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(The views expressed in this publication do not necessarily reflect the views of the Cape Cliivia Club)

DECEMBER MEETING

The year end meeting was held at Kirstenbosch, followed by the traditional braai. Over a 100 members attended and enjoyed Johan Schoombee's continuation of his presentation in the series on colour variation in clivia and Claude Felbert's photos of the Show winners.
Ian Brown reported on the successful Show financial results and Johan Schoombee discussed the Show statistics, affected by the weather, but with a most encouraging increase in entries by novices.
The highlight however was John van der Linde's tale of his

Visit to New Zealand in October

with Beth at the invitation of the New Zealand Clivia Club. John is, of course, the Vice Chairman of the Clivia Society. They visited Clivia breeders,and growers and attended meetings

Keith Hammett, the founder and then Chairman of the New Zealand Clivia Club, with John. Ian Duncalf is on the right

2006 DIARY

1 April Annual General Meeting, Durbanville
8 April, workshops.
4 May Special Club Meeting, Kirstenbosch-Prof. Johan Spies will talk to us on colour inheritance.
25 May, provisional, Committee Meeting.
10 June, Club Meeting, Kirstenbosch.
19 August, Club Meeting, Durbanville.
26 August, workshops.
23-25 September, Show.
2 November, provisional, Committee meeting.
18 November, Club meeting, Kirstenbosch.

and shows in New Zealand for about a month. He addressed many groups and returned with fond memories, sharp-witted anecdotes and a load of useful information. He and Beth endured great hardship and tribulations for the cause of Clivia. (This is based on the many pictures of laughing diners with glasses raised and a capped John staring longingly over seas of yellow Clivias in full bloom. It is a hard life, being an ambassador for Clivia!)

John gave a fascinating talk, illustrated with beautiful slides at the December meeting. He also brought many bright ideas to improve our shows and meetings. It was amazing to see how well Clivia grow and the excellent quality of the plants in New Zealand. So John's mention of a world Clivia Conference planned for 2008 in New Zealand was really appetising. Start saving those Rands and reschedule your retirement plans!

David Brundell with "Heaven Scent", the Peoples' Favourite

John and Beth were invited by the New Zealand Clivia Club to attend their Show and two of their clivia exhibitions, to help promote clivia and to talk to members. The Club already has over 200 members, the vast majority being on the North Island, with 50% from outside Auckland. The Club is dynamic and is growing fast. They were delighted to accept, as they also had old friends to see in NZ and a sister to visit in Sydney, on the way home. The timing was right, coming after the main Cape Town flowering season, so John could leave his precious plants!

As a clivia fancier, grower, breeder, seller, helper at Shows, amateur photographer, Club Committee member, and someone on the look out for bright ideas for all of the above, John had a lot to look forward to.

They arrived just in time for the Auckland Show, held on 7/8 October at the Botanical Gardens in a superb "all glass" purpose-built venue used for flower shows. The natural lighting showed off the plants very well. There was no competition judging. Instead the public were invited to vote for "The Peoples' Favourite". The plant chosen may not always be a plant for the purists, but the approach gives a useful indication to growers/sellers of the public's then current taste. However, the big question is: what will excite the public next year?

John was surprised to note the high proportion of yellows on show, some of them quite magnificent, and the relatively small number of dark orange/reds then to be seen. He was told that many plants had flowered earlier than usual that year. However, what impressed him as a breeder,was how top growers have line-bred with particular well-known plants; Terry Hatch with his Aberconway Yellow, Ian Duncalf with Solomone stock, Murray Gow with 'Sir John Thouron', and David Brundell with Vico Yellow. Alick McLeman, again, is working on totally different lines, particularly in developing his peaches. We must contrast this more disciplined approach with that more often followed in South Africa, where many of us cross-pollinate rather haphazardly.

One of Tony Barnes' breeding lines. Notee the darker petal edges called 'lace' and the ghosting

When visiting another country one almost instinctively compares prices. John saw a magnificent yellow clivia, with three umbels of flowers, sold at the Show for $60. That plant would have cost say R300 here, more than the R264 straight conversion to South African currency.

John and Beth enjoyed their visits to the large properties of Keith Hammett, David Brundell, Terry Hatch and Ian Duncalf, and appreciated the variety of other plants that they have the space to grow. The average South African clivia grower, usually on a smallish suburban property, is often swamped by clivias, with other plants pushed into the background easy for well-balanced and broad interest to be replaced by a narrow clivia obsession – the van der Linde property is a typical example! Maybe other NZCC members, on smaller properties, have the same problem?


The happy buyer of a yellow miniata

They also enjoyed the social Clivia Club get-togethers in Auckland, Tauranga and Oakura and John was more than once reminded of what a member of a daylily club somewhere said: "I joined for the plants – I stay for the people".

Their stay in NZ reached a stunning climax with a four day visit right at the end of October to the privately-owned magnificent Ngamamaku Gardens, at Oakura, near New Plymouth, the region where the annual Taranaki Rhododendron Festival was in full swing, with 45 (yes, 45!) gardens open to the public. People come from all over the world to see flowers the like of which John had never seen in his life! Absolutely unbelievable! He could not stop taking pictures. What a great venue for an end-of-season Clivia exhibition! It seemed to him that the NZCC has a clear strategy to get exposure and grow interest in clivias by - he could think of no other word – "piggybacking" on other Shows/Festivals which pull in the crowds. May the NZCC go from strength to strength.

Since arriving home John has set out to 'spread the word' about NZ, their clivias, and the super people that they met. He has arranged to speak about their trip to South African Clubs and has already spoken also to the Garden Route Club. His pictures have been an eye-opener to many and John hopes South African clivia folk will be encouraged to visit NZ, especially for their planned October 2008 International Conference, after the end of our mainly- September flowering season. Thanks to the NZCC for a memorable experience.

Would they go again? You bet they would!

(*Di Smith, Secretary of the NZCC wrote "*
"We have had the privilege of hosting John and Beth van der Linde from Cape Town during October. It was an excellent time of sharing and learning about clivias in South Africa and showcasing Clivias here in NZ. "

And the NZCC reported to the International Clivia Group (internet) in November 2005:
"John and Beth travelled to Whangarei to meet members up there, down to Tauranga to the regional Clivia Show and to New Plymouth for the Clivia Show which this year coincided with the beginning of the Rhododendron Festival. John and Beth travelled many miles to meet and chat with members and growers not only in the Auckland region, but also in the smaller towns of Hamilton, Cambridge, Ruakaka, Rotorua, Taupo and Wellington. We appreciate John and Beth coming this far to visit us and look forward to many more Clivia enthusiasts visiting New Zealand, especially during the 2008 International Clivia Conference to be held in Auckland."

John and Beth also met with clivia growers in Melbourne and Sydney on the Australian leg of their trip. John will tell us about that in the next Newsletter. Eds.)

CONTROL OF INSECTS AND FUNGI HARMFUL TO CLIVIA

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[*Jim Shields is the President of the North America Clivia Society. He is a highly experienced grower and breeder of clivia and the owner of Shields Gardens Ltd., a leading clivia commercial enterprise in the USA, as you will see by visiting their website www.shieldsgardens.com. Jim is also a highly qualified biochemist. His consequent expertise in pesticides and real experience in using them with clivia is invaluable. Jim has not only shared that knowledge and experience freely with the Clivia Enthusiasts Internet Group but has also agreed to our publishing it here, so that it will be readily available in hard copy to all clivia enthusiasts.*
Jim of course grows his clivia in heat controlled greenhouses, but his experiences with pests are remarkably similar to what we also experience growing them in the open under shade. For this reason, and because our increasingly unpredictable weather conditions may call for new solutions, we felt that the more advice that was available on these problems, the better. Read this in conjunction with Jim MacDermott's article on Fungicide Use in Clivias" on p.7 of Cape News 5 Eds.]

PESTS

Mealy Bugs

I've found two main pests on Clivia in my greenhouse here in central Indiana, in the Midwest, USA. The mealy bug is the worst, but under hot, dry conditions spider mites can become a serious nuisance.

Mealy bugs have been discussed at great length. The consensus seems to me to be that the most effective treatment is imidacloprid, a systemic insecticide that is apparently best absorbed through the root system. It is available in most countries under several names. As in the case of fungicides and plant growth stimulants, you have to read the fine print on the labels.

There are other insecticides that can be used against mealy bugs. In my own experience, imidacloprid applied as granules or a soil drench may not get the mealies that are out on the leaves well away from the crown of the plant. For those bugs, I prefer a direct contact spray with a pyrethroid in it. Resmethrin is probably my favorite agent; permethrin is another such that is very effective; mixed pyrethrins work too.

Exclusive use of imidacloprid over a long period might eventually lead to a population of mealy bugs that are resistant to it. To avoid such a development, you should seriously consider an alternative systemic spray or drench to use in alternation with imidacloprid. Here we get into newer territory. Agents available in one country may not be available in others. You will need to do some local research in your own area on alternative systemic pesticides for controlling mealy bugs.

Flagship (Syngenta) is another neonicotinoid insecticide for use against white flies and mealy bugs. It is chemically related to imidacloprid, so switching between an imidacloprid and Flagship would not avoid development of resistance.

Control of **spider mites** usually requires use of different agents. My favorite is Avid, which contains a mixture of avermectins. This is systemic, and it usually gets rid of existing mite infestations with two sprayings. It also tends to have a lasting protective effect for

weeks after the initial infestation is gone.

Other agents for controlling spider mites include kelthane and even good old benomyl.

FUNGI

I'd like to sketch in a few general points about fungicides used in treating fungal infections.

There are two general kinds of pesticides for use against fungi:

1) Contact fungicides; and

2) Systemic fungicides.

In both cases here, we are generally talking about applying the fungicides to the plant surfaces as a spray (in water) or as a dry powder.

Contact fungicides act only on the exposed surfaces of the plant. They kill germinating fungal spores. They protect healthy plants against fungal invasion; but they have no effect on existing internal fungal infections inside the leaves, crown, or roots of the plant.

Some representative contact fungicides are "Daconil" (i.e., chlorothalonil), "Maneb" (mancozeb), Copper carbonate, Copper sulfate, and Sulfur. They have to be re-sprayed after rainfall or other conditions that might remove the surface fungicide residue. *[Adding a sticker to the spray prevents this, even in our very wet winters. Eds.]*

Systemic fungicides are absorbed by the plant tissues. That is, they penetrate the outer surface of the outermost cell layer and either enter the cells or enter the intercellular spaces between cells. They may or may not move through the plant's vascular system to other parts of the plant ("translocation"). Systemic fungicides are in most cases really "fungistats" -- they inhibit the further growth and spread of the fungal hyphae they contact, but they do not usually kill the fungal organism.

There are numerous types of systemic fungicides. The now-discontinued Benomyl was one of the best ever, in my personal opinion. Others are thiophanate-methyl ("Cleary 3336" or "Bonomyl" in the USA); Aliette is a systemic fungicide that is translocated to all parts of the plant from any site of application. I believe that azoxystrobin, propiconazole ("Banner Maxx" in the USA), myclobutanil, triadimefon, and triflumizole are chiefly locally systemic. Many fungicides are active against only a few fairly specific pathogens, "Subdue" (mefonoxam) is one such. Others, like benomyl, are very broad spectrum -- they act against many kinds of fungi. Thiophanate-methyl is fairly broad spectrum, but not as good as benomyl.

Fungistatic fungicides must be regularly re-applied to infected plants as long as the plants are alive. If treatment lapses, the fungus will re-assert itself and spread to fresh, uninfected parts of the plants.

There is no one solution for all problems in treating fungal diseases in plants. You have numerous options, and it may take some time and experimentation for you to determine what

works best in any particular case.

Several members of the Group raised questions which Jim answered as follows:

Maris Anderssons: "I have not seen any mention of 'Compass'(Trifloxystrobin). This is a systemic produced by Novartis. I have used it for a couple of years as a foliar spray, in fact, I usually mix it with 'Subdue'. My experience has been good."

Jim replied that "Compass"(R) (trifloxystrobin) and "Heritage"(R) (azoxystrobin) are both examples of the strobilurin family of systemic fungicides. The virtue of Compass is said to be that it binds tightly to the waxy plant leaf surfaces, giving it a residual effect. It has apparently only limited penetration into the leaf tissue, and may not be translocated systemically from the actual site of application. As far as I can recall, Heritage is not translocated far from the point of absorption either.

Cathy Grimes asked about "Banrot", which she had tried on a couple of her Clivias, but since she alternated with Aliette, she did not know if only one worked - or whether both were needed.

Jim replied that he did not mention Banrot because he did not usually encounter it. Banrot (R) contains etridiozole (or Koban) and thiophanate-methyl (mentioned before). Koban is like Subdue (R), specific for Pythium fungus. So Banrot is a systemic agent.

NATURAL PRODUCTS

Chris Ong wanted to know about Chitosan Oligosaccharin, which is supposed to be an "organic plant immune builder".

Jim responded that he had never tried Chitosan Oligosaccharin. One might try aspirin for the same purpose, i.e., stimulating the innate immune system of plants. As I recall, however, the effective concentration range for aspirin is pretty narrow. Something like one 5-grain (325 mg) aspirin table dissolved in one gallon of water? It might vary from genus to genus, for that matter. You probably ought to research it in the literature before trying either one.

Besides, I've never considered "organic" (in the populist sense) to be a recommendation. Natural products are just as capable of being toxic as man-made products, romantic nonsense to the contrary notwithstanding. Botulin, nicotine, and ricin come to mind. Think of Di Smith's (New Zealand CC) example of the devasting effects of the overuse of neem oil (*Neem oil is a natural product used to combat mealy bug.. Di had reported how its overuse had damaged leaves beyond recovery. Eds.)*

It's a matter of degree and precision. Non-toxic and ineffective usually go hand in hand.

But then, I'm a very un-romantic biochemist by nature and by training.

LENGTH OF TREATMENT

Cathy Grimes asked, “if I understand you correctly, these products must continually be administered during the entire lifetime of the plant? Isn't there any way to actually eliminate the diseases?”

Jim responded that you can eventually eliminate systemic fungal infections through persistent application of systemic fungicide, but it takes a long time. The plant has to out-grow the fungus. If the fungal infection is only in the leaves, once those leaves have been shed, the plant should be free of the fungus. That is, if you are able to suppress new growth of the fungus for long enough, by re-applying systemic fungicides at regular intervals.

So it isn't hopeless, but it can be a long term project.

SPRAY PROGRAM AND TOLERANCE

There are reports of development of tolerance to strobilurin fungicides, and all such carry the warning that they must be alternated with non-strobilurin classes of fungicides to retain their efficacy against fungal infections.

Alternating between two or more classes of fungicide is the way to go, if you are going to spray on a regular schedule. The three-way sequence might include Aliette (fosetyl-al), Cleary 3336 (thiophanate-methyl), and Compass (trifloxystrobin) at weekly or biweekly intervals.

To control Pythium or Phytophthora, a different type, such as Subdue (metalaxyl) or Koban (Truban, etridiozole) should be included in the mix or used separately. Subdue is usually used as a soil drench, I think. Aliette has some action against these two fungi, especially when used as a soil drench.

SPRAY (WATER) DAMAGE AND CROWN(BACTERIAL) ROT

What no fungicide labels carry is any information whatsoever on their possible damage to Clivia plants. In my experience, damage usually only results when the liquid spray solution accumulates in the center of the fan of leaves and stays there. Then you get eventual rot. Whether the water itself encourages Erwinia infection, or the water damages the growing point (apical meristem) and the Erwinia infection is secondary to the water damage, I don't know. I would appreciate seeing anyone else's observations in this regard.

To avoid this damage clivia should also be watered in the morning so that they can dry out, and never on the afternoon of a hot day.

The best treatment for crown rot is to cut away all infected parts until there is no sign of discolored tissue. This may result in all the leaves and part of the rhizome being removed. Let the plant air-dry in a protected area for several days. I might apply a fungicide powder like thiophanate-methyl or whatever I have on hand. Dry is more important the anything else, it seems to me.

Repot the remainder of the rhizome and healthy roots, and keep relatively dry. New healthy offshoots will emerge, but this can take many months.

John Craigie of Pine Mountain Nursery in Australia has kindly permitted us to reproduce two of his photos. The first shows that stripping off the leaves affected by bacterial rot is a messy business. Cutting the rotten tops off , as shown in the second picture, is more effective. In this picture you can see that in the bottom right picture this crown only had less than half the basal material left after cleaning but it was still enough to result in a shoot. The bottom left picture shows that the basal material continued to rot but it has sent up a healthy shoot.

BUYING CHINESE SEED—CAVEAT EMPTOR
A WARNING ISSUED TO THE ENTHUSIASTS GROUP BY A LEADING BREEDER IN CHINA

Growing Chinese clivia from seeds is just like gambling. One of my clivia friends bought one single clivia seed from a top quality Chinese clivia plant for $250!!!!! And to his dismay, the seedling turned out to be nothing special!!! I once bought some clivia seeds from a famous clivia breeder and clivia book writer in ChangChun for $8 each. Some of you foreign friends may have his book, but the seedlings turned out to be quite ordinary and no one will be willing to pay $1 for that quality seedling. I think that this is because Chinese clivias are hybrid and there are numerous genes that control the traits you mentioned. That is why most Chinese clivia enthusiasts would rather spend a lot of money on suckers, not on seeds. Seeds from top quality plants can be extremely expensive at present, some seeds are marked $25 each on some clivia websites. If someone offers you top quality Chinese clivia seeds at only $5, please think about it if it is true. Cheating is very popular in clivia trade in China, even the veins can be man-made. That is why we never offer top quality Chinese clivia seeds such as YouJiang (Oil Miller), top quality ChangChun Short Leaf with well protruding veins, etc. We just don't want to cheat foreign friends let them disappointed with the seedlings.
Best regards, WU Jin

CAMERON PEACH

Unfortunately Mike Christie has become ill and can not continue breeding his Cameron Peaches at his Cape Foliage Farm near Malmesbury. Sean Chubb is liquidating the stock for him and they will be auctioned at the International Conference in Pretoria and at the KZN Show. However, Mike has insisted that our members who wish to acquire a Cameron Peach should have access to the stock at Cape Foliage to make their own choice. Visits and purchases must be arranged with Sean Chubb at 031 781 1978 **before the stock is shipped to Sean in early April.** The prices are : Mother plant with 2 offsets - R6000.00; Mother plant with 1 offset - R5500.00; Mother plant with no offsets -R5000.00; Offsets 10 leaves or more -R4000.00. All offsets with 10 leaves or more will be removed from the Mother plants or priced separately.

How to use CONFIDOR

At the last meeting, Coen and Diné Calitz supplied members with small quantities of Confidor. This is usually available only in large 5 litre units, or if you are lucky, in 1 litre. However, Confidor is very expensive at >R 850 per litre or >R3 300 per 5 litres, so as a service to Cape Clivia Club members and at no profit whatsoever, 200 and 100 millilitres was decanted. Unfortunately the demand outstripped the supply, so some members may have to host their precious Mealy bugs or Woolly aphids for another 3 months or so. The smaller quantities may be again available, provided we can source the supplies again.

From the questions at the meeting and by telephone afterwards, it is clear that members do not know how to use it, in spite of the pamphlets that Johan Botha kindly reprinted for us.

(By the way, amongst its several faults and deficiencies the showy booklet "Cultivation of Clivia" is also guilty of not even mentioning Confidor or its use. In spite of the information being available in Yearbook 4, in the e-mail forum and several times in this Cape News.)

Coen Calitz has again bought Confidor in bulk and has it available for members in 200ml and 100ml containers at cost (R160 and R80) Contact him at 021 887 0705. If he is not sold out, he will bring it to the AGM

WHAT?

According to the pamphlet, Confidor is registered for use on Citrus, Apples, Cotton, Potatoes, Cucurbits (pumpkins), Tobacco, Cruciferae (cabbages), Tomatoes, Grapes and Roses for the systemic control of Aphids (several species), psylla, leaf miners, thrips, Mealy Bug, Woolly Aphid, Whitefly and tobacco slugs. In addition, CCC members have reported success against snout beetles and even snails and slugs, especially the little snails with the twirly-whirly shells. (Apparently the snails still climb onto the plant, but then sit passively. In my greenhouse at the beginning of the flowering season, snails did not eat the leaves, but feasted upon the first flowers. Could this be because the flower grows too quickly to absorb the poison, or should I have used Confidor just before the flowering season so that it is available in the plant's "bloodstream"?)

[We have found that a few grains of "Ferramol", a nstural product by Biogrow, scattered in the pot or crown of a clivia simply eliminates all slugs and snails, but is harmless to all other living creatures. And it is rain proof! Eds]

You should note however, that Confidor is not registered for garden use (or for Clivia) and is only sold to the Cape Clivia Club because we are considered to be an agricultural enterprise.

"KOHINOR" is the new generic equivalent, but several sources and users have stated their belief that it does not seem to be as effective as the real "Confidor". One advantage, however is that it has brought the prices of Confidor down to about 60% of even 6 months ago.

WHEN?

There seems to be an outbreak of Mealy bug and Woolly aphid now. It seems that by the time you notice the adults high up in the leaves, they have been living, multiplying and eating for a few weeks. So spray or apply now. According to John Winter, it will last for almost a year, but other members have found that 2 applications a year is required to give full protection. It seems that late Spring and early Autumn may be the best times.

Before application, plants should be watered and not be under stress. About a week after application, you can water lightly to allow the plant to fully absorb the poison. According to John Winter, full absorbtion takes about a month.

WHERE?

Confidor is designed to be absorbed through the roots of the plant.

Use 1 ml /litre to treat 5 large, 10 medium or 20 seedling pots. (However, I use 2 ml / litre, to make sure the solution is strong enough. It takes me several hours to treat all the plants, so I would rather use a stronger solution and be sure I hit them all.)

It could also be sprayed on the potting mix, but it seems more effective when poured around and close to the stem. Care should be taken to prevent run-off from the pots. (It is expensive stuff.)

For your own safety, start at the furthest point of your shade house and work backwards. Do not brush or touch the plants for at least a day. You should obviously closely observe the normal personal safety precautions.

WHO?

You should regularly inspect your plants – you may have missed a plant, or a new plant may have arrived. It is also very important not to use the same chemical repeatedly. Some individual insects may have survived and evolved a defence against the poison. So use something like Metasystox, Chlorpirifos, Ripcord or Malasol between Confidor treatments and to treat individual plants.

HOW?

As mentioned above, I find it more efficient to pour the Confidor on the surface next to the stem. Obviously, if you have very large pots or several suckers, you should spread it wider. But be careful not to pour just inside the rim – very often the mix has dried and water simply drains directly out. Some members have sprayed it on the leaves from above, but I think too much is wasted between pots or does not reach the roots. You should also remove all tree leaves and debris from the surface of the pot. One member also reported “chemical burning” symptoms after spraying with Confidor, but others disagree.

Another method just came to my attention: This was recently used by John van der Linde. He mixed about 30 litres at the prescribed strength in a large plastic container. He then immersed the whole pot up to the rim for several minutes and then allowed it to drain onto a slanted surface, catching up the run-off and re-using it again. He was able to treat about 110 large pots at a total cost of just under 20 cents each. This has the obvious advantage of getting poison into every part of the pot and wasting very little.

NB: Confidor is creamy and tends to settle at the bottom of the container. It must be <u>well mixed</u> before measuring, mixing and during use. (Shaken, and stirred!!)

Finally:

Confidor is not a panacea, but it seems that almost all fungal and bacterial infections originate in physical damage from insects or movement. So it is worthwhile to get rid of these unwanted dinner guests.

If you want to make sure of your share of Confidor, you can call us from about a week before the March meeting. Prices at the December meeting was: 1 litre: R700; 500 ml: R350; 200 ml: R160; 100 ml: R80.

Obviously, this is a service to CCC members only - we cannot subsidise outside users.

Coen and Diné Calitz

THE CORRECT IDENTIFICATION OF GROUP 1 AND GROUP 2

CLIVIA MINIATA

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[The confusion about what are Group1 and Group 2 miniata will not go away. It is no sooner explained, also to the Clivia Enthusiasts Group, when someone else refers to a certain Peach, for example, as being a "Group 2" without any justification. Knowing what Group a plant falls into is essential for planning how to breed with it – i.e.what colour flowers its seedlings will have.

We thought, therefore, that here again there should be an easily accessible reference point for grouping plants correctly. The best explanation we have seen is that by Rudo Lotter to the Interest Group and it is reproduced below with his permission.

However, Rudo's explanation does assume a basic knowledge of genetics and we have, therefore, set out a very simplified genetic background to help all to understand what it is all about.

All of a plants characteristics, including the colour of its flowers, are determined by its genes. Its genes are like beads on two strings. They operate always in pairs with a "bead" on one string pairing up with a "bead" on the other string.

A chemical called anthocyanin is responsible for the normal orange colour of clivia flowers. If its production is blocked the flowers will be yellow. This happens when both of a pair of the genes responsible for the production of anthocyanin have mutated, i.e. are defective.

Such a defective pair of genes may occur at different places on the strings of "beads".

Pollination results in a seedling inheriting one string of beads (i.e. one, called an allel, of every pair of genes) from each parent. Those strings recombine in the seedling and can pair up differently from their parents, so that no seedling will be exactly like either parent.

Only one of the defective genes responsible for the yellow flower will therefore be inherited by the seedling. If the other parent has a normal pair of those genes, the seedling will inherit one of those normal genes which will pair up with the corresponding defective gene inherited from the other parent. As they always operate as a pair, the normal gene will dominate the defective geneand anthocyanin will be produced in the flowers which will therefore be orange.

However, if both parents have corresponding pairs of defective genes, the seedlings will inherit one defective gene from each parent, which will pair up as pairs of defective genes in the seedlings which will consequently have yellow flowers.

But if the pair of defective genes in one parent is at one place in its chromosomes and the pair of defective genes in the other parent is at a different place in its chromosomes, each parent will have a normal pair of genes at the corresponding place in the chromosomes of the other. This results in every offspring inheriting one defective and one normal gene at both those places. They recombine into pairs at each of those places, the normal genes dominate the defective genes at both places, and the flowers are orange. Eds.]

Most yellows are Group 1 yellow and will always give you 100% yellow seedlings, if crossed with itself or another Group 1 plant.

When a yellow is crossed with a Group 1 plant and you get only orange flowering seedlings that yellow cannot be a Group 1 yellow. All those yellows which behave in this way with Group 1 yellows but which produce only yellow seedlings when crossed with one another are called Group 2 yellows. That is the only way of classifying Group 2 yellows.

Only when the orange flowered seedlings of Group 1 yellow crossed with Group 2 yellow are backcrossed will yellow seedlings start to appear.

This is so because they are two different mutations on two separate
Genes in Group1 and Group 2. Their F1 seedlings will be orange because they received one allele from the Group 1 parent and one allele from the Group 2 parent. The recessive alleles on two different positions cannot give yellow flowers because the normal alleles are dominant over them. The F1 is therefore split for both Group 1 and Group 2 yellows.

A Group 2 yellow when selfed or crossed with another Group 2 yellow
will breed yellow only, the same as any other mutation. One of the best examples of Group 2 yellows is the Giddy/Natal yellow which when crossed with itself will produce 100% orange flowering seedlings.

Natal Yellow is completely self sterile, and does not self. Any offspring are from foreign pollen.

A Group 2 yellow can not be changed to a Group 1 yellow through continous breeding . In the case of an F1 orange split for group 1 and group 2, those siblings when crossed will produce 50% yellow, this 50% yellow will be 25% Group 1 and 25% Group2, and some of the Group 1yellows will be split for Group 2 and some of the Group 2 yellows will be split for Group 1. However, you will not be able to tell them apart.

If a Group 1 yellow split for Group 2 is crossed with a Group 2 yellow , the offspring will be 75% yellow and 25% orange, the yellows will be 50% Group 1 and 25% Group 2. If a Group 2 yellow split for Group 1 is crossed with a Group 2 all the offspring will be yellow.

Here are some of the well-known Group 1 and 2 Plants

Kirstenbosch Yellow

Group1 Yellow

Kirstenbosh Yellow; Howick Yellow; Eshowe Yellow; Watkins Yellow; Karkloof Yellow; Mares Yellow; Jim Holmes Yellow; Whyte Yellow; Noyce's Yellow; King Hamelin Yellow; Blinkwater Yellow Mpumalo Yellow; VICO YELLOW

Group 2 Yellow

Natal Yellow/Giddy Yellow/Gibelo Yellow/Holl Yellow; Cynthia's Best

Floradale TranskeiYellow; Dwesa Transkei yellow; Smith Transkei yellow
Port St John's Yellow; Centani Yellow


Giddy Natal Yellow

Unknown Yellows, not sure if they belong to a classifiable group.

Mvuma Yellow; Ndwedwe Alpha Thurston; Ndwedwe Beta Thurston
Appleblossom/Qora Yellow**;** Oribi Gorge Yellow; Whyte Yellow
Byrne Valley Yellow; Crookes Yellow.


Smith Transkei Yellow-

Group 1 Peaches

Chubb Peach
Reeds/ Gail Peach

Group 2 Peaches


Dodd Dwesa Yellow

There are no known group 2 peaches. A peach can only be classified as Group 2 if all its offspring are green stemmed when crossed with a known Group 2 yellow.
However the Tipperary Peaches, Cameron Peaches and Victorian Peaches are not Group 1 and may prove to be Group 2. Test breeding will prove this right or wrong in the near future.


Oribi Gorge Yellow

Unknown peaches or pastels include.

Ndwedwe Gamma Peach
Naude Peach
Anna Meyer Peach

Lets try to keep the information correct and work with results that are tested and proven. If anyone wants to test breed a yellow or peach to see if it is a Group 1 or a Group 2 then you have to use a known Group 1 and Group
2, pollinate them with your plant and check the results. If your yellow or peach does not produce only green stemmed seedlings with either of them, all you have proved is that your plant is not one of those two named groups, and probably belongs to a third not yet named group.


Cameron Peach

Rudo Lotter
Cyrtanthiflora Breeders C.C.

GETTING TO KNOW CHINESE CLIVIA CULTIVARS

"HENGLAN"

HENGLAN

Zhangyang writes that Henglan is actually a hybrid of Japanese clivia and Chinese Shortleaf-Roundtip. Its characteristics are more like those of Japanese clivias. Its leaves usually wrinkle after it is about 1.5 years old (i.e.after the time when it has 7-8 leaves) .In China,we have Longleaf-Heng,shortleaf-Heng and Mediumlength-Heng. Still,its shape is short and small. Using Medium-length Heng as a parent plant,will produce clivias which can bear hot temperature ,blazing sunlight and adapt to be cultivated in the southern part of China. Its flowers' colors are more vivid than its parent plants.

PAINTED FACE

"PAINTED FACE"

- This Paintedface-Monk shown by Yang is 6 years
- old. Its leaves are about 120mm wide and 300mm
- long with very obvious "paintedface," i.e. black veins
- on yellowish background, very typical!

SHOOTS

(Compiled by Coen Calitz)

We still have not received significant comment or participation from members. Please let us know what you think!! Even just phoning and discussing some of the issues, would be very welcome. We know that we are bombarded daily with information, but this journal is your own, local mouthpiece about your favourite plant.

Victorian Peach woes

In the last Clivia shoots, we referred to the unhappiness of some Cape members about the condition of the Victorian Peach plants they bought at relatively high prices. This was in no way intended to reflect upon the quality of the plants produced by Victor Murillo in the USA. We simply wanted to express our sympathies and encourage sharing and exchange of similar genetic material to keep the strain pure. I am sure we are looking forward with great pleasure to the next flowering season to see these unusual magnificent plants in full bloom.

If our statements offended anyone, we sincerely apologise.

Joy Woodward

We should all be very pleased to learn that Joy is continuing as secretary of the Cape Clivia Club after her formal retirement from Kirstenbosch at the end of January, 2006. She is

surely the main cog that drives the Club machine. Meetings without her would be unthinkable. And those delicious snacks at the tea break!! I have often wondered whether members realise that apart from her highly efficient and timeous secretarial functions, Joy makes and transports all the goodies. At no other organisation or club are we gastronomically treated as well. Thank you very much, Joy.

Club Subscriptions

Following from the above, did you realise that the CCC uses not a cent of the subscriptions you pay? It is transmitted directly to the Society, which funds the beautiful Yearbook, the quarterly Newsletters and the central administration. So everything you get at the CCC is free, courtesy of the hard work and generosity of many members, who all have their own plants and personal concerns.

Please pay your subscriptions soon!!

Yellowing of Clivia leaves

I recently received an urgent call from a member in an agitated voice: “my Clivia’s leaves are yellowing almost overnight. What should I do?” Well, yellowing of the oldest outside leaves is a normal phenomenon at this time of the year when it is hot and dry in the Western Cape, especially if you allow your plants to be on the dry side. This allows the plant to get rid of the older, often tough, scarred leaves. You simply pull them off and discard.

I pick a large handful almost every day. I am not unduly worried about this, but what I found very interesting was the profusion of new roots inside the outer leaves – up to 7 per stem. This may be one of the results of my new practice of planting Clivia much higher in the pot. I allow a full 1cm of the roots to be above the potting mix. As discussed in one of the Clivia Newsletters, I seem to have far less problems with fungi and especially bacterial stem rot.

There is, however another yellowing which is disconcerting and probably harmful to the plant, because it is often on younger leaves. Yellowing starts at the tip of the leaf and slowly grows towards the centre, with a marked raised wave line across the leaf. Often the tip does not whither, but becomes a bright autumn yellow. I have asked around and have even sent some leaves to our scientific investigators at the Free State University. They could find no sign of a fungus, bacteria or virus. They, and John Winter, say it is a sign of a plant under stress, be it drought or a damaged root system. However, the only remedy i have found is to break the leaf off about a centimetre below the yellow line. Yellowing then stops, but the plant is disfigured. The plant then continues growing well. I am convinced it is a fungus and I have heard a remedy mentioned, but did not note it immediately. Your views and advice would be welcome.

Eric Heine’s new shade houses

Eric is well known in the Cape Clivia Club and amongst growers all over South Africa. After provisional negotiations ran out, Eric was able to return all his plants to his own backyard. With the generous help of Harry Muller and envious looks from us visitors, Eric has now completed his two new shade houses. They are extremely spacious, sturdy and neat. I am sure our ultimate Christmas wish would be for a 30m x 14m shade house with a floor of permeable plastic laid on deep sand and so well covered that nary a snail nor a moth can enter! Eric, congratulations. I know how hard you worked. May your already exceptional plants flourish.

Identifying breeders at shows and exhibitions

Growers often reap all the rewards and the honours for beautiful or exceptional plants exhibited. Should we not make it compulsory for the actual breeder to be mentioned on the identification card of the plant and also in the tables of results?

In the extreme cases, show or class winners had been bought just a few days before. This caused controversy that still simmers. What do you think?

Clivia 2006 Conference

You are all reminded of the conference to be held in Pretoria on September 6 and 7, 2006. There is a get-to-know-you function and pre-registration on Tuesday evening, as well as a formal conference dinner on Wednesday night. The Pretoria Clivia Show is held on the next Saturday and Sunday, with an auction of superior plants on the Saturday evening. This is followed by scheduled Clivia tours and attendance at several regional shows. Deposits to reserve your attendance can be paid now. You can contact the chairman of the conference committee, James Abel, at jabel@absamail.co.za or +21 12 361 6406.

Conference shirts and caps are being manufactured for sale before and after the event. Both have a very attractive green logo, with a bright orange/red miniata embroidered on it. Prices are R100 for the golf shirt and R40 for the cap (plus postage). You do not have to attend the conference to buy the garments. To quote James Abel: *"Reinforce that feeling of being part of the international Clivia enthusiasts group, at a very low cost! We have pleasure in offering Clivia Conference 2006 shirts ... and caps to everyone who is interested and who supports Clivia. From anywhere in the world".* Contact nclivia@mweb.co.za. It is certain that a sizeable group of overseas visitors will participate. This is your chance to see exceptional plants and meet those well-known clivia personalities

How often and how much do you feed?

We have all heard reports of growers feeding every 2 weeks, every month, quarterly or even just once a year. How much is enough? Eric Heine, when asked advice on recalcitrant seedlings by a worried grower, replied: "You are hopelessly overfeeding your plants. Their livers and kidneys are struggling so much to cope with the food, the build-up of chemicals and the toxins, that they have very little opportunity to grow".

Eric has tried just about every product for feeding Clivia. He believes that a light feeding of simple commercial commercial fertilizer (3:1:5 SR) every 6 months or even yearly is quite sufficient. And I think he has the results to prove it.

I have observed a white flaky crust formed on the sides of some of my pots, especially around the drainage holes. This is a clear indication of gross overfeeding. I suppose the ideal would be that we could all computerise our feeding and measure the inputs as well as the composition of the run-offs. The major commercial orchid growers does this and of course Pierre de Coster too, but the rest of us just have to guess and hope.

SPOREKILL

Some growers have complained that Sporekill inhibits clivia growth. We have discussed this informally with Hygrotech who tell us that they have found this with tomatoes if too strong a solution is used. One or two drops in 10 litres is sufficient. Eds.