20) is for intermediate to warm plants, the larger one (24 X 32) is for all of his cool beauties.

He has concentrated on hybridizing in Masdevallias, Odontoglossums, Lycastes and a few other scattered genera.

He particularly enjoys exhibiting and competing for the AOS Show Trophy, but next to AOS quality awards to his plants he cherishes cultural awards the most.

Have you renewed your membership in SOOS for 2007?

Do it Now!

President's Message.

Hi Folks

Well our illustrious editor has reminded me, yet again, that I need a President's message for the newsletter. I don't know why, but I am always surprised that the time is upon us again for the next meeting.

I hope everyone is getting ready for the show. We have a great team involved in getting things organized, and we would like each and every one of you to be able to get in to the show for free. To do that, all you have to do is volunteer! One four hour shift will do it!! Even if you don't know where you might be needed, please sign up on the sheets, and when you arrive someone will be able to direct you to where we need the most help.

Happy Growing and Showing!!!

Jay

Member News

With a membership of 300 it is often belatedly that your executive learns of serious happenings to individual members. We would like to stay in touch and let you know we care. So, if you hear of anything affecting one of our members, please let Wayne Eyles know at 905-629-1799 or krum@sympatico.ca.

We hear that Walter Norman is working on a recovery from a recent operation, and John Kafka is not very well.

Former member Kevin Tipson recently lost his wife. Our sympathies go to the family.

Notice to SOOS Meeting Vendors

There appears to be some confusion about the reservation and payment for vending spaces at our meetings. Vendors are

required to reserve and pay for space at least one month in advance. If you do not reserve your space, you will not be guaranteed sales space.

Once you have reserved a space by payment, you are expected to use it or the space will remain vacant. Cancellations, **for good reasons**, must be received by Diane **no later than one week before our meeting**. If Diane can rent your space a full refund will be credited toward your next month's fee. Should you fail to notify Diane one week prior to our meeting, your fees for that month will be forfeited and not carried forward. Without paying for a table in advance again, your space will not be reserved for the meeting following that for which you did not sell.

Canada Blooms

We will once again be at this large flower and garden show at the Metro Toronto Convention Centre, March 7 to 11. Our purpose is to promote the orchid hobby and orchid societies to the public. Our booth will have brochures, posters and a small display of orchid plants. If possible we would like to include some of the more unusual species that you grow to stimulate interest. If you have a plant in bloom that you would like to show in our display, please contact Inge or Peter Poot at 905-640-5643.

We will also need your help with hosting the booth during the Wednesday to Sunday event. A volunteer sign up sheet will be at the January 28 and March 4 SOOS meetings. Hosting volunteers get into the show for free.

Welcome New Members

Kurt Crist, Duncan Armstrong, Douglas and Ursula Eley, Renu Ramesh, Carol Ramsay.

Coming Events

January 2007

20, Montreal Centre Judging, 1 pm, Jardin Botanique de Montreal

28, SOOS meeting, Toronto Botanical Garden

February

3, Toronto Centre Judging, 1 pm, Toronto Botanical Garden

10-11, ANNUAL VALENTINE'S DAY SHOW (Set-up Fri Feb 9) TORONTO BOTANIC GARDENS

17, Montreal Centre Judging, 1 pm, Jardin Botanique de Montreal

March

3, Toronto Centre Judging, 1 pm, Toronto Botanical Garden

4, SOOS meeting, Toronto Botanical Garden

7-11, Canada Blooms, Convention Centre

10-11, RBG Orchid Society Show.

17-18, London Orchid Society Show, Western Fair Special Events Building, London, Ontario

March 23-25, 2007,

The Manitoba Orchid Society presents "Orchid Fascination"

in conjunction with the 2007 Annual Meeting of the Canadian Orchid Congress

24-25, Orchidexpo Montreal.

30-31, April 1, Genesee Region Orchid Society Show

SPRING 2007 AOS members meeting -- May 2-6.

Hosts: Fort Worth and Greater North Texas Orchid Societies, Arlington Convention Center

SOOS VALENTINES ORCHID SHOW

All the sales tables for the 2007 SOOS VALENTINES ORCHID SHOW have been spoken for. You can find the list of vendors on the SOOS web site.

There are still spaces for individual exhibits. Let Doug know if you are thinking about doing one.

Remember that there are several ways to participate in the show. All are equally important.

1. Plants: Prepare your beauties to enter them in your own exhibit, as an entry in the basket class or as part of the SOOS society display. Without your plants there will be nothing for the public to look at. Remember you need to register your plants and exhibits to enter the competition to win one of those wonderful trophies. Individual plants for the SOOS display and entries for the basket class will be accepted up until 9 pm, Friday, February 9. For individual Exhibits you need to reserve space with Doug Kennedy.

2. Volunteers: Many people in many different jobs are needed just to make the show run smoothly. Perhaps December was a little early to be thinking Feb 2007 but now it is time. Decide where your talents are most useful and sign your name. If you have any questions, don't hesitate to call Doug. Look for the volunteer signup sheets at the meeting. Everyone's name should appear on at least one of them. HOSPITALITY and SECURITY need the greatest number of volunteers.

3. Clerks: You are guaranteed to learn something and you will work closely with the AOS judges. This is a great way to find out how and why plants get their ribbons. This takes only a few hours Sat morning.

4. Show Mini Tours: If you love your orchids and you like people, this is the job for you. You don't have to be an expert.

5. Show set-up: Are you too busy weekends? Your help would be much appreciated Thursday evening to lay out the show, set up tables and drape partitions.

If you can't make the meeting, you can still volunteer by calling the Kennedys at (905) 727-3319. We are awaiting your call.

Doug Kennedy, Show Chairman

AOS Judging Results

Toronto Judging, January 6, 2007

Paph. Valerie Tonkin 'Wilson's Choice' HCC-AOS 75 points (Paph. Hellas X Paph. Stefani Pitta)
Wilson Ng

Cym. sinense fma. Da Ming 'Cloud's Dark Force'
HCC-AOS 75 pts. Cloud's Orchids

Oda. Red Glow 'Constance' AM-AOS 80 pts. (Oda. Island Red X Oda. Red Lady) Mario & Conni Ferrusi

Dracula mopsus 'Hoosier' CCM-AOS 85 pts., Mario & Conni Ferrusi

Masd. Cassiope 'Gothic' CCM-AOS 85 pts. (*Masd. coccinea* X *Masd. triangularis*) Mario & Conni Ferrusi

Judging Centre Auction. In our last issue we thanked a long list of contributors to our December Auction for the Judging centre. We missed a very important contributor: **Schreibers Orchids**. Thank you Yvonne and Gary.

January Show Table

Class	First	Second	Third
Class 1 Cattleya Alliance	Blc. Malworth 'Orchid Glade' S. Luk	Encyclia cf. fragrans J. Norris	Epidendrum polybulbon C. Chong
Paphiopedilum Class 2	Paph. St.Swithin W. Hoffman	Paph William Amber R. Li	Paph concolor T.Pang
Class 3 Phals and Vandas Alliance	Dtps. Newberry Parfait 'Picotee' H. Glowka		
Class 4 ONCIDIUM AND RELATED	Odont. Rawdon Jester T Pang	Psychopsis Memoria Bill Carter W. Hoffman	Colmonara Wildcat J.O'Regan
Class 6 Dendrobiums	Den. Hamana Lake S.Loftus	Den. gracilicaule K. Lam Mok	Den. Santa Canary S. Loftus Den. 'Terry's Gift' C. Chong
Class 7 All Others	Spathoglottis parsoniixJava Beauty W.Hoffman	Chysis Langleyensis E. Tai	Macodes pitola R.Li Pleuro.(sp?) cf. sanchoi, J.Norris

Class 9 BASKET OR DISPLAY	Basket of 4 Paphiopedilums S. Luk	Basket of 4 Paphiopedilums J. O'Regan	Basket of 3 Paphiopedilums S.Luk
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PLANT OF THE MONTH



Odont. Rawdon Jester, grown by Thomas Pang

Programme Notes for January 2007 by Inge Poot:

The **plant of the month** this month was grown by Thomas Pang. It was a hybrid of two *Rossioglossum* and if after all the new DNA work the RHS rule still holds that the former members of the genus *Odontoglossum* revert to the *Odontoglossum* name when they are used in hybrids, then the plant is correctly named **Odontoglossum Rawden Jester**. Our guest speaker also pointed out to us, that any validly published name is correct. Usage determines if a new name for a plant is accepted or not. No one has the authority to decree that a validly published name is incorrect, unless it breaks the rule of priority, in which case the new name becomes a synonym for the prior name.

The plant of the month was grown in coconut chips and coarse bark. Thomas keeps it in a solarium in a position where it gets direct sunlight from 12 noon to 3 PM. The minimum night temperature is set for 25 degrees Celsius and with sunshine, the day temperature can be considerably higher. He waters the plant once a week and fertilizes every three weeks. He did not give it a cool rest to get it to bloom. *Rossioglossum grande*, one of the parents of this plant needs this rest to bloom.

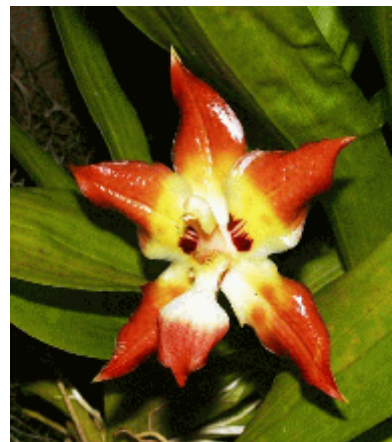
An interesting comment was made by one of our show table commentators that *Cattleyopsis* need very much light, not too much water and they hate root disturbance.

Another comment was that *Psychopsis* need to be kept warm, wet and be given good air movement.

Guest Speaker Notes

Our guest speaker this month was **Patricia Harding**. Dr Harding in her "former life" practised medicine, but on retirement decided to go into the business of writing books. She joined forces with Dr. Carl Withner in his seventh book in the series on the *Cattleya* alliance and enjoyed it so much that she continued in this field and has just finished writing a book on the *Huntleya* "clade", to be published soon. The fascinating talk she gave us was a short overview of the material the book covers. Terry Kennedy has offered to take orders for the book. Contact her ASAP if you want to buy one.

The term "clade" is used by taxonomists working with DNA relationship trees and refers to a group of plants that appear to be related on the evidence of the DNA analysis done by the scientists.



Huntleya burtii picture from presentation by Patricia Harding

The *Huntleya* clade contains about 200 species and the book has photos of about 170 of them. Those not pictured have not been in cultivation for some time, some have not been seen for 200 years, some are possibly extinct, while some may be of dubious identification. The *Huntleya* clade is a member of the *Zygopetalum* sub-family, *Maxillaria* tribe and *Maxillaria* sub-tribe.

The members of this clade all lack pseudobulbs for all practical purposes, their growths consist of fans of leaves, with the lower leaves ending in a more or less folded leaf sheath. The inflorescences and roots emerge from between the sheathing bases. Most have one flower per inflorescence but they may produce more than one inflorescences per

growth.

The column and lip callus of the flower are all constructed in such a way so the pollinating insect has to enter the flower sideways to reach the potential nectaries and will end up with the pollinia attached to its side, such as at the side of the head or the legs. It prevents self-pollination and pollination by a similar species.

When Dr. Harding started her studies, the clade contained the following genera:

Ackermania, Benzingia, Bollea, Chaubardia, Chaubardiella, Chondorhyncha, Chondroscaphe, Cochleanthes/Warczewiczella (mis-spelled frequently, even by famous taxonomists), Dodsonia, Hoehneella, Huntleya, Kefersteinia, Pescatorea, Stenia.

But as you can see by referring to the picture of the DNA cladogram, there are several new genera as a result of those investigations:

Aetheorhyncha, Daliostyla, Echinorhyncha, Eurblema, Ixiophora and Stenotyta.

But the genera Ackermania, Bollea and Dodsonia are absorbed into other genera.

The genus **Huntleya** cannot be seen in the pictured cladogram (graciously supplied by Mark Whitton and Norris Williams) because it is off on a side-branch. It is a well-defined genus and occurs in Venezuela, Colombia, Ecuador and Central America. The species produce big waxy flowers and have a lip with an erect callus.

Huntleya burtii is perhaps the most colourful species of the genus with flowers that usually have heavy substance, are shiny, two-toned red-brown and have a light yellow and white central area that is ornamented with red lines on the petals.

H. meleagris is similar, with usually with slightly fuller, but less red segments and it lacks the red lines on the petal bases. The lip is mostly white with just a red-brown tip.

H. wallisii is very similar, but larger than *H. burtii*, and has narrower segments.

H. gustavii is yellow with fairly wide segments and on the clone shown, had two brown blotches side by side on the sepals and petals and while the apical halves of sepals and the lip were almost solid brown.

H. citrina is yellow with a pale reddish blotch on the lateral sepals and in the centre of the lip.

Chaubardia occurs from Brazil to Venezuela and Ecuador. It can be recognized by the fimbria or thick upright hairs on the base of the lip.

Chaubardia heteroclita is a pretty species with chartreuse waxy flowers, the sepals and petals of which are heavily overlaid with red-brown, with no overlay on the main veins, edges and bases of the flower parts. The lip is white with a lilac apex.

Two other species are *C. klugii* and *C. surinamensis*.

These species are very warm growing. Seldom seen.

Chondorhyncha has *C. rosea* as the type species. This means that the genus was first described using this species as the model and any redefinition of the genus must include this species.

It was found that the species *C. rosea*, *C. caquetae* and *C. hirtzii* form a good group, but the rest of the old genus fits in elsewhere on the tree in six different places and will have to be included in other genera.

C. hirtzii was illustrated with a flower that had cream petals and lip that form a tube and with the lip having longitudinal red markings to guide the insect into the tube. The dorsal was small, light brown and appressed to the top of the tube, while the narrow, curved, light green lateral sepals were held like bull horns at the top of the flower.

Chondroscaphe has about 15 species. The genus is characterized by the callus on the lip that is a two-parted ventral thickening of the throat of the lip and a further thickening closer to the lip apex. The column has a pair of teeth or lobes that lie parallel to, or clasp the rostellum. It is a well-delineated genus. It was illustrated with two unidentified cream species, one with light red dots along the sepal and petal margins and an intricate pattern of deep red dots on the wide lip, the other one with red dots just in the lip.

C. embreei, *C. escobariana* and *C. amabilis* are light yellow species with large fringed lips that have heavy red dotting close to the column. The lip of *C. amabilis* narrows at the half way point and it has a cleft at the apex. *C. embreei* has a round lip, *C. escobarina* an oval one with very dark red markings.

C. merana has white flowers with purple-black dots in the part of the lip that forms a tube with the appressed petals.

Kefersteinia forms a cohesive single genus with about 65 species. Its callus tends to be stalked and touches the column. The column has a median ventral keel.

Some of the most striking species are:

K. andreetae has flat, fairly full yellow flowers with the apical one third of all but the dorsal sepal sharply reflexed.

K. bertoldii has cream flowers with heavy dark red dotting on the central portions of the flower parts, with the lip dots being black-red.

K. gemma is a very variable species. It has one centimetre flowers. The cream to chartreuse sepals and petals can be flat or quite cup-shaped, the white lip can be blotched lightly to heavily with candy pink to red but the blotching does tend to leave a wide white margin on the lip. The margin is attractively fringed to barely toothed.

K. pulchella flowers have chartreuse sepals and petals and the round, white lip bears a sharply defined large velvety black-purple basal, central blotch.

K. sanguinolenta is a white to cream species with deep purple to red to pink dotting. The dotting is larger and denser on the lip, but leaving an unmarked edge. However there are two other species, *K. escalerensis* and the

Venezuelan *K.klabochii* that fit right into this series of variations and one has to carefully examine the callus to tell them apart.

K. tinschertiana has full cream white flowers with red dots all over the full crisped-edged lip.

K. tolimensis is a cream flower with a full round lip and the whole flower overlaid with dense red dots. But this species is very variable in the shape of the lip and the amount of red dotting.

K. trullata has chartreuse sepals with the laterals ornamented with a red basal flush and veining. The small petals and lip have heavy substance and are red with black-red veining.

Warczewiczella even though not spelled as the person honoured by the name spelled his name, this spelling has priority! The base of the lip folds over the column in this genus and this separates it now from *Cochleanthes*, as defined by DNA studies. The lip has a callus consisting of many longitudinal ridges. Before this the two genera kept being combined under one or the other of the two names.

W. amazonica is well known for its large cream to white flowers that sport a huge flat lip that is ornamented with lovely purple veining in the basal half of the lip.

W. candida has white flowers with fairly flat sepals and petals. The slightly reflexed lip is basally white, the rest is rich purple.

W. discolor comes in three different colour forms. The clone shown by Dr. Harding had cream flowers with the sepals held flat, while the lip and petals formed a tube. The tube was flushed purple. Forma *escobariana* has yellow-green sepals and petals with the purple flush resulting in peach tones. A third form is yellow with almost red flushing. All three forms have the toothed edge of the callus outlined in near black. Striking!

W. marginata has small cream flowers whose lip has basal purple veining and the whole lip has a wide rose-purple margin.

W. timbiensis has lovely flat flowers with chartreuse sepals and petals. The dorsal and the petals have a pale red-brown flush along the mid-vein and edges. The white lip is heavily veined black-purple and the edges are also dotted and flushed red-purple.

W. walesiana has slightly cupped flowers with the apical part of the lip wide and flat. The sepals and petals are chartreuse and the lip has basal and central purple veining and flushing.

Cochleanthes has a lip that does not enfold the column. The callus consists of many longitudinal plates which at their basal ends attach to the base of the column. It now contains only two species:

C. aromatica has spidery chartreuse sepals and petals and a fairly large fiddle-shaped white lip that has a wide light purple median flush.

C. flagelliformis has cream flowers with a large centrally

pinched lip whose basal lamellae are outlined in red and then continue as red veins that gradually turn purple and disappear into the heavy purple apical overlay of the lip.

Pescatorea and *Bollea* ended up all intermingled in the cladogram and since the name *Pescatorea* was published first, it has priority and *Bolleas* are now *Pescatoreas*. They all have waxy lamellae united into a waxy crest. The old *Bolleas* have large columns that overhang the lip edges, while the old *Pescatoreas* were restricted to species where the lip base was wider than the column and usually folded a bit around it. The genus defined in this way contains about 20 species.

The old *Bollea* genus and most of the old *Pescatorea* genus is easy to grow for Dr. Harding. They don't even seem to mind that they are not grown as warm as they grow their homeland.

(B.) *P. coelestis* has heavy, full, cream flowers. Sepals and petals have a solid purple central overlay, but it leaves a narrow margin. The colour is darker on the apical half. The relatively narrow lip is yellow on the basal half that contains the callus and deep purple on the rest.

(B.) *P. pulvinaris* is similar to *P. coelestis*, except that the lip is more convex and wider, while the colour overlay is red-brown instead of purple and the callus is light red-brown instead of yellow.

(B.) *P. violacea* is again very similar to *P. coelestis*. The lip is wider in the middle than in *P. coelestis* and the crest is light red-purple instead of yellow.

P. coronaria can have rounded to strap shaped segments. The lips in the three forms illustrated varied from rounded to tongue-shaped to triangular. The colour can vary from all cream and white to velvety purple to red with a white and red-marked lip.

P. ecuadorensis has white flowers with a lilac overlay on the sepals and petals that darkens towards the apices. The lip has a yellow throat and a faint purple flush at the apex.

P. cerina is white with a yellow lip and a red-veined callus.

P. klabochorum has white flowers with red-brown tips on sepals and petals and deep red-brown raised veins on the convex callus. Column underside is red-brown.

P. lehmannii has slightly cupped white flowers with a rose overlay between the veins on the entire petals and the apical half of the sepals. Column and lip are rose with the apical half of the lip covered with long, white hairs.

P. wallisii has handsome white flowers with the faintest purple apical flush on the sepals and petals. The strap-shaped, forked lip is veined pink and flushed orange on the crest and is solid purple beyond the crest with even darker veins.

Stenia and *Dodsonia* are so closely related that it makes no sense to split them up. The name *Stenia* has priority. All the old *Stenias* have lips that are folded almost close with an intricate interior callus while:

(D.) *S. saccata* has a sac-shaped lip. The small flowers are

yellow with red dots on the lip. The stamens are orange. Ecuagenera has this species in cultivation, even though they may be extinct in the wild.

S. calceolaris has cupped sepals and petals, chartreuse with red dots, heavier on the petals. The cream lip with red dots is folded together on the basal half and each of the folded up lip corners has a fairly long hair dangling from it-almost like a lace ready to be tied!

S. pallida has white flowers with the lip edges folded together most of the way, but at the base the edge is folded back out and dotted black, while at the apex remains an opening. It looks like a bedroom slipper whose top seam is partially undone!

S. vasquesii has only very slightly cupped cream flowers with red dots on all parts but the column and the spots are denser near the base of the flower parts. The lip edges are neatly folded to meet in the middle, leaving only a narrow gap. The edges and the lamellae of the callus are outlined in red.

S. lillianae was invalidly described for the first time and on top of that, it supposedly came in three different forms. All three forms were cream to white:

#1 had a long lip fused at the apex and extended into a little point. It turned out to be a new species now called *S. lurianum*.(?)

#2 was like #1, but had the margins closed two thirds of the way to the column. It turned out to be yet another species, named *S. pustulosa*.(?)

#3 had a short lip closed two thirds of the way, but the apex extended into a long point. It became true *S. lillianae*, because this was the species Eric Christenson saw when he re-described the species -validly of course!

Benzingia and *Ackermania* plus *Chondorhyncha reichenbachiana* all appear to be one genus and the *Benzingia* name has priority. The lip is minimally concave to shallowly saccate to deeply tubular. The tip of the lip is pointed to extended into a horn. It does not come together well anatomically even though the DNA relationship seems clear. When you cut open a flower and compare the column and lip interior of the different species, they seem much more similar than their exteriors.

B. caudata has translucent cream flowers with the lip resembling a scoop with its extended apex. Column and lip are dotted red and the lip apex is gold.

B. estradae is very colourful with a cream flat dorsal, while the rest of the flower is gold. The petal basal half is spotted red, the lip has red-black lines on the folded out side-lobes and the concave middle sports a bisected ring-like pale yellow callus.

B. reichenbachiana is a typical *Chondorhyncha* with cream flowers, a wide concave lip, heavily marked with red along the crisped edges and in a horizontal band in the middle of the lip.

Chaubardiella is a small genus of hard to grow plants, with

non-resupinate flowers. With their cockle-shell lips they remind one of the cockle-shell "Encyclias". *C. chasmatochila* is all yellow, while *C. dalessandroi* is yellow with dense red dotting.

Next Dr. Harding showed us a slide of 3 yellow species of this clade that looked very alike at first glance. This illustrates the difficulty encountered when constructing a key for this group. If you go by the yellow colour you will be led astray! They all have their lateral sepals held high and curved like horns, simulating false nectaries. Their lips are basally tubular while the blade is only slightly rolled. All three have plate-like calli:

The first yellow species, the former *Chondorhyncha carinata* is now ***Ixyophora carinata***. It has a lumpy edge to its callus that forms teeth. The tubular lip does not clasp the column. Another species in this genus, *I. viridiflora* has a very tubular white lip and green sepals and petals. The petals form part of the tube.

The second yellow species with the smooth-edged, huge callus in its lip can be spotted by the red blotch on the front edge of the callus. The callus is actually two mounds about 2-3mm thick, that extend to the middle of the lip. It is called ***Daiotyla xanthina***. The petals complete the tube formed with the lip.

The third yellow species has a callus that ends in two flat teeth. It is no longer *Chondorhyncha lendyana* but is now ***Stenotyla lendyana***. Other species in this genus may have up to 4 callus teeth. The margins of the lip clasp the column.

Euryblema has a callus plate that has a central keel. The column is winged. A former *Cochleanthes* and the former *Chondorhyncha andreae* are now in this genus.

Echinorhyncha has been formed to accommodate the former *Chondorhyncha litensis*. It has two curious sea urchin-like appendages at the base of the lip. It has cream nectary-like lateral sepals, short curled back dorsal and petals and a large rounded red-marked lip.

Aetheorhyncha andreetae (available from Ecuagenera) is in a monotypic genus (it contains only one member species). The flowers can be white to peach with few or many red blotches in the lip. The lip has a large shiny tongue-shaped callus.

CULTURE:

Dr. Harding showed a picture of a *Chondroscape* growing in the wild on a tree. It is about 2 metres off the ground, about 20 metres away from a river in second growth forest - because this is what most of those forests are by now. The plants have a very extensive root system on the tree. They

get night-time dew almost every night, but because the canopy is closed, even during rains you get very little direct rain on the plants. The moss on the same trunk was damp, but certainly not wet.

Most of the species in this group of plants grow within 15 feet of the forest floor - epiphytically. Only if a tree falls will some plants continue to grow on the forest duff.

The plants don't get a lot of light because of the canopy above them and they don't get really wet, but they NEVER DRY OUT.

Many genera grow in areas that are wet, humid, muggy, hot and dark! This is the problem with plants such as *Huntleyas*, you just can't match the conditions in our climate.

The trick with the culture of this group is that you have to figure out where the plant came from. Was it from a cool tree area or a warm tree area?

The *Huntleyas* and *Pescatoreas* are probably the wettest growing genera. They also have it hot and humid in their native habitat.

Huntleyas are very hard to grow. Our speaker has a special clone of *Huntleya meleagris*-probably from Brazil- that seems to tolerate greenhouse conditions and has grown in cultivation for the last 40-50 years. Andy's Orchids sell them, but if they will grow for you is another story. There are some growers in Colombia that do fairly well with the genus, but even they admit that for every plant that survives for them, many have died.

Pescatoreas in the new definition of the genus, seem to be the **easiest** genus to grow. Grow them in a basket that is sitting in a tray of water. They even tolerate the occasional temperature drop to 50F(10C).

Chondorhynchus and *Bolleas* also want it hot.

Kefersteinias vary a lot. Some species come from wet, warm areas to dry to cool areas, to places that are not as wet. But in general they are not easy.

Stenias, *Chaubardias* etc, tend to come from very warm areas that experience some drier periods. They are hard to grow.

It is best to buy a plant from someone who has successfully grown it and ask him how he grew it. Also they probably have a clone that can take Northern greenhouse conditions and it may not die for you.

Make sure you have really **good** low solute **water** with **no chlorine**.

Light is not critical, they don't seem to burn even if grown on top of the bench in Colombia and they even do fine grown under the bench.

The plants in this clade are prone to rot and it is a good idea to use preventive sprays of **Subdue**.

Avoid dividing plants, because often every piece will die! Be sure to use Subdue if you must divide a plant.

Ecuagenera is growing these plants from seed and such plants will do better, because the seedlings surviving from the thousands sown will be those that just happened to be adapted to a greenhouse- the ones that would have died in the jungle.

During Question period, **Gary Schreiber** mentioned that these plants should be repotted in January and August when the new roots come out. They must also be repotted into fresh mix in a hurry if an old growth turns yellow and the dying growth plus all its roots must be removed. Neglect this and the dying root-mass will attract some disease and kill the rest of the plant. He found this to work for *Pescatoreas*, *Bolleas* and *Chondorhynchus*. He sprays with insecticide preventatively three times per year, but uses no fungicide.

The Cladogram of the *Huntleya* Clade:

To review briefly: Cladograms are a form of family tree that shows the results of an investigation that places species adjacent to each other when they are most closely related. Scientists do this by choosing one or two genes that can tolerate mutations without becoming lethal to the organism bearing it. They then find out how many unique mutations in those one or two genes there are in the different species to be investigated. They then use a computer programme to generate a large number of likely side-by-side arrangements of the species, based on the shared mutations. The final cladogram is a summary of all those attempts.

The number under the horizontal lines gives the number of family trees out of a hundred (the percentage) that placed the groups in question together.

If 95 to 100% of the family trees place a group of species together then this placement has a very high probability of being true. Under about 65% the chance of a true relationship goes way down!

The numbers over the horizontal lines is the number of unique shared differences(mutations) of the group listed at the end of the lines. Another way to picture this is to make the length of the horizontal lines proportional to the number of unique differences and just put the percentage of cladogram agreement on the top of the length-coded horizontal line.

Our speaker warned us that every time it becomes possible to do this work using a different gene, the apparent affinities get all jumbled again!. Dr. Harding advised us to be

